

# IllumiNation

OCT - DEC 2023

THE LIGHTING MAGAZINE BY ELCOMA

## Night Façade Lighting by Signify transforms Vidhan Sabha in Lucknow



*50 Years of Elcoma in India*

ELECTRIC LAMP & COMPONENT MANUFACTURERS' ASSOCIATION OF INDIA

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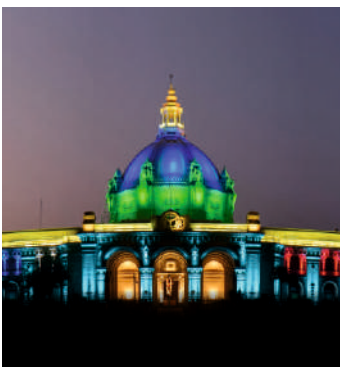
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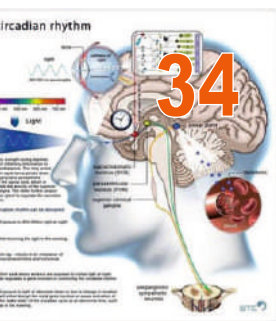
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# A New Beginning

**D**ear friends, this will be my last editorial for the Illumination magazine as I have decided to retire from ELCOMA where I have served for over twenty years.

It is impossible to sum up twenty years in a page or a few paragraphs. Four years ago, when we decided to start this in-house magazine, I was appointed as the editor and publisher of this magazine. We wanted to give the magazine a very apt name that encompassed everything that ELCOMA, the Indian Lighting industry and all our readers and colleagues stood for. We invited ideas from ELCOMA members and one of our members, suggested "IllumiNation" which instantly struck a chord with us and made complete sense. It embraced and embodied all our objectives and incorporated all our activities in the Indian context.

Writing and collecting material for this magazine was always a very exciting and creative process that allowed me to interact, meet, discuss and debate with the brightest and most creative members of our lighting community and upskill and upgrade myself to deliver each new volume of this publication. This, I wish I would continue to do, but everyone has to retire someday and handover the baton to others.

Forever will I carry those memories of collecting many technical articles from our colleagues in the Lighting Industry that enhanced my own knowledge. The news, product information and data collected to render the articles have left me richer in knowledge about the Lighting industry and I am glad that I got the opportunity to bring these to you, our readers. And these are not fractured memories that I am afraid I will lose with the passage of time, for I will continue to be in touch with this magazine and continue to contribute in any way possible to the betterment of the publication.

I wish to personally thank all the readers of this magazine, those that contributed articles and most of all, the critics who helped us improve the magazine from time to time. I would also extend special thanks to the editorial board, advisory board, the designer, printer and all those who have contributed in making this magazine the most desired magazine in the Lighting Industry in India and abroad.

Though my time with this magazine must come to an end, I assure you that it is the start of a new beginning for Illumination and I wish you all the best for the future.

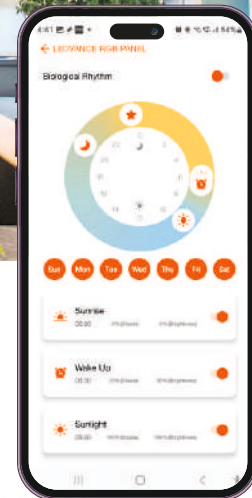
With best wishes

**SHYAM SUJAN**

Secretary General

Electric Lamp and Component Manufacturers Association of India (ELCOMA)

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# G20 Summit and festival season

**G**reetings, Esteemed Members!

It is with immense pride and profound gratitude that I send this message to all of you, who have been the bedrock of our industry and have ceaselessly contributed to its growth and development.

## **The Indian Macro Economy and its Ripple Effect**

India stands tall in the global economic arena, showing resilience and adaptability amidst challenges. Our macroeconomic indicators suggest a promising trajectory, and with GDP growth projected to rise steadily, there's palpable optimism in the air.

Such an economic growth, fueled by proactive government initiatives and a burgeoning middle class, expectedly should translate directly to heightened consumer confidence and increased spending power. I am quite hopeful that as the Indian macroeconomy strengthens, businesses across sectors, including ours, are poised for a phase of sustained growth.

## **India's G20 Success Story**

Our nation's recent stint at the G20 was not just successful, but transformative. The commendable leadership showcased by India has cemented our position on the global stage. The discussions and the outcomes of the summit echo our commitments to sustainable growth, innovation, and global cooperation. Our G20 success has further bolstered the global investor sentiment towards India, signaling an era of amplified international collaborations and opportunities. It would be right to assume that all of this culminates into positive business growth for Indian businesses.

## **IllumiNation - Lighting Up Minds Beyond Boundaries**

On the home front, I'm elated to share the soaring success of our magazine, 'IllumiNation'. Thanks to your support, today it is not just an industry journal but a beacon of knowledge, trends, and innovation that's being read and appreciated far and wide. Its rising readership and the accolades it has garnered serve as a testament to the collective expertise and vision of our industry.

## **A Luminous Future Ahead**

As we approach the festive season, with Diwali just around the corner, it presents a great opportunity for our lighting industry. With the combined impact of a growing economy and India's growing global stature, I'm confident that we are on the cusp of witnessing exponential business growth.

Let's harness these favorable winds and let our collective efforts illuminate countless homes, streets, and hearts during the festive months and beyond.

To growth, prosperity, and a brighter future for all.

Warm Regards,



**AVINDER SINGH**  
President, ELCOMA







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## Fare thee well, my friends.....

On eve of his retirement Mr. Shyam Sujan, Secretary General, ELCOMA recounts his journey of 20 years that started in the era of Incandescent Lamps to the present era of Smart and Intelligent LED lighting

I joined ELCOMA in January 2004. At that time ELCOMA was a very small organization, having a one-man office at Meerut run by Mr. Kansal. At that time, ELCOMA was not well known to any of the stakeholders like government officials, ministries and other organizations.

The industry was seeing many new technologies and paradigms being introduced like CFL, Electronic Ballasts, Slim tube lights, etc. Since ELCOMA members were manufacturing all traditional products locally, the introduction of these new products in India was a problem as we did not have technology and the cost of imported products was prohibitive. At the same time the Government also created BEE for promotion of Energy Efficiency products for energy saving and BIS was activated to prepare standards for all products. All these activities made it important to upgrade ELCOMA and shift the office to Delhi.

At that time, the total collection of annual fees by ELCOMA was a mere Rs 6 Lakhs. In December 2003, Mr. H. S. Mamak, who represented ISLE and ELCOMA in Lighting Industry, invited me to join ELCOMA. Since I had worked mostly in Consumer Electronics in Philips, I expressed my concern but Mr. Mamak was confident that I would be able to deliver the expectations.

I started my journey on 13th January 2004 with ELCOMA. At that time my main tasks as ELCOMA Secretariat was to keep in touch with all members, send them government circulars, collect annual subscription, organize GB meetings quarterly, AGM yearly and publish minutes and circulate to members.

