VOL.6 Issue 3

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IllumiNation

JULY - SEP 2024

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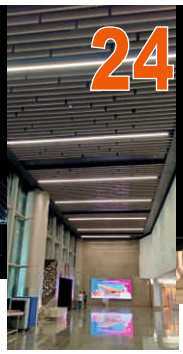

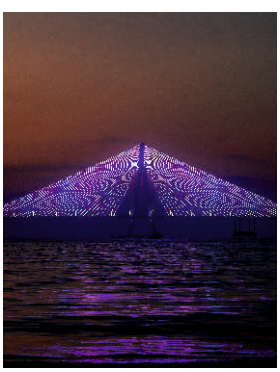

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Gearing up for a festive season

As the festive season approaches and a new government settles in at the center, a sense of anticipation hangs heavy in the air. Businesses are looking forward to the coming quarters, hopeful that the new administration will enact policies to propel India towards its goal of becoming the world's third-largest economy. Economic indicators offer a glimmer of optimism: India's GDP grew at an impressive 7.8% in Q4 and 8.2% in FY24, a significant improvement over the previous year's 7% growth.

ELCOMA and its members are keeping a close eye on the government's agenda, particularly its emphasis on leveraging new-age technologies to drive economic growth. A key initiative is the significant push towards fostering the semiconductor industry through incentives that encourage manufacturers to set up plants in India. This move, if successful, will be a boon for the lighting industry, which, like many other electronics sectors, currently relies heavily on imported components. Domestic manufacturing of passive electronic components is expected to significantly reduce this dependence.

The National Policy on Electronics (NPE) envisioned India as a global hub for the Electronics System Design and Manufacturing (ESDM) sector, with a strong focus on exports. It aimed to stimulate domestic capabilities in core components like chips and create a globally competitive environment for the industry. Now, it's crucial for the government to build upon this foundation by formulating a fresh perspective in the form of a new National Policy on Electronics (NPE 2024). This updated policy should address all relevant factors to enhance the competitiveness and sustainability of electronics manufacturing in India. Fortunately, the Ministry of Electronics & IT is establishing a Working Group for the "Promotion of domestic manufacturing of electronic goods and the development of domestic Capital Goods Industry for electronics manufacturing." ELCOMA is proud to be a part of this group alongside other industry associations. This collaboration offers a promising path forward for ELCOMA's vision of increased local component manufacturing in the coming years.

Despite the positive economic outlook, the consumer segment remains a concern. Reports indicate a double-digit decline in sales over the last fiscal year. Nevertheless, the industry's proven track record inspires confidence in its ability to rise to the challenge and achieve, or even exceed, growth expectations in the coming quarters. While volume growth is evident, topline for organizations is under significant pressure due to price erosion in LED products.

On a brighter note, the Department for Promotion of Industry and Internal Trade (DPIIT) is exploring the possibility of extending the Production Linked Incentive (PLI) Scheme to white goods, including LED lights. ELCOMA has been actively involved in discussions surrounding this initiative.

Illumination magazine remains committed to showcasing the excellent lighting projects undertaken by our members. We strive to share knowledge and inspire our readers by featuring as many of these innovative solutions as possible. On that note, I would like to extend a personal invitation to all our members and readers to submit articles and pictures featuring such illumination projects.

In conclusion, the Indian electronics industry stands on the cusp of significant growth, fueled by the active support of the government and the dedication of its stakeholders. ELCOMA remains steadfast in its commitment to playing a proactive role in this exciting journey.

With Best Wishes

AMAL SENGUPTA
Secretary General
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Towards a Brighter Future

As we progress through the third quarter of 2024, it is my pleasure to connect with you all once again.

The past months have been marked by hectic and significant developments on the political landscape with Lok Sabha election outcomes resulting in an NDA Government. This high-voltage democratic activity affected the business activities at large, but as it settles, business is expected to be better in the coming months.

India's macroeconomic environment continues to showcase resilience and growth, driven by robust policy frameworks and a thriving entrepreneurial spirit. The steady rise in GDP signals a conducive environment for businesses to flourish. Our industry, being a critical component of the infrastructure sector, stands to benefit from these favourable economic conditions. We must align our strategies with these macroeconomic trends to maximize our growth potential.

The advent of advanced technologies such as Artificial Intelligence (AI) and Machine Learning (ML) continues to transform businesses all across at an unprecedented pace. These technologies are not only enhancing efficiency and performance but are also paving the way for innovative solutions that align well with ELCOMA's Vision 2030. Our commitment to 'Make in India' is further strengthened as we integrate these cutting-edge technologies into our manufacturing processes, ensuring that we remain at the forefront of global innovation while promoting domestic growth. NPE (National Policy of Electronics) is yet another step towards positioning India as a global ESDM (Electronics System Design & Manufacturing) through focused interventions and encouragement to local companies with a special focus on exports.

In our ongoing efforts to enhance strategic alignment with government policies and initiatives, I am pleased to announce that we will be expanding the ELCOMA board effective October 2024. This expansion is aimed at incorporating diverse perspectives and expertise, which will enable us to better navigate the regulatory landscape and advocate for the interests of our industry. I am confident that this strategic move will strengthen our association's influence and effectiveness in shaping policy decisions that impact our sector.

I would also like to place on record my heartfelt appreciation for the ELCOMA secretariat and all our members who have contributed their invaluable knowledge and insights to our in-house publication, IllumiNation magazine. Your contributions have made IllumiNation a revered source of information and innovation, reflecting the collective expertise and forward-thinking mindset of our industry. I encourage you all to continue sharing your articles and ideas, as they play a crucial role in shaping the future of our sector.

As we look forward to the coming months, let us continue to embrace change, foster innovation, and work collaboratively towards achieving our shared goals. Together, we can illuminate the path to a brighter and more prosperous future for our industry and our nation.

Thank you for your continued support and dedication.

Best regards,

AVINDER SINGH
President, ELCOMA

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The Future is Smarter and More Sustainable

Illumination editorial team caught up with Mr. Girish K Chawla, Head of Professional Business - Signify, Greater India, who talked about the highlights of his long professional career and the future of Indian Lighting business

You have a had almost two decades working experience at Philips. Can you please take us through the highlights of your long journey in Philips?

My journey at Philips has been a rewarding one, filled with diverse roles and responsibilities. I started off in product marketing, then moved on to become the Regional Manager for OEM Business. There I was exposed to the nuances of understanding customer needs and translating them into compelling products. I also worked closely with our partners, fostering relationships, and ensuring that our products were integrated seamlessly into their offerings Later, as GM-Sales I was part of the global team handling special lighting. I also had the opportunity as Head of International Sales to manage export markets including Sri Lanka, Bangladesh, Nepal and Bhutan. This experience allowed me to gain a broader perspective of the lighting industry, understand global trends and contribute to projects beyond geographical boundaries. Following this, I served as the National Sales Manager for OEM business before finally taking up my current role as Senior Director & Head of Professional (B2B) Business. I leverage all these experiences to drive our business forward while nurturing the right talent. Each role has been a stepping stone, providing me with invaluable insights and learnings that continue to guide my decisions and strategies as a business leader.

Out of my total professional experience of 25 years, I have spent 19 years at Philips Lighting/Signify which has added to my professional as well as personal growth over the years.

Prior to joining Philips, you had worked in Crompton Greaves. Would you like to share some of some of your experiences and learnings in Crompton, which came handy for you in Philips?

My time at Crompton Greaves was a significant learning experience, where I gained invaluable insights into the importance of collaborative teamwork & communication. Two key aspects that I learned were Customer Relationship Management (CRM) and being Passionate in your work, which have been instrumental in my success at subsequent roles with Signify.

Can you please share some of your thoughts on your vision on fostering innovation and nurturing the right talent?

Innovation and talent nurturing are two pillars that I believe are integral to the success of any organization. My vision for fostering innovation involves encouraging ideas from within our team as well as our customers. It's about creating a synergy between what we offer and what they need. Trusting and empowering the team is crucial, as is establishing an emotional connect. I strive to create a culture where each team member feels a sense of belongingness and understands how their contribution helps us move closer to our company's vision. I always encourage my employees to think outside the box, Challenge conventional wisdom and take calculated risks. Ultimately, my vision is to create a workplace where innovation thrives and talent flourishes, driving us forward in our journey towards becoming a leader in the lighting industry.

Having a long experience in professional lighting how do you see business growth in this space? Given the GDP forecast by RBI, World Bank, how do you see growth path of lighting industry in the professional segment?

Given the projected GDP growth for India, infrastructure will play a key role in driving business growth in the professional lighting space. The growth potential in this space is immense, particularly when we consider the rapid urbanization and infrastructural development happening across India. Moreover, the transition towards energy-efficient and smart lighting solutions is another key driver for growth in the professional lighting segment. Considering these factors, I anticipate a double-digit growth in the professional lighting sector. At Signify, we are well-positioned to leverage these opportunities with our innovative product portfolio and customer-centric approach.

How is Signify looking to address the opportunity offered by Connected Lighting / Intelligent lighting space?

The evolution of lighting from a mere functional element to an integral part of smart homes and cities has opened a plethora of opportunities in the Connected Lighting or Intelligent Lighting space. Innovation lies in our DNA and at Signify, we leverage the opportunities to deliver the best-in-class solutions to the customers. Our approach is based on systems and services, as we move forward, we will continue to explore new technologies and trends in the intelligent lighting space, striving to deliver solutions that not only enhance the quality of light but also contribute to a smarter, more sustainable future thus delivering on our promise to unlock the extraordinary potential of light for brighter lives and a better world.

Does Signify have plans for expansion in terms of enhancing manufacturing

base in either at the existing facilities or acquiring any other business?

Our strategic decisions are guided by our commitment to delivering value to our customers. This includes continually evaluating opportunities for expansion, whether it's enhancing our manufacturing capabilities at existing facilities or exploring potential acquisitions in line with the customer demands.

What would be your recommendation to ELCOMA to help it serve the industry and the consumers in a better way?