Soon, Mr. Mamak was appointed as advisor to ELCOMA and with his help I initiated meetings with the ministries of Power, Consumer Affairs and Commerce. I became member of BIS ET

23 and BEE Standards & Labelling Technical committee and attended all the meetings regularly and promoted the cause of the Indian Lighting industry at these meetings.

In 2005 we received an invitation by a global organization to attend a global seminar at Shanghai, China known as "Right Light". My visit was sponsored by Swedish Energy Department. It was a massive show with about 500 delegates from around the world. It was a 3 day program that included various sessions, visit to exhibition etc. There I learnt about Lighting technology and took lot of interest in learning more about CFL, its benefits in energy saving etc. I made lot of friends from different countries. When I returned to India, I realized that a lot of work was required to bring in the concept of energy conservation in India.

I happened to meet Mr. Gireesh Pradhan, Joint Secretary of Ministry of Power, and told him about the plans and requested him to garner government support on issues like lack of technology, lack of demand, prohibitive cost and lack of standards. Mr Pradhan asked me to submit a white paper raising these concerns and agreed to help by inviting all stakeholders from all the states to promote the concept of energy conservation through CFLs. With the help of EEIMA, a conference was organized where about 350 delegates attended. Most of delegates were chief engineers and representatives of various ministries. I had invited technology experts from a few countries to make presentations. Mr. Gireesh Pradhan announced that all government buildings would be changed to CFLs, and wherever possible change to CFL streetlights where incandescent lamps were used. He also announced that all showrooms should mandatorily change down lights with CFL.

As a result of these efforts in 2004-05, the Indian Lighting Industry which was selling 20 million CFL per year started

selling over 100 million CFLs by 2008. Post 2008, the average production of CFLs per year increased from 500 to 700 million pieces per annum and the demand for Incandescent Lamps reduced from 1 billion pieces in 2004 to 600 million in 2010. Each CFL Lamp saved more than 60% power.

In 2010 a new technology of LED Lighting entered the Lighting Industry. Once again this lamp was 40% more efficient than CFLs, but very expensive. Once again I garnered International support to introduce LED technology and make LED Lamps in India and make it more affordable. We prepared a Vision 2020 document with the help of ELCOMA members. The document envisaged saving energy of more than 5% (from 18% to 13% of total power used for domestic lighting) in the Lighting Sector by changing 1.2 billion sockets of LED Lamps, 30 million Streetlights and 50 million Downlights by the year 2020. In 2014, I shared the Vision 2020 document with Mr. Piyush Goyal, the then Minister of Power. Mr. Goyal suggested that instead of completing it by year 2020 he would like it to be completed it by 2018. The government immediately supported the initiative by launching various schemes that suddenly gave a big boost to manufacturing of LED Lamps. The government also exempted duty on components and the price of lamp came down from Rs. 350 in 2014 to Rs. 50 in 2016. This program was successfully adopted by government and effectively launched by EESL as UJALA.

The Vision document and efforts of ELCOMA and its members directly led to huge dividends for the nation. Besides introduction of new technologies like CFLs and LEDs to the Indian Lighting Industry leading to development of energy efficient lighting which led to reduction in over 5% of the country's lighting consumption this also ended up saving billions of dollars for the nation.

## CAPTAIN SPEAKS

The Vision 2020 document that was the genesis of the UJALA program had planned to save about 24000MW power, but by end of 2018, more than 36000MW power was saved, which was documented by EESL. As proposed by Sh. Piyush Goyal, the target for LEDfication was completed before 2018 for LED Lamps while the targets for Downlights and Streetlights were fulfilled by the end of 2020.

Now under UJALA scheme, LED bulbs, LED Tube lights and Energy efficient fans are being provided to domestic consumers for replacement of conventional and less efficient lights.

In order to support the Prime Minister's Atmanirbhar program, we once again prepared another Vision document known as Vision 2024. The objectives of this program are to ensure making at least 80% of all electronic components used for manufacture of lighting products in India and export more than 40% of lighting turnover by the year 2024.

Another initiative, that is in line with the Prime Minister's desire to bring in innovation in Indian manufacturing, we also prepared a Vision 2030 plan under which the lighting industry will create a Lighting and Illumination R&D Centre and to have University for Engineering in Illumination and Lighting, which will prepare India centric standards, bring in new technology development in horticulture, poultry, fisheries, medical care, automotive and aerospace, etc. The program also endeavors Export Promotion and achieving at least 20% of global market by 2030 with a value of USD 10,000 million (Rs. 45000 crores). The Indian Lighting Industry is likely to grow at an estimated CAGR of 10% to reach from present Rs. 23000 crores to Rs. 45000 crores.

Besides the introduction of new technologies in India, my job was made even more interesting also organising events like conferences, workshops and

exhibitions etc for the Lighting Industry in India. The best part was travelling to various countries to learn on new technologies and make presentation on the progress of Indian Lighting Industry. All these meetings were sponsored by various global organizations like USAID, ISA, Australian Energy Org., Sweden government, etc. The Japanese Lighting Association was requested to organize technology sessions for ELCOMA members and they immediately supported by sponsoring 10 persons to learn on technology in Japan

and also make them visit Japanese R&D centers and Test Labs.

I am handing over a very innovative and progressive organization to Mr. Amal Sengupta and I am sure that he will carry the ELCOMA flag high.

I would like to register my heartfelt thanks to all ELCOMA members, ELCOMA stakeholders and Secretariat for their immense support to enable me to carry out my work more successfully.

Fare thee well, my friends!

Thank you very much!

## TESTIMONIAL FROM ELCOMA BOARD

Dear Mr Sujan,

On behalf of the entire team at ELCOMA and myself, I wish to express our deepest gratitude and admiration for your unwavering dedication, loyalty, and significant contributions during the past 20 years. As you step into the golden years of retirement, it is a time of reflection not just for you, but for all of us, to truly appreciate the legacy you are leaving behind.

The journey of ELCOMA from where it was two decades ago to where it stands today is a testament to your commitment, hard work, and innovative thinking. Your leadership, mentorship, and unique perspective have played a pivotal role in our successes, propelling us forward in challenging times and ensuring that our achievements exceeded our aspirations.

It's rare to come across individuals whose professional journey aligns so seamlessly with the growth and transformation of an organization. Your dedication has been nothing short of inspiring, setting a benchmark for all of us to strive towards. ELCOMA has flourished under your care, and we have no doubt that the foundations you have laid will continue to guide our path in the years to come.

While we are saddened by the prospect of not seeing you in the ELCOMA office or hearing your invaluable insights during meetings, we are heartened by the knowledge that you will be enjoying the well-deserved relaxation and joy that retirement promises. The imprint you have left on ELCOMA and on each one of us is everlasting.

We wish you good health, happiness, and a multitude of new adventures in this next chapter of your life. Please remember that you will always be a cherished part of the ELCOMA family.



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## Fulham at Full Throttle..