For a panel of rich talent across the industry, I would recommend promoting futuristic innovations that enhance customer lives, highlighting specifications in line with lower cost of ownership for quality products, and ensure adherence to international standards and certifications.

IN A LIGHTER VEIN

How do you spend your weekends?
I like to spend some time with my family and friends and catching up on Industry news and current affairs. Recently, during weekends, I enjoy spending time at my new home hand picking and creating each corner uniquely.

What are your hobbies?
My hobbies include gardening and listening to music. Gardening instils patience, care and gives me the satisfaction of nurturing something from a seed to full bloom, which is incredibly rewarding and reflective of business growth.

We are given to understand that you are an avid music enthusiast. Who is your favourite singer?
As a music enthusiast, my favourite singer is Arjit Singh. I find him versatile and his soulful voice a great stress buster at the end of busy workday.

As a leader, how do you unwind?
Leading effectively is hard work and to do it well requires that you are alert, present, and thinking clearly. To be at the top of your game demands your energy and stamina. Relaxation is the way to get to all of these characteristics. To unwind, I enjoy listening to spiritual and management gurus which bring a ray of hope. Most of my important life lessons I have learned from authors like Robin Sharma and Shiv Khera.

What is your favourite Holiday Destination?
As a nature lover my favourite holiday destinations are Switzerland in Europe for the magnificent Swiss Alps and beautiful diverse landscapes of scenic mountains, lakes and valleys. I also love Goa for its breath-taking beaches, rich culture and its high bio-diversity.

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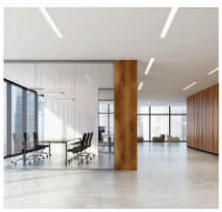

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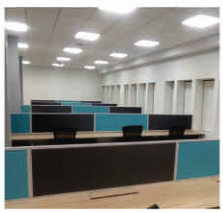

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Winning Trust with Customers is key to Success

Illumination chats with Mr. Nitin Saxena, Director, Inventronics SSL India Pvt. Ltd. (OSRAM Digital Systems Eurasia is now part of Inventronics)

Your experience of over two decades in lighting industry in both consumer and professional segments is phenomenal. Please take through this long journey and its highlights.

I started my career with capital equipment in the Electrical Industry for 5years and now its over 23 years in the Lighting Industry experiencing both consumer and professional lighting segments with a skill set to drive core businesses, new trends, innovations and blue-sky ideas. In the year 2013, established Business Unit (Lighting Electronics) in OSRAM India, now known as BU Digital Systems. In 2018 I got the opportunity to lead this business vertical in Southeast Asia, ANZ along with India which helped me to experience international markets with a multi-cultural environment, and various regulations and requirements cross this geography. Now with the merger of the DS BU into Inventronics, I have the added exposure of ME and Africa markets for driving growth in this segment. I have been closely associated with company turnarounds and have been an integral part of various cross-functional teams, which implemented those strategic turnaround plans with a clear focus on driving business growth and bottom line.

At OSRAM Digital Systems Asia & Europe, which is now integrated with Inventronics, we have been largely dealing with LED Drivers, LED Modules and Connected Systems and it has been our consistent endeavor to focus on building trust and adding value to our customers via innovative and dependable products, system solutions and services.

You also have a diversified international and domestic experience. How do find the difference in environment, culture and regulatory requirements impact the business in India vis-à-vis other countries?

Since 2018, I have been additionally responsible for Southeast Asia and ANZ markets for OSRAM Digital Systems business. Approbation in each country is a mandatory process for qualifying the use of these products in the country and complying to local regulations and guidelines as per the laws of the land. In my view all the countries in this territory have been largely influenced by the Chinese community, components and products and most local approbations restrict use of non-specification and entry level products. India's perception in the international markets over the past few years has gained a positive image and this has led to India and its products being favored and preferred over others. This has meant a good opportunity for 'Made in India' products and we could manage to get successful breakthroughs with Indian portfolio in this entire region. And now with the addition of Middle East and Africa markets, which I am sure will be another exciting region to explore and work on.

You have been a key part of DS (Digital Systems) at OSRAM. How has the market changed from the time the DS business started to what it is today?

Lighting Industry overall has been very dynamic and over the past two decades has witnessed a lot of transformations right from Traditional to Electronics to Solid State and now Connected Solutions are gaining momentum. I have been lucky both on personal and professional front as it has been a great learning dealing with all the stages of evolution, growth, maturity, trends, portfolios and segments.

How is the new company created due to Inventronics integration of OSRAM Digital Systems being positioned in the International and the Indian market?

Integration is not an easy topic to handle as it involves combination of all the resources. Our focus has been on business continuity, eliminating all the variables obstructing our services towards our customers, parallelly executing the integration as per timelines.

The coming together of Inventronics and OSRAM Digital Systems business in Asia and Europe, further strengthens and enhances our portfolio, capabilities and global presence making us the first choice for LED lighting solutions to customers.

Strategically, what is Inventronics' approach to the market in the near term and long term?

With a combined set-up, we have emerged as a premier worldwide producer of an extensive range of lighting products, including LED drivers, sensors, control systems and LED modules. Our cutting-edge, reliable and durable solutions are designed to meet all major international safety and performance standards. Our goal is to provide superior products, exceptional technical support and outstanding service to our customers. We also strive to create value for our customers by enhancing the return on investment for solid-state lighting systems.

How does Inventronics see the OSRAM products integration into their existing product offerings?

You may call it a perfect match since we have **a very complementary product portfolio** and our combined portfolio is second to none in the industry. A combined incredible global footprint is increasingly important in our industry and a common approach to the market coupled with our combined technical capabilities will allow us to accomplish things that neither of us could do separately.

There are several different 'OSRAM' entities operating in the market including Traxon e:cue, Ledvance/OSRAM, Inventronics and the parent amsOSRAM. Do you face any challenge in the positioning of your brand in the market?

Thanks for taking up this question. It is our responsibility to clarify and educate our customers on the overall situation as the use of OSRAM brand licenses is distributed with respect to different business segments. We believe, good and transparent communication with our customers is the only way to address the situation. And so far, we have managed the communication path well by maintaining our status and updating our customers directly with all the rightful

information, right from the beginning when the combination was announced till date.

From a product perspective, where do you see the technology a few years from now and how would that impact your product portfolio?

Sustainability is also one of our focus areas and though it may not be very relevant today in many Asian countries, but going forward will be one of the key parameters for every organization, as it means responsibility towards our customers, employees, shareholders, society and most importantly, the environment. Throughout our value chain, we emphasize on the careful use of resources, environmental protection, good working conditions, health and safety as well as compliance with human rights.

What part of your portfolio is manufactured in India and how much is imported? What are your plans for expansion in manufacturing and what are the expected product categories to be added in the next few years?

India is one of the strategic focus countries with promising growth opportunities. We at Orange Inventronics intend to expand and develop an ecosystem focusing both on domestic and international markets. Currently, we have a manufacturing footprint located at Bhiwandi (Mumbai) clubbed with an EMS set-up and a strong R&D team located at Gurugram and regional offices for better proximity to our customers. Currently our total revenue consists primarily of our 'Made-in-India' portfolio, with significant growth coming from our export business. We do have a clear road map of technologies and portfolios to be added in coming years for local development and manufacturing.

ELCOMA has always supported Government's vision and initiatives to make India as export hub for Lighting products and capture at least 10% of Global Lighting market by 2030. What are your views on the same?

India possesses the potential to transform into a global hub due to its geographical location, growing economy and improving infrastructure.

In fact, Government vision and initiatives, whether it is 'Atmanirbhar Bharat' program or 'Public Procurement Orders' or 'PLI' scheme or transforming India to be a 'big player in global logistics' are all to boost local manufacturing and are fantastic, as it brings in lot of opportunities to many industries & people.

What is your vision, say for the next 5 years and where you expect Inventronics to be then?

Our company vision is 'To be the most valued partner in the global lighting industry, thereby building a brighter future for our customers, employees and shareholders.'

We will maintain a sharp focus on high-quality, intelligent lighting solutions. This allows us to make smart investments in people and next-generation technologies that set new standards of excellence around the world.

Given the GDP forecast by RBI, World Bank for the coming years, how do you see growth path of lighting industry in the professional segment for India?

Today India has one of the best economic situations worldwide, despite of all the challenges faced during and in the post-pandemic period. Also aligning with Government initiatives, there are humongous growth opportunities for lighting industry. I believe there is no looking back…

What are the three things you would like to advise ELCOMA to do by which it will serve the industry and the consumers better?

ELCOMA can help build the nation by promoting a localization or Make-in-India strategy by fostering

- Strategy to encounter spurious imports and sub-standard local products with strict rules, improvised specifications and most importantly, ensuring compliance.
- Consumer awareness programs, how good quality light impacts individuals' comfort, health, well-being, safety etc.
- Skill development specific to the lighting industry, with specialized courses in partnership with professional institutes/industry focusing on future technological advancements.

IN A LIGHTER VEIN

How do you pass your free time on the weekends?
I prefer to spend my free time is to relax, socialize and interact with my family and friends as they are most important for me.

What are your hobbies?
There are several interests that I regularly enjoy doing, like fitness, listening to music, watching OTT, board games etc. but I find peace and satisfaction whenever get a chance to volunteer my services/support for any social cause.

What is your favourite movie?
I enjoy watching many movie genres such as comedy with good humor, inspirational, thriller, war movies…

What is your favourite food?
Since I travel a lot, my preference is always to explore local-authentic food, otherwise Indian Chinese and BBQ is my favourite.

What is your favourite Holiday Destination?
No specific location, travel preference is to places with cool weather, mountains & beach destinations.

INTERVIEWED BY ILLUMINATION EDITORIAL TEAM

Lighting Innovations Illuminating the Future

Radhika Opto Electronics Limited has roots dating back almost 4 decades and has come a long way since its humble beginnings. The company started off making conventional lighting fixtures for Crompton Greaves and steadily grew its operations till 2012 where it reached an inflection point with the advent of commercialized LED lights after which the company grew at a rapid pace. We had the foresight to see how disruptive this new technology would be and we decided on capitalizing on this opportunity. Driven by our visionary approach, relentless hard work, exceptional teamwork and uncompromising ethical standards, we constantly added new and innovative products to our portfolio and expanded our customer base to reach all major LED brands of India.

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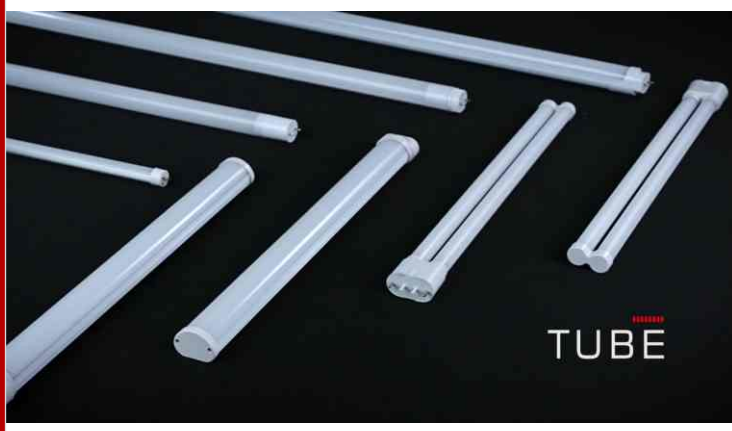
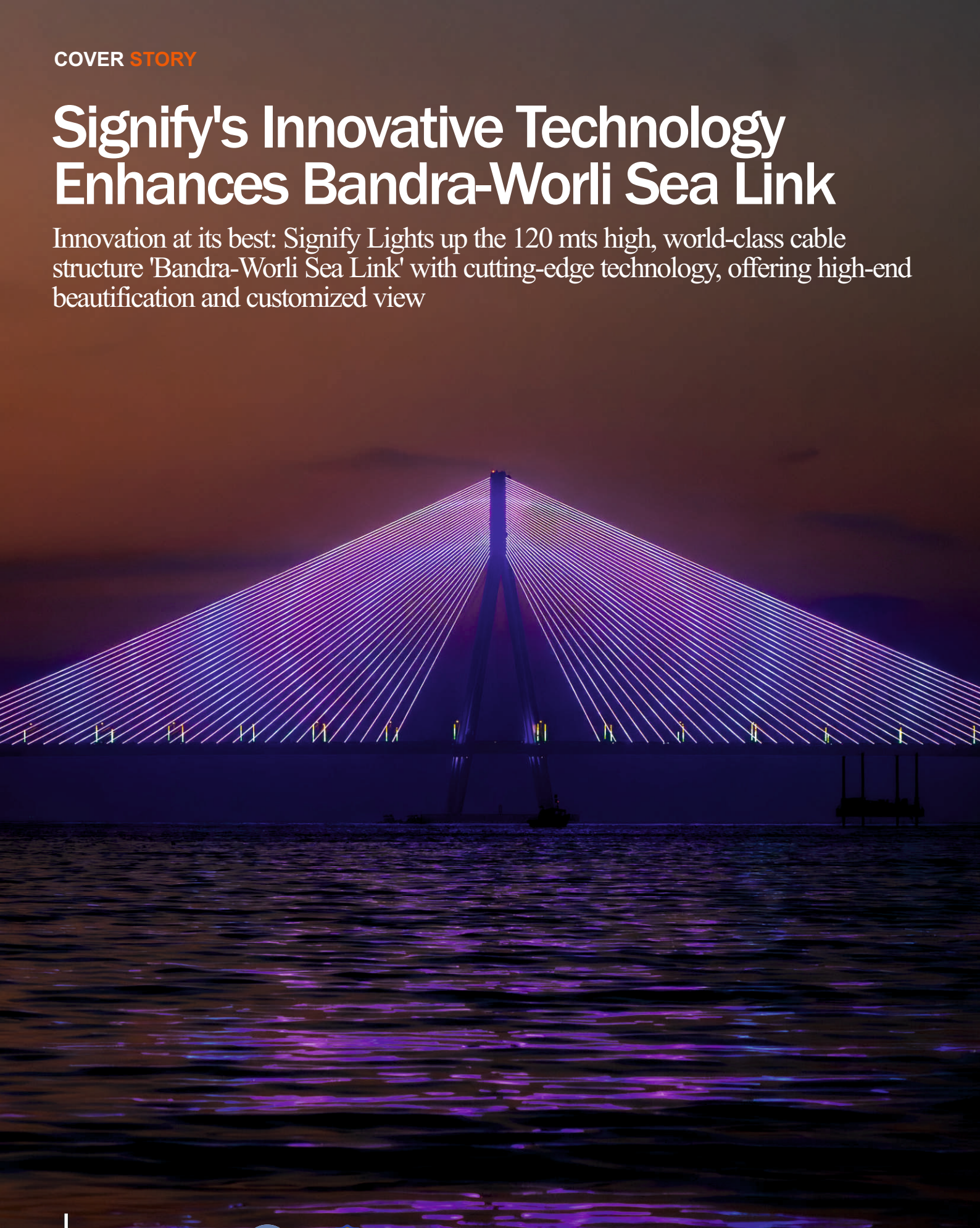


Signify's Innovative Technology Enhances Bandra-Worli Sea Link

Innovation at its best: Signify Lights up the 120 mts high, world-class cable structure 'Bandra-Worli Sea Link' with cutting-edge technology, offering high-end beautification and customized view



In line with the brand vision to unlock the extraordinary potential of light for brighter lives and better world, Signify the world leader in lighting completed the one of its kind Bandra Worli Sea Link Facade lighting project in association with the Maharashtra State Road Development Corporation (MSRDC). Executed on a massive structure, the Bandra-Worli Sea Link project is a one-of-a-kind cable façade lighting project across India. The project aims to enhance Mumbai as one of the top megacities on the world map

Commenting on the landmark project Sumit Joshi, CEO, Signify Greater India said, “Innovation runs in our DNA, and at Signify we are proud to majestically light up the Bandra-Worli Sea Link project, setting a new benchmark for city beautification projects. We have always been at the forefront of offering cutting-edge technology and developing lighting solutions that are energy-efficient and aesthetically pleasing. The Mumbai Sea Link project is yet another testament to how our lighting solutions can transform a structure into a work of art.”

The cutting-edge technology offers customization that can be used to display content such as images and videos as per the occasion using a mix of Philips RGB flood lights and Philips Direct View nodes. The lights used for the media façade are custom-made for Mumbai and its environmental requirements wherein 21 kms LED node have been installed. All Direct View node light fixtures and their accessories installed, are specifically designed to account for natural conditions such as water, dust, high-speed winds, and saline mist environment. Each node and its cable supporting the bridge's cable stay lighting is installed inside well-engineered extruded aluminum tracks, which were specifically developed for this application to fit the diameter of the cable stay of the bridge.

Dedicated to the 'city that never sleeps', the project aims to offer a unique experience for the residents of Mumbai. The project showcases Signify's commitment to innovation, setting a milestone in the path for city lighting. Widely considered an architectural marvel, the bridge is brought to life at night with colorful lights, mirrored in the water below.

AUTHOR : SIGNIFY INNOVATIONS INDIA LIMITED

ELCOMA GB Meeting Held at Kolkata

The second Governing Body Meeting of 2024 which was sponsored by M/s. Eveready Industries India Ltd., was held on 2 May 2024 at the Eveready board room in Kolkata. 14 members of ELCOMA GB were present in the meeting. Mr. Avinder Singh, the President of ELCOMA, after reading the minutes of the previous Governing Body meeting held on 17 January 2024 proceeded to start the meeting. After the President's address, Mr. Amal Sengupta, Secretary General of ELCOMA read out Secretary's points to the GB. The committee reports were presented by respective chairpersons of the committee, Mr. Nitish Poonia and Mr. Santosh Agnihotri. There was a discussion of Light India + LED Expo 2024 initiated by Mr. Amal Sengupta and also the plan for organizing ELCOMA conferences in the future.

The meeting came to an end with a vote of thanks by the Treasurer. Mr. Puneet Dhawan, MD, Ledvance India, volunteered to sponsor the next GB by LEDVANCE, which will be held in Delhi in July 2024.

OSRAM Wiper Blade

Bringing clear vision in all weather

OSRAM, with over 100 years in the automotive industry have launched various products keeping safety of our customers as the utmost priority. With the same motive OSRAM has launched “OSRAM Premier Wiper Blades”. Considering the vehicle coverage and applicability, wiper blades are available in two ranges i.e. PREMIER CONVENTIONAL BLADE and PREMIER FLAT BLADE with all the relevant sizes.

For drivers who want the clear vision in adverse weather, OSRAM wiper blade provides excellent quality, and superior wiping performance in the most challenging weather. Explore OSRAM Premier Wiper Blades and find the one suitable for your safety from our wide product ranges.

OSRAM

Orient Electric illuminates Sudarshan Setu

Orient Electric Ltd. has contributed to illuminating and enhancing the aesthetics of India's longest cable-stay bridge, 'Sudarshan Setu' through the use of DMX control-based LED architectural floodlighting and decorative casted poles with heritage post tops.

Incorporating DMX control-based LED architectural Flood Light fixtures into Sudarshan Setu's design is a sophisticated choice that allows for dynamic and precise control over the lighting, significantly enhancing the unique façade structural elements like

the pylons and the cables. The DMX based Light fixtures are programmed for dynamic lighting sequences, creating captivating visual displays that can evolve over time. The lighting can be programmed/tuned to match cultural celebrations, festivals, or community events. By integrating DMX control-based LED architectural floodlighting, Sudarshan Setu can not only stand out during the night but also becomes a dynamic and appealing part of the cityscape, creating a memorable and aesthetically pleasing experience for visitors as well as for residents.