Illumination chats with Mr. Antony Corrie, the global CEO of Fulham India

**Fulham has been manufacturing in India since 2011. Please take us through the journey so far.**

Our success in India all started from hiring the right leadership team & partners. We were fortunate to find 3 incredible people to kick-start Fulham India, many years ago. They were Mr. Moti Malkhani, Mr. Gautam Malkhani and Mr. Subrata Ghose.

Moti and Gautam were both well known players in the Indian lighting world, with Moti spending the bulk of his career in senior leadership roles at Bajaj. Gautam

was born into the lighting world and ran a couple of other successful lighting companies, prior to becoming Fulham's Indian MD. Subrata joined us from senior leadership roles at Philips Lighting to run operations and is now our current MD, India. With these three at the helm, alongside Fulham's founder, Brian Wald, the mission started.

Fast-forward to today and Fulham India has become one of the leading lighting component solutions providers in the entire country. We were fortunate to bring in Mr. Upender Singh about three

years ago to lead our commercial sales strategy. Upender has been another incredible addition, instrumental in doubling our sales over the time he's been with us. Along with our other Heads of Department, they run the day-to-day business for Fulham – at our core, we are only as good as our people and we have a great team.

In 2022 we launched multiple new product families, successfully introduced new technologies to the market such as DALI, expanded our channel sales partners alongside investing in an entirely new production line. This year

we reached a new manufacturing milestone in building and shipping over half a million units in a single month.

Now in 2023, sales have continued to grow, alongside improved earnings and things look very exciting here at Fulham India for 2024.

**Fulham started with manufacturing high grade drivers and then added other LED Lighting products in India. You are now manufacturing for several verticals including smart and intelligent lighting, horticulture lighting accessories etc.. What drove the diversification of Fulham to these different verticals?**

As with all products, the diversification was driven by a) Margin, b) Customer churn in general lighting & required customer retention, and c) differentiated growth into alternate market segments.

**Do you have any plans to enter the consumer lighting segment as well?**

No plans currently except perhaps in high end residential, where we see the margins being reasonable.

**Now that Elcoma has prepared a Vision 2024 plan to make all components in India and also create a situation for Export of about 40% of lighting turnover by year 2024. Do you think that this is achievable? What kind of support does Fulham require to reach the Vision of the Lighting Industry?**

Yes we definitely believe it is achievable.

Regarding support, I believe that we must improve our real-time systems integration globally and have the necessary equipment to support the manufacturing output needed. Most importantly, we need to maintain and enhance our processes, while having zero compromise on quality, hiring and retaining the best people to manage the process successfully.

**LED being easier than CFL to assemble, hundreds of new traders/manufacturers have forayed into manufacturing of LED products. Though Elcoma has initiated with**

**government to ensure that all products by these manufactures are duly registered under CRO scheme of MEITY. What further support do we need from the Government?**

Less bureaucracy coupled with faster engagement, responsiveness and decision-making would definitely help the cause. If the Indian government is serious about surpassing China as the top technology manufacturing nation, it must act more swiftly and decisively. This will ensure dramatic positive impact for Indian GDP and see a huge uplift in societal improvement for the entire country.

**At a personal level, what has driven you to make Fulham a very successful entity in India and achieve success?**

This is a great question! And I don't know where to start!

The people. We have an incredible team and I want them all to benefit and prosper from this journey. Last year I was privileged to attend our Founders Day celebrations in Pune. Let me tell you, Fulham India knows how to party! I want to leave a legacy behind that helped Fulham India become globally relevant. All the employees who made that happen should feel like Fulham is a fulfilling place where they want to work for a long time because it's equally challenging & rewarding.

The country - Let me elaborate: Having spent so much time working internationally, I have seen the rise of India (now having the highest population in the world). The projected 7%+ GDP growth for the next decade. Command of the English Language and grammar – I can tell you that I was educated in England and most of our Indian leadership team have better grammar than I do! If you look back at China in the late 90's / early 2000's, I see India as the next major global superpower, specifically in the technology sector.

The culture of India is also unique. Indians work hard, study more and learn always. Also, I love the food and the people here. I believe our team in India is very capable and India, as a leading

**Antony Corrie, CEO, Fulham Co., Inc. has over 20 years of experience in the lighting industry, leading multinational sales teams and overseeing the development of new products and technology. Previously he served as President of Worldwide Sales at Harvard Technology, a manufacturer of LED drivers, LED engines, and wireless controls. He also has spent many years in leadership roles with Future Electronics. Fulham Co., Inc. is a leading global manufacturer of LED modules & drivers, LED emergency lighting systems, electronic fluorescent ballasts, etc.**

**Fulham is a leading global provider of intelligent, sustainable commercial lighting components and electronics for use in parking structure, signage, horticultural, UV and other applications. The company develops and manufactures a variety of award-winning LED and emergency products, as well.**

global technology nation, is just getting started. It's extremely exciting to build something like Fulham India. Plus, I love visiting India, despite the distance.

**ELCOMA is now preparing a Vision 2030 document focusing on new Innovation and new technologies like Horticulture, Agriculture, Fisheries, Poultry breeding, and Health care applications. Where does Fulham stand under this plan? What do you think, the future prospects of Indian Lighting Industry would be by the year 2030?**

In 2020 Fulham launched its Essential Products category. Those products consist of Emergency, Refrigeration, Horticulture, UV-C for air, surface and water sanitation and Custom Power Products (such as medical and food agriculture). These product segments represent a very significant portion of our growth and earnings with more

growth expected in coming years. So, we stand with you and have done so now for over 3 years.

As far as where we'll be by 2030? It's extremely exciting. We will continue to

innovate and have a lot of new product introductions planned – we are also expanding our Essential Products to include more devices needed by society, which keep the world safe and make it a

better place to exist.

Here's an idea for 2030: let's put Fulham lights on the moon, delivered by one of your space landers from another successful Indian space mission!

### IN A LIGHTER VEIN

#### How do you unwind after a hectic day or week at work?

I see my kids. I have 2 sons, 14 & 15. I Exercise: Muay Thai kickboxing and Brazilian Jiu Jitsu. I love spearfishing. I also enjoy a nice healthy meal then a glass of red wine (or two) and a good movie or show with my wife.

#### What kind of food/cuisine do you like?

Seafood, Asian cuisine (specifically Thai) and Indian food. I went to university in Manchester, where they have the famous curry mile, in Rusholme.

#### Which book/s have you recently read?

I just finished Clarkson's Farm – it was hilarious. One of our board members just bought me three leadership books to read on my upcoming trip to India and China - Rewired by Lamarre, Smaje & Zimmel, Unreasonable Hospitality by Will Guidara, CEO Excellence by Dewar, Keller, Malhotra

#### What is/are your favourite holiday destination/s?

I love to travel. From the Greek Islands to European Cities, Hawaii and Mexico. I came to Goa twice when I was in my early 20's on holiday and it was incredible! My nephew lives in New Zealand, so my family is excited to go there maybe next year.