Orient Electric's expertise in conceptualizing the structurally robust decorative poles for strong wind conditions, that go beyond mere functionality, seamlessly integrate with the bridge's architectural elements in a creative and meaningful way. Incorporating custom brackets inspired by Lord Krishna's theme elements like the Flute which not only serves as a symbolic representation but also plays a practical role in reducing torsional forces, Sudarshan Chakra - adapted to serve as a truss structure within the bracket and Mayur Pankh (peacock feather) design on top the decorative arms, featuring gaps, is utilized to reduce wind pressure on the pole. The gaps allow wind to pass through, minimizing the force exerted on the structure. The decorative Post Top light - Circlet, offers a Classical design which retains the heritage looks blend with highly reliable technical features. Offered with specialized road distribution lens to optimized distance between two poles offer glare free illumination for pedestrians as well as vehicle drivers with uniform lighting.

The upward light output is negligible, hence ensuring no sky pollution and better CU (Coefficient of Utilization). Aesthetics of LED decorative Post Top light with poles and arms represent religious connection between Dwarika and Pilgrims.

By combining functionality with cultural inspiration, the entire lighting solution offered by Orient Electric becomes not just structural elements but also storytelling pieces that contribute to the beauty and uniqueness of the bridge.

AUTHOR: ORIENT ELECTRIC LIMITED

Surya Roshni transforms the travel experience at Lucknow International Airport

Airports worldwide are implementing dynamic lighting systems that adjusts to the time of the day, supporting travelers' circadian rhythms and reducing jet lag. For example, cooler, brighter lights in the morning and warmer, dimmer lights in the evening help align travelers' internal clocks with their destination time zone.

By integrating such advanced dynamic lighting technology, Surya Roshni has significantly enhanced the travel experience at Lucknow's Chaudhary Charan Singh International Airport's Terminal 3, creating a comfortable, safe, efficient environment for travellers and staff alike.

Advanced Lighting design & Control solutions:

The installations feature special diffusers that ensure uniform light distribution and effective glare control. The integration of these lights with smart control solutions promises to transform the terminal into a beacon of modernity and efficiency, ensuring a pleasant experience for all who pass through this gateway.

Improving Wayfinding:

Effective lighting helps in guiding passengers through the airport. Well-lit signage and pathways can assist travelers in finding their way more easily, reducing confusion and improving overall efficiency in navigating the terminal.

Enhancing Mood and Comfort:

Proper lighting can create a welcoming and relaxing atmosphere, reducing stress and anxiety for travelers. Warm and soft lighting in waiting areas and lounges can make these spaces feel more comfortable and inviting.

Supporting Operations and Efficiency:

Task-specific lighting in areas like check-in counters, baggage claim, and security screening areas ensures that staff can perform their duties effectively. Proper illumination helps in improving operational efficiency and reducing errors.

Energy Efficiency and Sustainability:

Modern lighting solutions, such as LED lighting, contribute to energy efficiency and sustainability goals. Airports can significantly reduce their energy consumption and operational costs by adopting energy-efficient lighting systems.

Enhancing the traveller experience:

Travellers passing through the T3 Terminal will benefit from a well-lit, aesthetically pleasing environment that

reduces visual fatigue and enhances comfort. The smart lighting controls adjust the illumination levels based on natural light availability and passenger flow, creating an optimal lighting environment at all times. This advanced lighting infrastructure not only improves visibility and safety but also contributes to a more relaxed and enjoyable travel experience.

A commitment to innovation and sustainability

By leveraging advanced research and development, along with indigenously developed lighting solutions, Surya Roshni transcends conventional lighting, enriching lives through a futuristic approach. With over half a century of expertise, Surya has consistently redefined the lighting industry, creating brighter, more sustainable, and welcoming environments.

Setting new benchmarks. Bringing new avenues.

Such collaborations highlight Surya Roshni's prowess in advanced lighting technology and its dedication to enhancing public spaces. By transforming the travel experience at Chaudhary Charan Singh International Airport's T3 Terminal, Surya continues to set new benchmarks in the lighting industry, ensuring that every journey begins and ends with brilliance.

"Surya Roshni is honoured to be a part of the esteemed T3 Terminal project at Chaudhary Charan Singh International Airport, Lucknow. Our advanced lighting solutions underscore our commitment to creating an inviting ambiance while providing optimal functionality, perfectly aligning with the airport's dedication to offering a superior experience to its passengers."

Mr. Jitendra Agrawal, CEO of Lighting & Consumer Durables at Surya Roshni Ltd.

AUTHOR: SURYA ROSHNI LIMITED

Eveready Lights Up Highways for NHAI in Assam

In a significant stride towards enhancing road safety and visibility, Eveready Lighting undertook a landmark project for the National Highways Authority of India (NHAI). The project, aimed at illuminating an 18-kilometer stretch of highway in Boragaon Gorchuk Lokhra Guwahati Bypass, Assam, is a testament to Eveready's commitment to innovation and excellence in the lighting industry.

An official revealed the precarious condition of that area, which has been consistent for the past eight years. The lack of streetlights had forced residents to rely on the limited illumination from nearby homes, creating a hazardous environment for drivers and pedestrians alike. This dire situation underscores the urgent need for effective lighting solutions to ensure safety and improve the quality of life for the community.

Central to this project were three of Eveready's cutting-edge lighting products, renowned for their high lumen efficacy and innovative design. These products featured special lens technology that ensured superior light distribution, enhancing visibility and safety on the highway. These products, meeting NHAI's minimum lux level criteria of 40 lux for streetlights, epitomize Eveready's commitment to quality and innovation. The use of strong aluminium housing and tough glass covers made the lights durable and weather-resistant. The sleek, grey powder-coated finish added to the aesthetics, making these streetlights both functional and visually appealing.

The installation process was executed with precision, ensuring that every streetlight was positioned for optimal

performance. Following the installation, the Department and NHAI consultants conducted thorough inspections to verify that the light levels met the required standards. Eveready's products passed these checks with flying colours, demonstrating their commitment to quality and reliability.

The successful completion of this project has not only illuminated the highway but also opened new avenues for Eveready. The source approval from NHAI consultants positions Eveready favourably for future projects, facilitating smoother approvals and executions. This endorsement is a significant milestone, reflecting Eveready's capability and reliability in delivering top-tier lighting solutions. Highlighting an efficient project management, the installation spanned just 3 months, with an additional month for meticulous approval processes. This timeline underscores its dedication to timely delivery and adherence to regulatory standards, ensuring top-quality lighting solutions for safer roads.

Eveready Lighting's project for the NHAI is a shining example of innovation and excellence in the field of highway illumination, brightening the future for India's highways. With a focus on safety, visibility, and eco-friendly practices, Eveready has once again proven why they are the torchbearers of the Indian lighting industry. As they continue to dispel darkness and bring light to millions, Eveready remains committed to making a meaningful difference in people's lives, one project at a time.

AUTHOR: EVEREADY INDUSTRIES INDIA LTD

The Binary Age and Connected Lighting : Convenience with Caution

An article that raises concerns about Data Security in Connected Lighting and advises caution

The Rise of Connected Lighting and the Data Age

Living in the era of Artificial Intelligence (AI), Virtual Reality (VR), and Augmented Reality (AR), technology has become deeply integrated into our lives. Lighting, a fundamental human-centric technology, is also undergoing a transformation. We are entering the "Data Age," where information about our behaviour patterns is constantly collected. This constant monitoring raises concerns about data security.

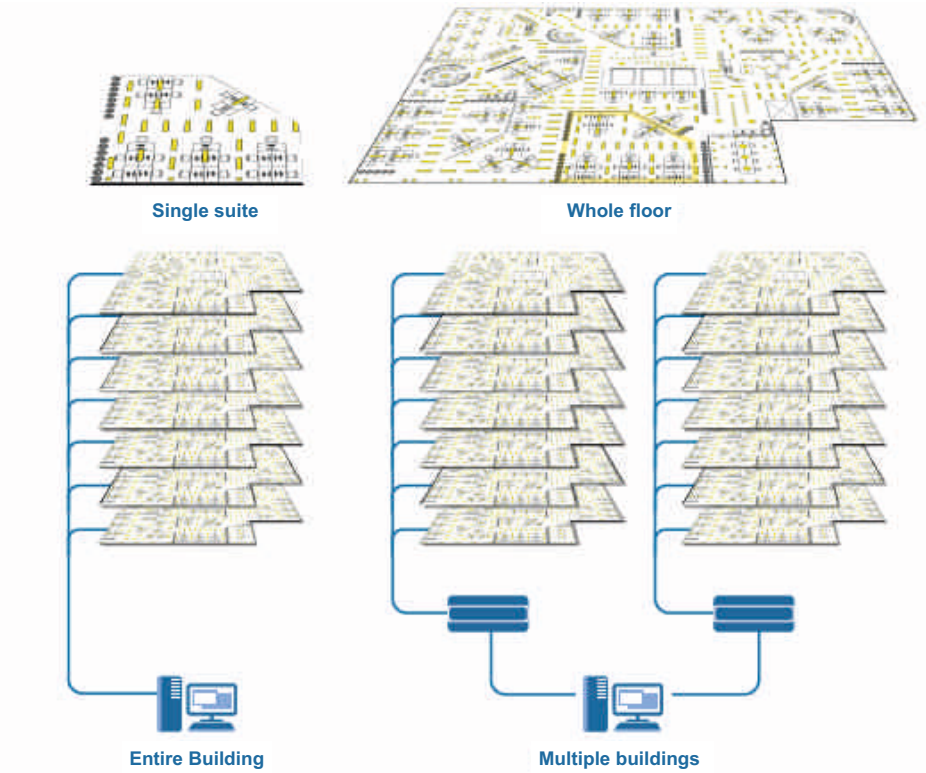
The Convenience and Risks of Connected Lighting

Smartphones and apps allow us to control lighting in homes and even public spaces. However, with this convenience comes the question: What information are we sending to the cloud? While storing and retrieving data for personal use is acceptable, we need to be aware of what happens to this data in between. Additionally, granting access to our phones through apps raises concerns about the safety of our personal information.