#### How do you differentiate the Cultures of India and your country?

I'm a bit of a mutt now, having lived in the UK for the first half of my life with the second half in the USA. So, I'd say that culturally UK and India are pretty well aligned (for obvious reasons). In the States (specifically California) however, we have a very diverse culture with lots of things on tap, but the biggest local cultural influence in Southern California comes from Mexico (30 minutes south of where I live, in San Diego). So, I'd describe Southern California as being at least 30% culturally Mexican (and it's fantastic, for that very reason). Food, art, drink & music are massively Mexican influenced here. We love experiencing tacos, tequila and mariachi bands regularly in California.

#### Who is your inspiration in life?

Really tough to answer that one. So many inspirations. I guess firstly my Dad, he died suddenly when I was 25 and did a great job of leading our family, by example. He worked hard, was a great cook, was a lot of fun and supported me in everything I did. Secondly would be my sons. I hope they feel the same way about me, that I do about my dad, when I'm gone. Lastly, my wife – she keeps me grounded, always.

I also surround myself with many people who inspire me. An old mentor of mine once told me: If you want to get smart, hang around with smart people. If you want to get rich, hang out with wealthy people. If you want to be a criminal, hang out with crooks. It's so true - we are a product of those who inspire and mentor us.

Fulham has an incredible board with a couple of amazing independent advisors who help guide me in my key business decisions taken. I'm also fortunate to have a really solid group of like-minded close friends who all help each other, look out for one another with each of us having a big desire for success. We have a lot of fun together in the process, which makes it easy!

#### Your favourite film actor, both Bollywood and Hollywood?

Hollywood: Tom Hardy

Bollywood: I'm not that well educated on Bollywood movies, but I guess Shahrukh Khan. This is purely because I stay at a hotel near his house in Mumbai when I'm there and see all the hordes of fans hanging outside his giant gates – so he must be really good!

#### What kind of music do you love to listen to?

I studied in Manchester in the early 90s, so anything from there like The Smiths, The Stone Roses, Joy Division, New Order, Doves, The Verve. I was a big House Music fan back then too. I'm going to see Coldplay on Thursday night with my wife, so excited to see them again.

#### The best movie you have always desired to see again and again

Wow. Tough one. My opinions change constantly, so here's a few of the best:

Gritty: Anything by Quentin Tarantino. Black & White: Some like it hot. Comedy: Dumb & Dumber or Napoleon Dynamite.

Horror: The Devil's Backbone. War: Apocalypse Now. Thriller: Jaws. Ganster: Goodfellas. Romantic: Love Actually.

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.



Radhika Opto Electronics Limited

Cromlux Engineers Pvt. Ltd.

R.K. Lighting Pvt. Ltd.

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ROPE LIGHT

# Lucknow Vidhan Sabha transformed with night lighting by Signify

The nighttime illumination of Vidhan Sabha, Lucknow makes it a beacon of heritage and tourism



The Vidhan Sabha, Lucknow, is one of the most iconic and historic buildings in India. Built in the early 20th century, it is a testament to the rich architectural heritage of the country. However, until recently, the Vidhan Sabha was not lit up at night and hence its beauty was largely hidden from view during at night.

In 2022, the Uttar Pradesh government embarked on a project to illuminate the Vidhan Sabha at night. The goal of the project was to create a lighting landmark and transform the monument and its vicinity into a tourist destination.

Lighting a heritage structure is a delicate task. It is important to preserve the integrity of the building and its architectural features. The lighting should also be sustainable and minimize light pollution. The lighting design was carefully crafted to highlight the architectural features of the Vidhan Sabha and to create a magical and enchanting atmosphere. The dome and

façade comprising of repetitive patterns of wall sections and columns of the building have been lit up with warm and dynamic lighting using accent and flood lighting products. The products used in the project have precise beam angles and were carefully selected to bring out the finer details of the ornate dome and the intricate carvings on the sandstone façade, while minimizing any possible light pollution in the nighttime. The overall effect is stunning, and the Vidhan Sabha is now a truly iconic sight at night.

The new night-time illumination of Vidhan Sabha, Lucknow has transformed the building and its surroundings. It is now a beacon of cultural heritage and has become a major tourist attraction that is a source of pride for the residents of Lucknow. A lot of people now visit the Vidhan Sabha at night to admire its beauty and learn more about its history. This has in turn also boosted economic activity in the

surrounding area, thereby benefitting the local economy.

The façade lighting of the Vidhan Sabha is a shining example of how lighting can be used to transform a heritage structure. The new nighttime illumination scheme has been well-received by the public and has made the building a must-see tourist attraction in Lucknow during nighttime. The project has shown that it is possible to create a lighting landmark that is both visually stunning and respectful of the architectural integrity of the building. Other heritage structures in India and around the world can benefit from similar lighting interventions. By using innovative lighting techniques and designs, these structures can be transformed into iconic landmarks and vibrant tourist destinations.

**AUTHOR : SIGNIFY INNOVATIONS  
INDIA LIMITED**

*Photo Credits: UP Secretariat and UP PWD,  
Government of Uttar Pradesh*

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



# Traxon e:cue reignites the ancient grandeur of Gwalior

Traxon e:cue illuminates 18 structures across the historical ground of Gwalior including ancient temples, forts and palatial buildings.



**G**walior (Madhya Pradesh, India) is steeped in folklore and ancient history. It is said that Gwalior is named after an eighth century saint who magically cured a chieftain from an incurable disease. The city's architectural heritage reflects a mix of influences from various dynasties and periods including the Rajput, Mughal, Maratha, and the colonials. Leading global lighting and controls manufacturer Traxon e:cue delivered and commissioned luminaries that were integrated with their trademark Symphocity Controls Platform across 18 of the monumental buildings across Gwalior.

The history of Gwalior can be traced back to the 8th century when the Gurjara-Pratihara dynasty established Gwalior as a strategic fortress city. In the

13th century, Raja Man Singh Tomar, a prominent ruler of the Tomar dynasty, made significant contributions to the architectural landscape of Gwalior which exhibit a blend of both Rajput and Mughal architectural styles. The fort complex includes palaces, temples, water tanks, and intricately carved structures. Between the 16th and 18th centuries, the architecture of Gwalior was further influenced by Mughal, Scindia and Maratha rule. This was followed by British rule, when colonial architecture was used in the construction of administrative buildings, churches, and educational institutions, adding yet another distinct imprint on the city of Gwalior.

## Lighting up Gwalior

Traxon e:cue collaborated with lighting partner M.M. Brothers and well-reputed

lighting design studio Lucent Worldwide to bring the splendor of Gwalior to life. The project covered 18 historical sites, and this included the Padav Bridge, the Gwalior Town Hall, State Bank of India and the SBI ATM, the Post Office Building, Gorkhi Gate, Krishna Gate, the Press Building, MLB College, Victoria, Jivaji Rao Forts 1 & 2, Nadi Gate, Moti Mahal, Ladhedi Gate, Gol Mandir, Jal Vihar, and Baija Tal.