Choosing Safe Connected Lighting Systems

Before adopting smart or connected lighting, it's crucial to consider several factors:

- **System Type:** Is the system connected (to the internet) or local (standalone)?
- **Protocol:** What communication protocol is used (Bluetooth, Zigbee, PoE, wired)?
- **Data Storage:** Is the system on-premise (data stored locally) or cloud-based (data stored remotely)? On-premise systems are generally considered safer, but the app used must be trusted and certified.
- **Cloud Security:** If cloud-based, which specific cloud service is used?
- **Data Permissions:** What level of access are you granting the service provider to your data?
- **Data Encryption:** Is data transmission encrypted?
- **Server Location:** Where are the cloud servers located?
- **Data Security Measures:** How secure is the system against hacking?
- **Standards/Certifications:** Does the connected lighting system comply with international standards and certifications to ensure secure development of automation and control systems? IEC 62443-4-1 is a standard for secure development of



industrial automation products and control products. It requires manufacturers to consider security throughout the product lifecycle, from design to maintenance. This helps ensure connected lighting systems are built with security in mind, reducing vulnerabilities.

Protecting Our Data Privacy

Every interaction with connected devices, from lighting to air conditioning, generates data used to create digital profiles. As users, we deserve control over who can access and analyze this data. Sharing some information is acceptable, but it shouldn't fall into the wrong hands.

The Importance of Secure Connectivity

Just as we wouldn't connect our smartphones to unknown networks, we shouldn't connect our homes, offices, or entire smart city infrastructure without verifying the vendor's certifications and data security practices. Choosing a secure vendor is like locking your doors before leaving home.

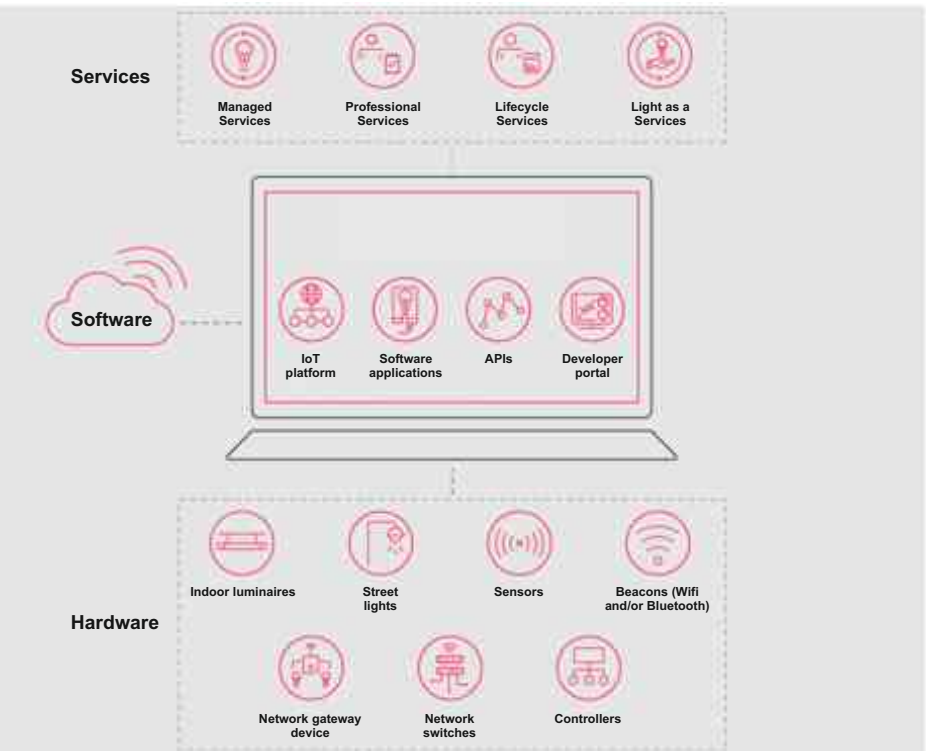
Beyond Lighting: The Expanding Network of Connected Devices

Automation extends far beyond lighting. Here's a glimpse into the connected world:

- **Homes:** Lighting, appliances, power points, garages, locks, air conditioning, curtains, and CCTV can all be connected to the cloud.
- **Workplaces:** Lighting, occupancy sensors, air conditioning, curtains, space usage patterns, energy usage patterns, and security cameras can be linked.
- **Hospitality:** Lighting, curtains, air conditioning, room data, guest experience data, other services, and security cameras can be integrated.
- **Smart Cities:** All lighting points, traffic control systems, traffic data, CCTV, and environmental data collected by smart sensors can be interconnected.

Conclusion: Connecting Wisely

While connectivity and digitization are essential, we must choose trusted and certified products and service providers. Building awareness about data security is no longer a program but a critical necessity.



AUTHOR: SUSNATA BHOWMICK – VERTICAL HEAD (SYSTEM INTEGRATION BUSINESS), SIGNIFY INNOVATIONS INDIA LIMITED

Complaint Management and Enforcement Activities by BIS

Ministry of Electronics & Information Technology (MeitY) (erstwhile DeitY) notified Electronics and Information Technology Goods (Requirement for Compulsory Registration) Order, 2012 on 03 October 2012, initially for fifteen categories of electronics items. More categories were subsequently added. A wide range of electronic items, many of which are daily use products, are covered. This list covers mobile phones, scanners, amplifiers, set top boxes, laptops, printers, luminaries, LED flood lights, lighting chains, televisions, music systems, digital cameras and so on. The complete list is available in public domain and can be accessed through following link:

https://www.crsbis.in/BIS/products-bis.do

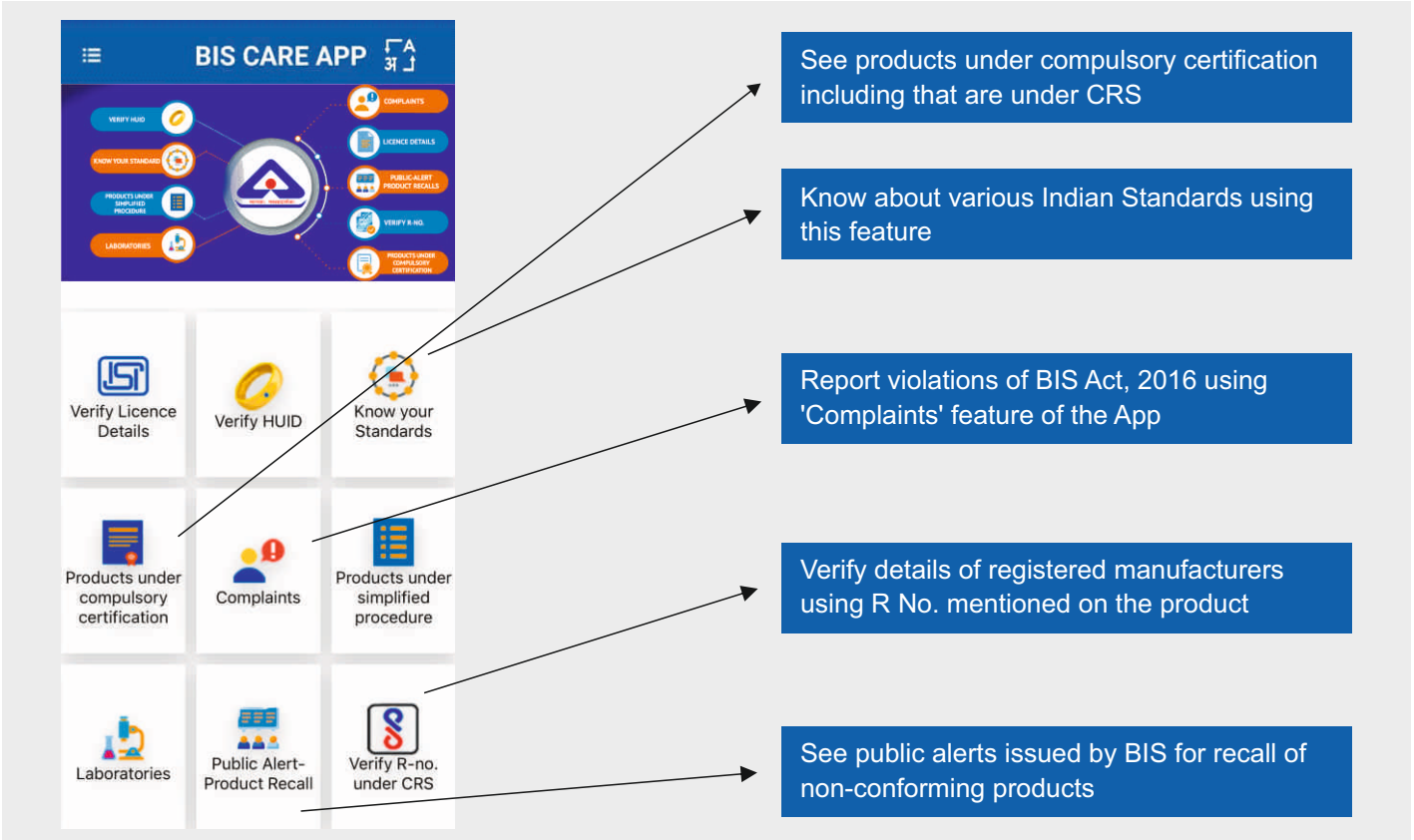
BIS has been receiving a large number of complaints related to above referred compulsory registration scheme (CRS). Complaints pertain to following two types: Misuse of registration mark, i.e., applying the mark without authorisation; and violation of compulsory registration order, i.e., production /sale / display for sale / distribution of these products without BIS Registration Mark. BIS Branch Offices have carried out 40 Search and Seizure operations across the country during the last two years. Subsequent to successful Search & Seizure operation, legal action for violation of BIS Act, 2016 is also being initiated against the offenders.