According to Shirish Mathur, Regional Manager, Traxon e:cue India, "When lighting up a historical monument, there is an underlying need to study the intricate design elements of a structure to ensure we are not merely lighting up a space but also using it to enhance and exemplify the beauty and workmanship that has gone into its construction."

One of the key challenges faced by the



Traxon e:cue team was providing meticulously precise beam angles that were essential for visibly enhancing the given landmarks. Several luminaries from the TraxonArchishape family were used for this project, including the Archishape Linear, Archishape Washer, and the Archishape Dot. These were integrated across all 18 sites via the e:cue Symphocity Controls Platform.

The e:cue Symphocity Controls Platform is a highly sophisticated lighting controls system that allows the control of multiple sites with just one software-based server. A dedicated 4G network was set up for this platform which works through a secure, encrypted, password-protected APN network. Unlike most

lighting controls platforms, Symphocity is non-cloud based which means there are no annual subscription fees. The server can be controlled remotely and through scheduled technical support for the client, includes security and software updates. Other key features of the Sympholight Controls System that make it ideal for a largescale project like Gwalior includes its inbuilt Scheduling module which allows for the creation of a calendar of 'scenes' where the lighting can be synchronized to play light shows across the year including the use of the patriotic Indian tricolors for national holidays. The dashboard also gives users access to the Energy Board which provides live and historical data on

energy consumption and alerts of any anomalies across the site including voltage or current failure.

“Overall, the Gwalior project is a perfect example of ancient architecture reimaged with cutting edge lighting technology. Our aim is to reignite interest in the historical diversity of our Indian past to the world at large with an aim to promote night tourism and it is a great honor to have worked alongside Traxon e:cue and M.M. Brothers in creating the lighting design for all 18 of these landmarks” said Sarvdeep Basur, Principal at Lucent Worldwide.

**AUTHOR : TRAXON TECHNOLOGIES**

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# Home Art Lights by Havells

## Celebrating Light Movement with Innovative Decorative and Premium Architectural Lighting

In the words of an ancient proverb, 'Lighting a candle is a simple yet profound act; it dispels darkness and invites warmth.' Similarly, the right lighting can illuminate our lives, creating a welcoming atmosphere and inspiring our daily moments.

The field of interior design has witnessed a captivating evolution in lighting trends, from the humble candlelight of ancient times to the brilliance of modern LED technology

transforming our living spaces. Today, lighting surpasses its role as a mere practicality; it has become an integral facet of interior aesthetics. As homes embrace smart technology, lighting has seamlessly integrated itself, offering personalized experiences, from adjustable color temperatures to intuitive automation.

In the journey of turning a house into a home, lighting emerges as a pivotal player, crafting the perfect ambiance.

Havells, a name synonymous with innovation and quality, stands out in revolutionizing the lighting industry through their latest creation - the Light Movement collection. This innovative line of decorative lighting redefines our perception of illumination in living spaces. The Light Movement collection blends art and artistry, elevating interior spaces with its luxurious craftsmanship and sophisticated design. Going beyond the ordinary, this collection offers a





variety of exquisite lighting options, catering to diverse tastes and preferences.

Here are the key highlights of this innovative line, showcasing Havells' dedication to redefining how we experience light:

- **Johari Collection: The Epitome of Luxury** - Inspired by the timeless allure of precious gemstones, the Johari Lighting Collection reflects well-being, allure, and elegance in each luminaire. This collection showcases Home Art Lights' unwavering dedication to excellence and blends artistry in every piece, making it a perfect fit for emperors, empresses, and discerning customers alike.
- **Rangmanch Collection: Celebrating Craftsmanship** - The Rangmanch Collection is a mix of art, nature, and light. Each fixture in this collection is handcrafted, unique, and raw, with a perfect amalgamation of rich colors, wood, textures, and glass, giving the range a poetic appeal. It is an epitome of beauty crafted for expressive homes.

- **Adaa Collection: Moving with Times in the Most Stylish Way** - The Adaa Collection is best suited for progressive modern homes, showcasing a blend of clean lines and minimalist design that embodies a modern aesthetic. This collection effortlessly integrates into various interiors, offering a stylish lighting solution for contemporary spaces.

Home Art Lights' Light Movement collection encompasses a wide array of lighting fixtures, including ceiling lights, downlighters, pendant lights, floor lamps, chandeliers, wall sconces, table lamps, and outdoor lighting. This extensive range ensures that customers can find the perfect lighting solution for any area in their homes, offices, or commercial spaces.

To enhance the beauty of artwork, customers can consider these expert tips:

- 1 **Ceiling-mounted accent lights:** These lights can be recessed or surface-mounted, allowing the direction of light to be adjusted. Choose fixtures with a range of light-beam spreads to ensure that the light covers most of the artwork.

- 2 **Picture lights:** Mount these lights on the wall or the frames of individual artworks for a sense of intimacy and to invite viewers to stand closer to the art. Picture lights typically use low-wattage lamps and provide focused illumination.
- 3 **Track lights:** Ideal for gallery walls or installations with multiple paintings, track lighting allows you to easily reposition and aim the light as needed. Combine track lighting with frame projectors and spotlights designed for art lighting to expand the use and impact of your existing track system.
- 4 **Surface-mounted lights:** These flexible lights are a great choice for illuminating artwork. Opt for adjustable fixtures that allow you to define a range of light-beam spreads, ensuring that the light covers most of the artwork.

By choosing the right lighting solution for your artwork, you can enhance its vibrancy, longevity, and overall effect, creating a visually stunning and engaging space. Home Art Lights' Light Movement collection offers a perfect blend of functionality and aesthetics, making it an ideal choice for discerning customers who appreciate the beauty of light and art.

The Light Movement collection not only illuminates spaces but also transforms them into art galleries. Each carefully crafted luminaire adds a touch of elegance and sophistication, making every room come alive. Home Art Lights invites everyone to experience the magic of their creations. With these lights, spaces are not just lit; they are transformed into captivating works of art.

**AUTHOR : MR. PRAG BHATNAGAR,  
PRESIDENT, HAVELLS INDIA LIMITED**

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# Sahasra Semiconductors set to roll out its first indigenously designed and packaged LED Driver IC

**S**ahasra has built a state of the art IC assembly and test facility at Bhiwadi, Rajasthan about 70Km from New Delhi International Airport. The facility comprises of 4000 SQM of cleanroom and target capacity of 50million ICs per month. The package and application segments being considered at the initial phase include LED Drivers, Memory Packages and QFN/DFN packages.

## LED Drivers

Sahasra is developing its own indigenously designed IC chip for high volume production as import substitution for ICs from China. They are planning to package a simple DOB SMD IC involving linear technology. Sahasra is planning target takeout and characterization by Q4-2023 and customer evaluation and volume production by Q1-2024

## Memory Packages

Sahasra is planning to produce Micro SD and COB packages using latest assembly technologies like 50um thick / 300mm wafers and upto 4 die stacks. They have already tied up with a reputed overseas technology partner for knowhow which will be extended to other packages types like module assembly & BGA in the future. Sahasra plans on becoming the first commercial complete memory IC manufacturing facility in India and are targeting production for micro SD by first quarter of 2024

## QFN/DFN packages

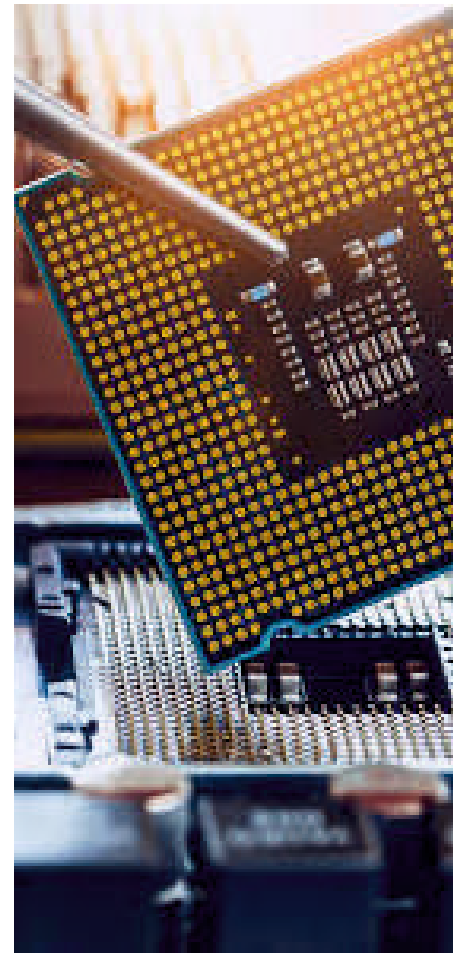
QFN / DFN packages are in popular demand due to their small form factor, good electrical performance and heat dissipation. Sahasra has tied up with anchor customers for capacities in initial phase. By using SSPL substrate design

capability and high matrix process, a low cost /competitive price can be offered to customers for these products. Flexibility in substrate design also helps to create custom package sizes with very low cost of tooling. While Sahasra is planning target production by Q1-2024, they will extend their capabilities to ultra-thin packages of 0.4mm/0.5mm package thickness, flip chip QFNs in future.

Sahasra will be the first company to produce semiconductor chips in the country.



The chip assembly plant at Sahasra's factory in Bhiwadi is capable of packaging 6-12 inch wafer





# ELCOMA GB meeting 2023

The 4th ELCOMA Governing Body Meeting was held on 22nd September 2023 at Merigold Hall, India Habitat Centre, New Delhi, which was sponsored by M/s. Signify Innovation Ltd. A large number of ELCOMA GB members attended the meeting. The meeting started with a short presentation by invitee Messe Frankfurt on the LIGHT+LED India Expo planned to be held between 28-30 November 2024 at Dwarka, New Delhi. Mr. Avinder Singh, President of ELCOMA welcomed all GB members present in the meeting. He also announced that Mr. Shyam Sujan, Secretary General ELCOMA will be retiring effective 31st October 2023 and also that Mr. Amal Sengupta, General Manager ELCOMA, will be Secretary General ELCOMA effective 1st November 2023. Further, Mr. Amal Sengupta deliberated on the ELCOMA Secretariat related issues like membership, outstanding, etc. The meeting came to an end with a vote of thanks by the President to Chairpersons and all members present



*Mr Avinder Singh, President, ELCOMA, presenting the Annual Report*



*GB members in discussion*



*GB in progress*



*A view of GB Members*

# ELCOMA bids befitting farewell to Mr. Shyam Sujan

On 21 September 2023 ELCOMA organized a grand farewell for Mr. Shyam Sujan who retired from the services of ELCOMA after a tenure of nearly 20 years. All the board members spoke on the occasion praising the work of Mr. Sujan. Besides, many other ELCOMA members spoke on the contributions of Mr. Sujan. A befitting gift was handed over on behalf of ELCOMA.



*Mr Avinder Singh, President, ELCOMA, delivering his farewell address for Mr Shyam Sujan*



*Mr. Amal Sengupta handing over a bouquet to Mr. Sujan on behalf of ELCOMA*



*Mr. Sikka handing over a token of remembrance to Mr. Sujan on behalf of ELCOMA*



*A view of audience*



*Mr. Sujan relating his journey of 20 years with ELCOMA*



*Ms. Laxmi handing over a bouquet to Mrs. Sujan*



*The ELCOMA family*



*Mr. Avinder Singh, President, ELCOMA welcoming Mr. Shyam Sujan*



*Mr. Sumit Joshi, MD, Signify Innovation addressing the audience on the occasion*



*Mr. Nirupam Sahay member of board speaking on the occasion*

# ELCOMA AGM meeting 2023

The 53rd Annual General Meeting was held on 22nd September 2023 at Marigold Hall, India Habitat Centre, New Delhi, which was sponsored by M/s. Signify Innovation Ltd. A large number of ELCOMA members attended the meeting. Mr. Avinder Singh, President of ELCOMA, approved the minutes of the previous AGM that was held on 13th September 2022. After the President's Address, Mr. Shyam Sujan, Secretary General of ELCOMA read out Secretary General's report. The annual committee reports were presented by respective chairpersons of the committees, Mr. Nitish Poonia and Mr. Santosh Agnihotri. There was a discussion of Light India 2024 initiated by Mr. Sunil Sikka. There was no election for the office bearers since the tenure is of two years and the present board has completed only one year and the same board will continue to operate for one more year. Finally Mr. Shyam Sujan expressed his heartfelt thanks to the board, the ELCOMA members, the staff at the Secretariat the other stakeholders for their kind support and cooperation.



*A view of the Audience for AGM*

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# Lighting Management Systems

## A Technical and Propositional Overview of LMS for Commercial and Home Segments

Lighting Management Systems (LMS) have evolved from an auxiliary or luxury feature to an integral part of any lighting solution, thanks to technological advancements. We are now in the era of data, digitization and connectivity, and our lighting systems must keep up.

A decade ago, LMS was primarily used for energy savings. However, its capabilities have expanded significantly and it can now be used for space utilization, occupancy monitoring, security enhancement, wellbeing and even indoor air quality/noise monitoring (through integration of various sensors).

### Commercial Segment

Due to globalization and the rise of 24x7 operations, space utilization has become a critical factor in optimizing commercial properties. For example, a commercial office space operating in three shifts (each of 8 hours) with three different groups will be more economically viable than a normal operation of a single group.

LMS can play a crucial role in saving energy and optimizing space utilization in commercial establishments. By using sensors (occupancy and daylight), LMS can automatically adjust lighting levels to ensure that the right amount of light is available where and when it is needed. This can lead to energy savings of up to 50-60%.

However, it is important to define your requirements from the system at the initial stage. LMS should be viewed as a system rather than a cluster of components.