Consumers can also verify details of registered manufacturers and report violations of BIS Act using BIS CARE App. Alternatively, complaints can also be lodged through the following modes as well:

(I). Through our web portal on the following link

https://www.bis.gov.in/index.php/consumer-overview/consumer-overviews/online-complaint-registration/

(ii). By writing email to us at complaints@bis.gov.in



AUTHOR: BUREAU OF INDIAN STANDARDS (BIS)

POWER CONNECT

Cable Connections & Protection Systems

LILO CONNECTOR

PUSH FIT CONNECTOR

IP67 Wire Connectors

IP68 WATERPROOF RELEASABLE TYPE CONNECTOR

CONDUITS & GLANDS

Push Fit Connectors

Cable Glands

Brass Glands

Solder Butt Connectors

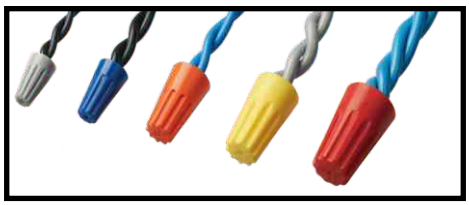
Push-in Wire Connectors

Vent Plugs

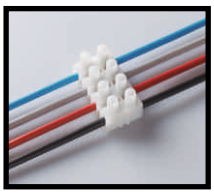
Waterproof Wire Connectors

EASY-LINK Lighting Connectors

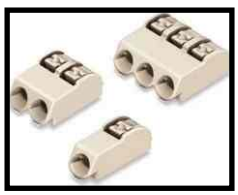
IP68 CONNECTORS



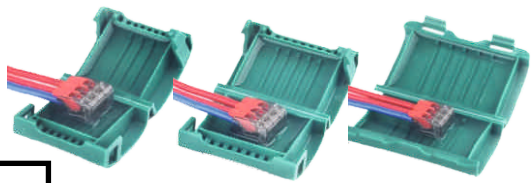
Screw-On Wire Connectors



Terminal Blocks



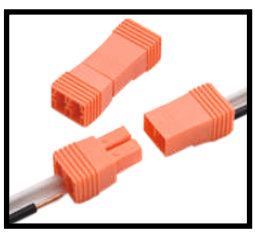
SMD Connectors



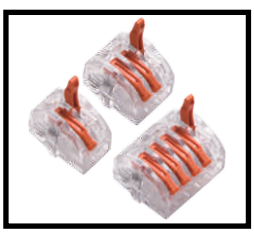
WATERPROOF GEL CONNECTORS

Closed-End Wire Connectors

Terminal Blocks

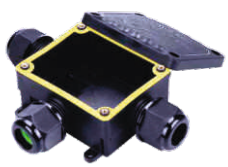


Luminaire Disconnect



Releasable Wire Connectors

Terminals



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Beyond the Horizon: The Future of Lighting Technology

An article that delves into the current state of lighting technology and explores the innovations that will shape its future

Lighting technology has come a long way from the days of simple candles and oil lamps. Today, it encompasses a range of sophisticated systems that enhance our daily lives, improve energy efficiency, and contribute to sustainable practices.

Current Lighting Technology

encompasses LED Technology, Smart Lighting Systems and Human Centric Lighting Solutions

LED (LIGHT EMITTING DIODE) TECHNOLOGY

Energy Efficiency: LED (Light Emitting Diode) technology is renowned for its energy efficiency compared to traditional lighting solutions conventional lamps in Indoor as well as outdoor. They convert a higher percentage of energy into light, reducing electricity consumption and lowering utility bills. Color quality and enhanced S/P ratio (Scotopic/Photopic ratio) improve visual comfort.

Directional Lighting: LEDs provide directional light, which means they emit light in a specific direction. This reduces the need for reflectors and diffusers that can trap light, making LEDs more efficient for applications like task lighting and downlighting

Longevity: LEDs have a much longer lifespan compared to traditional bulbs. An average LED bulb can last up to 25,000 hours or more, while incandescent bulbs typically last around 1,000 hours and CFLs about 8,000 hours. This longevity translates to less frequent replacements and further energy savings in the long run.

Versatility: Available in various colors and forms, LEDs are used in residential, commercial, and industrial applications. They also support dimming features and smart lighting systems.

Environment friendly: The reduced energy consumption of LEDs leads to lower greenhouse gas emissions from power plants. Additionally, LEDs do not contain harmful substances like mercury, which is found in CFLs, making them more environmentally friendly.

SMART LIGHTING SYSTEMS

Integration with IoT (Internet of Things): Smart lighting systems can be controlled via smartphones, tablets, or voice assistants like Amazon Alexa and Google Assistant. This allows users to adjust brightness, color and scheduling remotely.

Energy Management: Smart systems can optimize energy use by automatically adjusting lighting based on occupancy and natural light availability, further enhancing energy efficiency.

Customization and Automation: Users can create customized lighting scenes and schedules, improving convenience, ambiance and energy savings.

HUMAN-CENTRIC LIGHTING (HCL)

Human-centric lighting represents a significant shift in how we think about and utilize artificial light. By focusing on the biological and emotional impacts of lighting, HCL systems aim to improve health, well-being, and performance across various settings. As technology advances, the implementation of HCL will likely become more accessible and prevalent, offering widespread benefits to individuals and communities. Studies show that appropriate lighting can enhance productivity, mood, and comfort in workplaces and educational settings

Circadian Rhythm Alignment: HCL systems are designed to mimic natural light patterns, promoting better sleep and overall well-being by aligning indoor lighting with the human circadian rhythm.

Emerging and Future Technologies in Lighting like Li-Fi, OLEDs, Solar, and quantum dots promise to further revolutionize how we illuminate our world

LI-FI (LIGHT FIDELITY)

High-Speed Data Transmission: Li-Fi uses visible light communication (VLC) to transmit data at high speeds, potentially offering faster and more secure data transfer than Wi-Fi and could be integrated with indoor and

outdoor lights. This technology could revolutionize internet connectivity in homes and offices and also outdoor.

Dual Functionality: This innovation would allow indoor & outdoor lights to serve as both lighting and data communication tools, enhancing smart city infrastructure, high secured areas like Military and Navi, Hospitals to avoid interference with equipment, underwater communication, high density areas like Airports, stations and stadiums, in-flight communications etc.

ORGANIC LIGHT EMITTING DIODES (OLEDS)

Design Flexibility: OLEDs are made of organic materials that emit light when an electric current is applied. OLED panels are thin, lightweight, and can be made flexible. This allows for innovative lighting designs that are not possible with traditional light sources. Designers can integrate OLED lighting into various surfaces and structures, creating aesthetically pleasing and functional lighting solutions.

Superior Quality: OLEDs offer excellent color rendering and uniform light distribution, making them ideal for high-quality display and lighting applications. OLEDs provide a soft, diffuse light that is similar to natural sunlight. This makes them ideal for environments where high-quality, comfortable lighting is essential, such as in homes, offices, and healthcare facilities.

QUANTUM DOTS

Enhanced Color and Efficiency: Quantum dots are semiconductor particles that can emit light in specific wavelengths. Quantum dots can be engineered to emit light at specific wavelengths with high precision. This allows for the creation of custom light spectra that can be fine-tuned for various applications, such as circadian lighting that adjusts throughout the day to mimic natural sunlight. QD-enhanced LEDs

can achieve higher brightness levels compared to standard LEDs. This makes them suitable for applications requiring high luminance, such as in display screens and high-intensity lighting.

Stable Performance: Quantum dots are less prone to color degradation over time, maintaining their performance and color quality longer than traditional phosphor-based LEDs. This enhances the longevity and reliability of QD-enhanced lighting solutions.

Sustainability: Advances in QD technology are focusing on the development of cadmium-free quantum dots, reducing the environmental and health risks associated with toxic materials. Quantum dots can be produced using more environmentally friendly processes, contributing to the sustainability of the technology.

ADVANCED MATERIALS AND NANOTECHNOLOGY

Self-Cleaning and Self-Repairing Surfaces: Emerging materials with self-cleaning or self-repairing properties can extend the lifespan of lighting fixtures and reduce maintenance costs.

Improved Thermal Management: Nanotechnology can enhance heat dissipation in LED systems, increasing their efficiency and lifespan.

Manufacturing Advances: Nanotechnology can lead to more cost-effective production methods for advanced lighting materials. Techniques such as roll-to-roll printing and solution-based processes can lower manufacturing costs and enable large-scale production.

Reduced Toxicity: Development of non-toxic, environmentally friendly materials, such as cadmium-free quantum dots, helps mitigate the

environmental impact of lighting products.

Agricultural Lighting: Advanced materials can be tailored to produce specific light spectra that optimize plant growth and productivity in controlled environments, such as greenhouses and vertical farms.

Medical and Therapeutic Lighting: Nanomaterials can be used to create lighting solutions for medical applications, such as phototherapy, where precise control over light properties is crucial.

SOLAR ENERGY HARVESTING

Increased Efficiency: The future of solar technology in lighting is poised to bring transformative changes, driven by advancements in efficiency, integration, and materials science. Innovations in materials such as perovskite solar cells and multi-junction solar cells promise significantly higher efficiencies compared to traditional silicon-based solar cells. These materials can capture a broader spectrum of sunlight and convert it more effectively into electricity. Incorporating nanomaterials like quantum dots into solar cells can enhance light absorption and conversion efficiency. This can lead to more efficient solar panels that generate more power even in low-light conditions.

Integrated Solar Lighting Solutions: The combination of highly efficient solar panels with LED lighting can create self-sustaining lighting systems for both indoor and outdoor use. These systems can operate independently of the grid, providing reliable lighting in remote or off-grid locations. Solar technology can be seamlessly integrated into building materials such as windows, roofs, and facades. Building-Integrated Photovoltaics (BIPV) systems can provide both power generation and lighting, reducing energy consumption and enhancing building aesthetics.

CONCLUSION

The landscape of lighting technology is rapidly evolving, driven by advancements in energy efficiency, smart systems, and innovative materials. As we look to the future, emerging technologies like Li-Fi, OLEDs, Solar, and quantum dots promise to further revolutionize how we illuminate our world. These innovations not only enhance our quality of life but also contribute to more sustainable and efficient energy use, aligning with global efforts to combat climate change and promote environmental stewardship.

AUTHOR: HRISHIKESH TA, VERTICAL HEAD, PROFESSIONAL LIGHTING - BAJAJ ELECTRICALS

The Journey to Excellence

An article that highlights the effort it takes to develop a perfect SPD

Creating a robust Surge Protection Device (SPD) for outdoor LED lights has been an arduous yet rewarding journey. The importance of SPD in safeguarding expensive circuits from lightning surges, especially in hilly areas, cannot be overstated. However, developing an SPD that meets stringent criteria while adhering to a tight budget has proven to be a formidable challenge.