### Wireless vs. Wired System

There is a debate over the effectiveness of wireless and wired LMS systems. The choice is dependent on specific needs, such as feasibility, requirement, load type and possible future scalability.

When considering a wireless system, it is important to analyze whether the wireless components make up more than 80% of the total LMS architecture or whether they are limited to a few peripheral components (such as user interfaces and sensors). It is also important to ensure that the load controllers are capable of communicating with the luminaires in wireless mode.

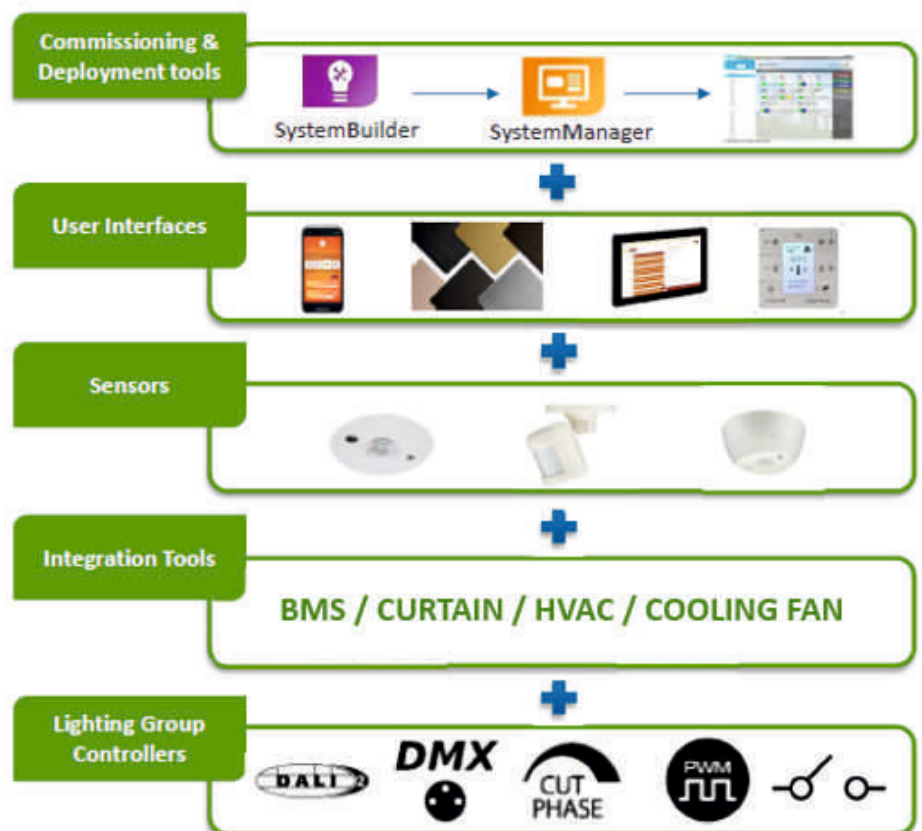
For wired solutions, scalability is a key

consideration. LMS systems do not work in isolation; they need to interact with other services such as HVAC and blinds. Additionally, LMS systems must be in sync with the Building Management System (BMS).

### Planning and Design

When planning and designing an LMS system, it is important to formulate your exact requirements. The system can be as simple as a standalone sensor-driven system or as complex as a system that can perform tasks such as people counting, desk booking, HVAC control, or indoor noise level and air quality monitoring.

Openness, adaptability, and scalability are the key to the successful



implementation of any LMS.

The following five layers are essential for any Lighting Management System:

- Lighting Controllers
- Sensors
- User Interfaces
- Commissioning /Deployment Tools
- Integration Tools/APIs

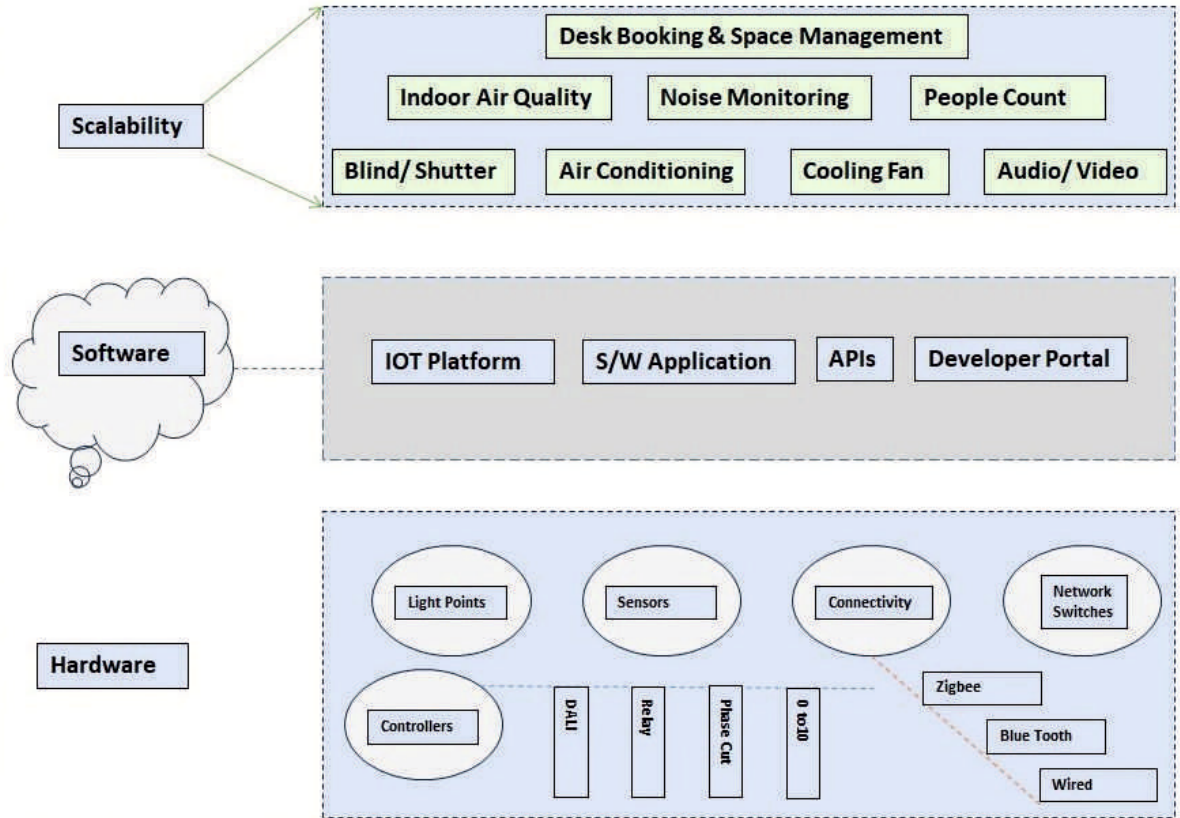
**Home Segment**

In the home segment, quality is the major concern. With the boom in infrastructure and the rise of tech-savvy buyers, there is a growing demand for home automation solutions. However, there is a risk of inferior quality solutions being installed at lower prices. This can harm both the individual buyer and the reputation of the technology as a whole.