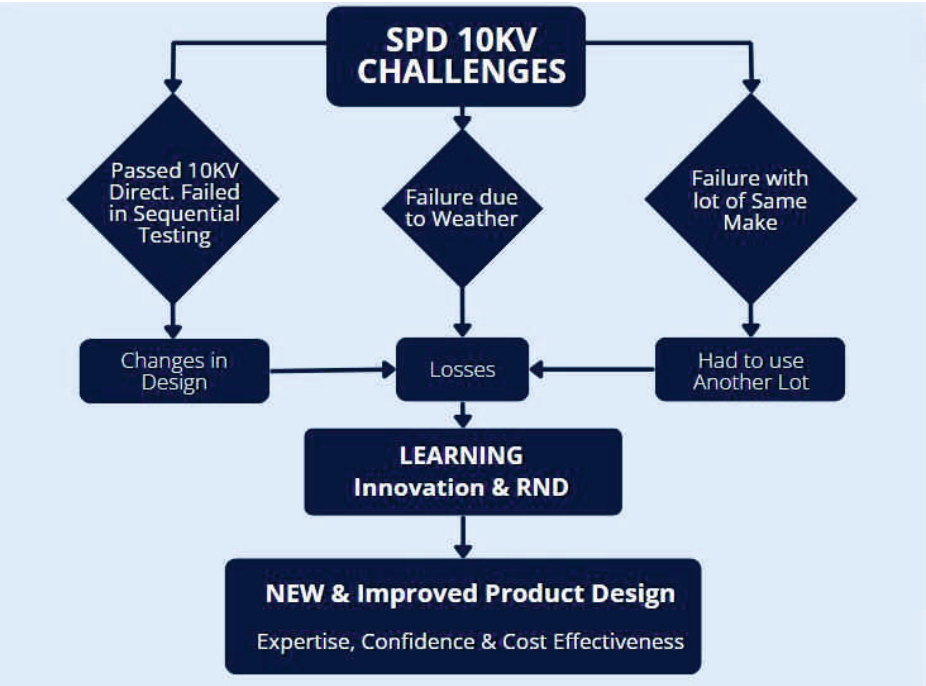
The circuit of an SPD may appear straightforward, even to the most experienced mind, but the intricacies involved in producing a reliable and cost-effective SPD have led to many a sleepless night. The rigorous testing standards set by leading lighting manufacturers in India demand exceptional performance and consistency and meeting these requirements has been no easy feat.

Initial Challenges

Throughout the development process, we encountered numerous obstacles, failures, and setbacks. For instance, it was astonishing to see that our SPD passed the 10KV test in the lab but failed when subjected to incremental voltage increases starting from 7.5KV and gradually reaching 10KV. This involved increasing the time and number of pulses, which led to unexpected failures. Additionally, we faced compatibility issues with various drivers and inconsistencies within batches of the same make. Weather conditions also played a significant role in the success or failure of our SPDs, which was sometimes hard to believe.

There were instances where a small, seemingly trivial mistake resulted in the rejection of an entire batch, forcing us to start over. These setbacks led to financial losses for the company and were a source of frustration for both the staff and labor. However, the R&D team demonstrated immense patience and a positive attitude throughout these challenges.

One of the biggest challenges of this project was ensuring the SPD could withstand the demanding tests while remaining cost-effective. Achieving this balance required innovative solutions and persistent effort. The rigorous testing process, which involved simulating real-world conditions, was critical in identifying potential weaknesses and improving our design.



Our journey involved extensive research and development, countless alterations, and a commitment to excellence. We engaged in numerous arguments and discussions to refine our approach, drawing on the collective expertise of our team. This collaborative effort has been instrumental in overcoming the technical and logistical challenges we faced.

Result

Today, we are proud to say that we have successfully developed a 10KV SPD that not only meets but exceeds industry standards. Our relentless pursuit of perfection has paid off, and we are now confident in the reliability and durability of our product. We test every lot and hence are extremely confident about the performance of our product. This confidence definitely rubs off to our buyers. Moreover, through optimizing our production processes, we have managed to reduce costs, allowing us to offer more competitive prices to our buyers.

Looking back, the journey has been filled with valuable lessons and experiences. Each failure and setback has contributed to our growth and understanding. We believe we have mastered the intricacies of producing a 10KV SPD for lighting applications and are well-prepared for future challenges.

AUTHOR: DR. DEEPA AGARWAL, DIRECTOR, JUST ABOUT POWER

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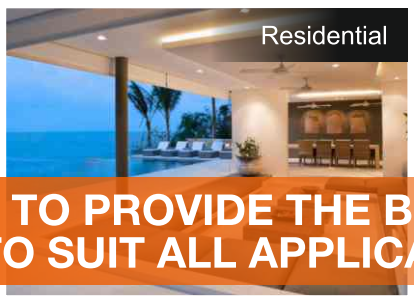
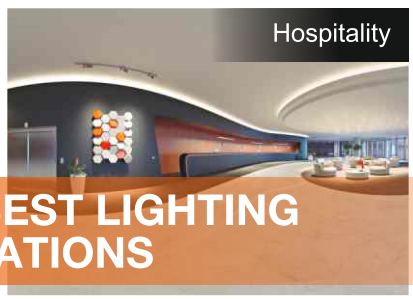
OSRAM Digital Systems is now part of Inventronics





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Sustainability Beyond Lighting

The Article Introduces the concept of energy saving and reduction in CO_2 emission in New BEE Label

Carbon emission reduction refers to the process of reducing the amount of carbon dioxide released into the atmosphere. It is a crucial step in tackling climate change and achieving sustainable development goals. Carbon reduction is the process where an organisation directly reduces greenhouse gas emissions through efficiencies. Carbon content per unit of energy is usually less for light refined products such as gasoline than for heavier products such as residual fuel oil.

By using less energy and with minimal heat loss, LED lighting reduces the demand for energy generation, resulting in lower greenhouse gas emissions. LED bulbs have a longer lifespan than traditional bulbs and can last up to 25 times longer than incandescent bulbs and around 3-5 times longer than fluorescent lights. LED lighting reduces air pollution by lowering demand for fossil-fuel-derived electricity. Improved air quality is associated with the health benefits of improved respiratory and cardiovascular health. Their longer lifespan also means fewer bulbs are in landfills, reducing environmental harm. LED lights' energy efficiency reduces the electricity required to produce light, resulting in decreased carbon dioxide (CO_2) emissions from power plants. Transitioning to LED lighting is a significant step towards sustainability, but it's just the beginning.

To truly minimize carbon footprint, businesses must consider the following strategies:

1 **Renewable Energy Sources:** Invest in renewable energy solutions such as solar panels or wind turbines to power your operations. This not only reduces reliance on fossil fuels but can also offer long-term cost savings.

2 **Energy Efficient Lighting:** Look for energy-saving opportunities in HVAC systems, appliances, and machinery. Upgrading to energy-efficient models can further reduce environmental impact.

3 **Waste Reduction and Recycling:** Implement comprehensive recycling programs and waste reduction strategies. This can include everything from recycling paper and plastics to composting food waste and repurposing materials.

4 **Sustainable Supply Chain:** Evaluate the supply chain for opportunities to reduce environmental impact. This could involve sourcing materials from sustainable suppliers, minimizing packaging, or optimizing logistics to reduce carbon emissions.

5 **Employee Engagement and Policies:** Foster a culture of sustainability within the organization. Encourage employees to contribute ideas for reducing waste and saving energy. Implement policies that support sustainable practices, such as remote work, to reduce commuting emissions.

6 **Community and Customer Engagement:** Share your sustainability journey with customers and the community.

By embracing these strategies, businesses can significantly reduce their carbon footprint and contribute to a more sustainable future. The journey towards sustainability is ongoing, but each step forward makes a difference.

Reducing a business's carbon footprint is a significant yet achievable goal. The switch to LED lighting not only supports global sustainability efforts but also offers tangible benefits, including cost savings and improved operational efficiency. By embracing LED technology and broader eco-friendly practices, businesses can play a pivotal role in combating climate change while setting a positive example for others to follow.

LED lighting as an immediate solution to CO_2 emissions reductions and sustainability

The world is facing a significant challenge with climate change. The only way to slow down earth's warming is to aggressively decarbonize global economies and our daily lives. The energy industry is experiencing a transition to a more sustainable future, shifting from fossil-fuels to renewable resources and lowering carbon emissions. Sustainability initiatives expand into water use, noise levels, emissions during production, emissions produced by customers using others' products, and a reduction of carbon footprint of products sold.

The industry needs to make significant capital investments now as the current mix of technology prevents its ability to meet carbon neutrality goals. That is why today's corporations and government entities have multiple sustainability initiatives to reduce carbon emissions, lower global warming to become better stewards of the Earth and its natural resources.

Light Emitting Diodes (LEDs) are the latest lighting technology developed for use in industrial light fixtures. Overall, LED light fixtures are more energy efficient, have a longer life, provide higher quality of light and a lower total

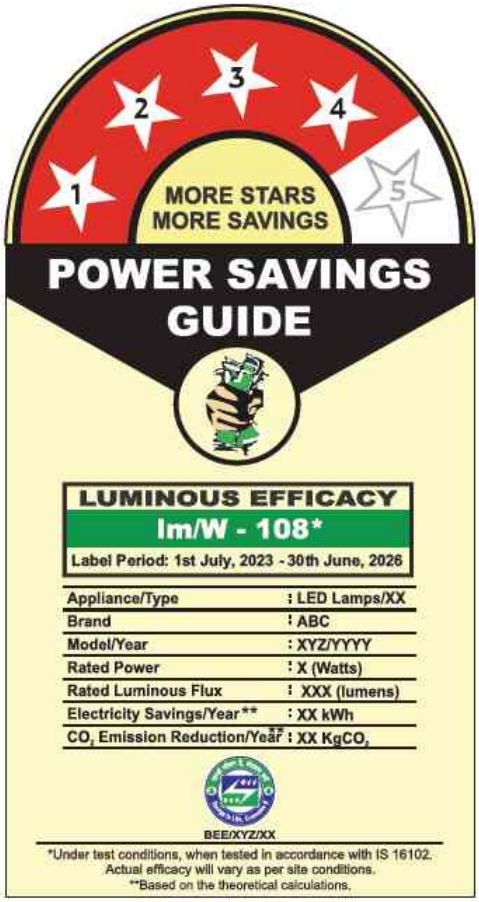
cost of ownership compared to HID light fixtures. Therefore, with energy efficient LED light fixtures, we can reduce our carbon footprint.

Bureau of Energy Efficiency has incorporated these parameters in the new star label. New Star rating guidelines are effective from 1st July-2023, where two more parameters are added to the label

- Energy Saving in kWh
- CO_2 Emission Reduction in $KgCO_2$

LED lighting reduces your carbon footprint through higher energy efficiency, which means less energy consumption and lower CO_2 emissions compared to traditional incandescent bulbs.

Parameters	Formula and Source	Example	Reference BEE Label
1) Luminous flux (lumens)	Luminous flux of respective model	1365	
2) Input power (watts)	The input watts of respective model	13	
3) Rated Luminous Efficacy (Lumen/Watt)	Rated Luminous Efficacy = Lumens/ input power watts	105	
4) 1 star - Rated Luminous efficacy 90 lumens/watts	Source – 1 star rating - Rated Luminous Efficacy	90	
5) Annual operating hours	Source - BEE report - Impact Assessment of Energy Efficiency for Year 2020-21	1200	
6) Baseline Annual Electricity Consumption- AEC (kWh) for 1 star	Formula= (Baseline input power based on 1star (Rated Luminous flux / rated luminous efficacy of 1 star) *1200) /1000	18	
7) Annual electricity consumption for respective model- AEC (kWh)	Formula= (Input power*1200)/1000	16	
8) Electricity saving (kWh/year)	Formula = (Baseline AEC for 1 star- AEC of respective model)	2.6	
9) CO_2 Emission factor (kg CO_2/kWh) = 0.81 (as per CEA 2022 report)	Formula = (Electricity saving *0.81)	2	



(Image is for Illustration only)

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Update on Standards and Regulations

The BIS technical committee meetings on standards development ETD 23 and ETD 49 were held on 18th and 19thApril 2024 in Hybrid mode. We are listing some of the highlights of these meetings as below for your information. It was decided that going forward such technical committee meetings would be held once in a quarter.

1. ETD23 Committee Meeting updates (Highlights):

Some standards are under revision / amendment as per below list:

- Revision of IS 418 :2004 (Tungsten Filament Lamp for Domestic and Similar General Lighting Purposes)
- Revision of IS 15518 (Part 1): 2004 (Safety Requirements for Incandescent Lamps - Part 1 Tungsten Filament Lamps for Domestic and Similar General Lighting Purposes)
- IS 2418 (Part 3): 1977 (Tubular Fluorescent Lamps for General Lighting Service - Part 3 Dimensions of G-5 and G-13 Bi-Pin Caps)
- IS 16102 (Part 1): 2012 (Self –Ballasted LED Lamps for General Lighting Services Part 1 Safety Requirements)
- IS 16102 (Part 2): 2017 (Self – Ballasted LED Lamps for General Lighting Services Part 2 Performance Requirements)
- IS 16103 (Part-1): 2012 (LED Modules for General Lighting Part 1 Safety Requirements)
- IS 16103 (Part-2): 2012 (LED modules for general lighting Part 2 Performance requirement)
- IS 16614 (Part 1) Double-Capped LED Linear Lamps Part 1 Safety Requirements

2. ET49 Committee Meeting updates (Highlights):

Some standards are under revision/ amendment as per below list:

- Revision of IS 10322 series

It is being aligned with IEC60598, so major changes will be considered in National Annexure like ambient temperature and sizing of internal wiring and cables.

- Formulation of Indian Standards on UV-C devices for Germicidal Applications

New Work Item Proposals (NWIPs): Panel analysed and deliberated on IEC standards, gaining a deeper understanding of their implications for the smart lighting industry. As decided during the meeting, IEC 62386 series "Digital addressable lighting interface" and IEC TC 34 Doc. 1034e "Outdoor Lighting Systems - Characteristics of selected applications" were shared with panel members for seeking their feedback for further development in this regard. (Work in process)

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Signify illuminates 60+ tribal villages in Andhra Pradesh

Signify has illuminated 61 tribal and marginal villages in Parvathipuram Manyam district, Andhra Pradesh, with energy-efficient LED street lighting to enhance the safety of local citizens. The project was executed in partnership with a grassroot NGO, Jana Kalyana Samakhya as part of the company's 'Har Gaon Roshan' CSR program, which focuses on sustainable rural development and women's safety across India.

The project is contributing to enhancing the safety and security of the local community, allowing them to conduct regular meetings to discuss their issues. The illuminated streets have reduced the risk of human-wildlife conflict cases, providing more time for economic & livelihood activities, allowing children to do more outdoor activities, and enhancing women's safety.

The initiative has brought about a favorable transformation for more than 16,500 villagers and over 3,900 households with over 700 high-quality energy efficient outdoor streetlights.

Commenting on the project, Nikhil Gupta, Head of Marketing, Strategy, Govt. Affairs & CSR - Signify, Greater India said, “Our CSR strategy and initiatives resonate with our brand purpose which is to unlock the extraordinary potential of light for brighter lives and a better world. We are strongly committed to our CSR initiatives and our vision for developing underprivileged diverse communities. We are proud to have partnered with Jana Kalyana Samakhya on this project, helping improve lives in the tribal villages of Andhra Pradesh”.

This project is set to leverage technology and innovation for isolated communities by providing essential services such as lighting solutions to brighten the path to a brighter future.

AUTHOR: SIGNIFY INNOVATIONS INDIA LIMITED

Ecolink Launches Energy Efficient Fans

In line with the customer demands for the summer season, Signify, the global leader in lighting, recently announced the launch of its new revolutionary range of energy-efficient fans. The innovative product line combines advanced technology with superior performance, offering consumers a breath of fresh air in any space. Starting at a price range of INR 3000 to INR 5500, the product line includes five new innovative models - AiroGeometry, AiroJewel, AiroZephyr, AiroSerenade and AiroSleek all of which are designed to provide superior air delivery, efficient performance, and significant energy savings.

The uniquely designed product range operates on advanced technology ensuring high energy efficiency and low power consumption. Equipped with aluminum blades and copper winding heavy duty motors, these fans guarantee durability and high performance. The high-speed fans with 370RPM are designed for superior air delivery.

The AiroGeometry fans are inspired by its striking geometrical shape and the AiroJewel fan design resembles a rare jewel that boasts a unique display screen with LED indicators. The BLDC range comes with aluminum blades for superior air delivery, BLDC power saving technology and runs 3X longer on inverter.

The new fan range comes with a 2+1-year warranty along a RF multidirectional remote that offers reverse and turbo speed modes. The BLDC fan range has 5-star BEE rating, further reinforcing their energy efficiency and Signify's commitment to sustainability. The Ecolink range is available in a variety of color options, adding aesthetic value to any space. From Dark Coffee Brown, Titanium Grey, and Silver Mist to Aspen Gold, Pearl White, and Smoke Mocha Brown, there's a color to match every interior.

LUKER Introduces 3-in-1 Lusso Linear Lights

Discover sophistication redefined with Luker latest innovation: the Lusso Linear/Hanging Light. Designed to seamlessly blend elegance with functionality, this luminary is a testament to modern lighting excellence.

With sleek dimensions of L 1200 * W 50 * H 75mm and a power output of 40W, the Lusso Linear/Hanging Light offers versatility in both design and placement. Whether suspended from ceilings or mounted along walls, its slender profile effortlessly enhances any space. Beyond its aesthetic appeal, the Lusso Linear/Hanging Light delivers exceptional performance, providing ample illumination to brighten any room with a warm, inviting glow. Crafted with premium materials, it ensures durability without compromising style.

Orient Launches Magnetic Track Lights

Following the launch of their COB DL range, Orient Electric has introduced their Magnetic Track Lighting system. Magnetic track lighting is the latest trend in flexible lighting, offering a perfect solution for modern and contemporary design styles. With easy installation, adjustable spotlights and a clean aesthetic, magnetic track lighting allows you to create the perfect lighting scheme for any space.

Orient's Magnetic Track Lighting system comes in a variety of designs, including linear lights and decorative grille and pendant lights. These lights easily attach or detach from the magnetic track channels, which can be recessed or surface mounted. Simply click the modules into the channels for a secure connection. Installation is a breeze and allows users to mount the track to their ceiling, connect it to the power supply, and adjust the light heads to direct light exactly where they need it.

This versatile system also promotes eye comfort with its balanced layers of lighting. The slim design of the track seamlessly integrates into any space, creating a clean and modern look for residences, museums, art galleries, restaurants, offices, and hospitality projects.

Halonix unveils 'SURE MCB Series'

Halonix Technologies recently announced the launch of its Switchgear category, the 'SURE MCB Series'. Engineered with precision for safety, reliability and assurance, the SURE MCB Series is set to become the new standard in electrical circuit protection.

SURE MCB Series from Halonix, is a suite of cutting-edge circuit breakers designed for unmatched electrical safety, reliability and assurance. With features such as C-Curve operation for reliable protection against short circuits, a high-grade solenoid for consistent performance, 100% silver contact points for superior conductivity and a high breaking capacity of 10Ka, these MCBs set a new standard in electrical safety. Backed by a 5-year warranty, the SURE MCB Series exemplifies Halonix's commitment to excellence in quality and customer satisfaction.

The series offers a versatile range of products catering to residential, commercial and industrial applications. Designed for ease of installation and user-friendly operation, the SURE MCB Series is competitively priced, ensuring accessibility for a broad spectrum of customers. Available nationwide through Halonix's extensive distribution network, these MCBs offer the best solutions for those who prioritise safety and quality for their premises.

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