It is important to establish quality control benchmarks for home automation solutions. Buyers should be aware of the platform/technology being used and the safety norms followed for the system that is collecting and processing their data 24x7.

Home automation can be used to control the following aspects of a home:

- Security
- Blinds and Shutters
- Lighting
- Air Conditioning Unit
- Cooling Fan
- Home Theatre



- Audio
- Watering System
- Garage/Parking

It is time to bring all home segment automation providers under one umbrella of standardization. Any equipment supplied must comply with international and national standards.

**General Block Diagram of a Lighting Management System Architecture**

The figure shows a general architecture for a Lighting Management System. The system consists of the following components:

- Sensors: Sensors are used to collect data about the environment, such as occupancy, daylight levels, and temperature.
- Lighting Controllers: Lighting controllers are used to adjust the light levels based on the data collected by the sensors.
- User Interfaces: User interfaces

allow users to interact with the system and adjust settings as needed.

- Commissioning/Deployment Tools: Commissioning/deployment tools are used to install and configure the system.
- Integration Tools/APIs: Integration tools/APIs allow the system to interact with other systems, such as HVAC and BMS.

This architecture is designed to be flexible.

**Conclusion**

Lighting Management Systems and automation are the need of the hour for every establishment (big or small) to secure a greener world where every Milliwatt energy saving contributes to a better and sustainable future.

**AUTHOR : SUSNATA BHOWMICK – VERTICAL HEAD, CERTIFIED SYSTEM INTEGRATION BUSINESS, 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

# Smart Street Lighting for Smart Citizens from Bajaj



Cities are the beating heart of our modern world, constantly evolving and adapting to meet the needs of their inhabitants. One crucial aspect of urban development that often goes unnoticed is street lighting. Smart street lighting is revolutionizing the way cities illuminate their streets and public spaces, offering not only improved energy efficiency but also a wide range of benefits that enhance safety, sustainability, and overall quality of life. Through this article, we will explore the concept of smart street lighting, its advantages, and the role it plays in building smarter, more connected cities. One such system, the Bajaj CitiSol® Smart Lighting system, was built to make cities and modern infrastructure smarter & connected.

## The Evolution of Street Lighting

Street lighting has come a long way since the days of gas lamps and incandescent bulbs. Conventional street lighting systems, which predominantly

use high-pressure sodium vapor (HPVS) or metal halide lamps, have served cities for decades. However, these systems have significant limitations, including high energy consumption, maintenance costs, and limited controllability.

New and smart street lighting systems, on the other hand, leverage cutting-edge technologies to address these shortcomings. They combine energy-efficient LED lighting with advanced sensors – motion, presence, speed sensing and environmental, wireless communication – Radio frequency, GSM/GPRS, LoRaWAN, etc., and intelligent control systems to create a versatile and adaptive lighting infrastructure. The Bajaj CitiSol® is a communication agnostic platform that can quickly integrate and configure controllers and smart components across any communication protocol. This gives the user and installer flexibility to use use-case specific communication protocols.

## Advantages of Smart Street Lighting

- **Energy Efficiency:** LEDs are far more energy-efficient than traditional lighting technologies, reducing energy consumption by up to 50-70%. This not only saves cities on electricity bills but also lowers carbon emissions, contributing to a greener environment. The Bajaj HEXO® and EdgeNXT® series of advanced streetlights with the best-in-class optics and high-efficacy luminaires give the city infrastructure a high opportunity to reduce their energy consumption, thereby making the system the perfect choice for citizens.
- **Cost Savings:** Smart-street lighting systems require less maintenance due to longer-lasting LED bulbs and the ability to monitor and address issues remotely. This translates to significant cost savings over time.
- **Customization and Adaptability:**



Cities can adjust the brightness and color of LED lights based on specific requirements. Brightness levels can be lowered during off-peak hours, contributing to further energy savings. Dimmability and sensor integration helps Bajaj CitiSol® squeeze in that last drop of energy saving opportunity, making it the most compelling choice to implement across all smart infrastructures.

- **Remote Monitoring and Control:** Smart lighting systems can be remotely monitored and controlled in real-time. This allows for rapid response to maintenance issues, such as burned-out lamps or damaged fixtures, improving overall reliability. The near real-time SMS and Email updates that the Bajaj CitiSol® system relays to installers, maintenance technicians & administrators makes maintenance calls smooth and efficient. Resources can now be allocated and optimized to ensure smooth operations of a smart infrastructure deployment.
- **Environmental Impact:** Reduced energy consumption and lower carbon emissions make smart street lighting an essential component of

sustainable urban development.

- **Improved Safety:** Well-lit streets enhance safety for pedestrians and drivers, reducing the risk of accidents and crimes. Smart lighting systems can also detect unusual activity and trigger alarms or alerts. Integration to motion sensors and noise sensors helps warn authorities of miscreants and criminal activities. These warnings can be relayed using the Bajaj CitiSol® LMS.
- **Data Collection and Analysis:** Smart-street lighting systems can gather valuable data through integrated sensors. This data can be used for traffic management, environmental monitoring, and various smart city applications. Customized reports, customized dashboards and user hierarchy helps the authorities use the Bajaj CitiSol® LMS to its fullest potential.
- **Enhanced Aesthetics:** LED lights offer better color rendering and can be programmed to create visually appealing lighting schemes that enhance the city's aesthetics.

#### Challenges and Considerations

While smart street lighting offers numerous benefits, there are challenges

to implementation. Cities must consider factors such as data security, privacy concerns, initial investment costs, and the need for skilled personnel to manage and maintain these systems. The Bajaj CitiSol® Smart Lighting solution takes all these factors into consideration and eliminates any user privacy concerns. The LMS is compliant to GDPR regulations. The separate Bajaj CitiSol® installer app makes installation & commissioning of the system extremely smooth.

Smart street lighting is a shining example of how technology can enhance the quality of life in urban environments. By embracing energy-efficient LEDs, sensors, and intelligent control systems, cities can reduce energy consumption, save money, improve safety, and gather valuable data for more informed decision-making. As we continue to urbanize, smart street lighting is a critical component of building smarter, more sustainable, and connected cities for the future.

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SMART  
STREET LIGHTING

# Human Centric Lighting - Enabling Smart lighting to be meaningful and Essential

This article highlights the future of LED applications like Human Centric Lighting, Industry transformation and Vision of LAAS (Light-As-A-Service)

As a species, we are rotating around 3 pillars of life - Light, Air and Water. There are 7 million years of human evolutionary history and 150 years of history of artificial electric light source. Modern humans live indoors 87% of the time and our vision accounts for 70% of our external perception. Light delivers various level of human needs and affects human life and the way we live. There are many such examples of how light has an impact on our lives - workers in Night Shifts are categorized as Group-2A cancer risk and Circadian Rhythm disorders lead to 300% diabetes risk. Whenever there is talk of Human

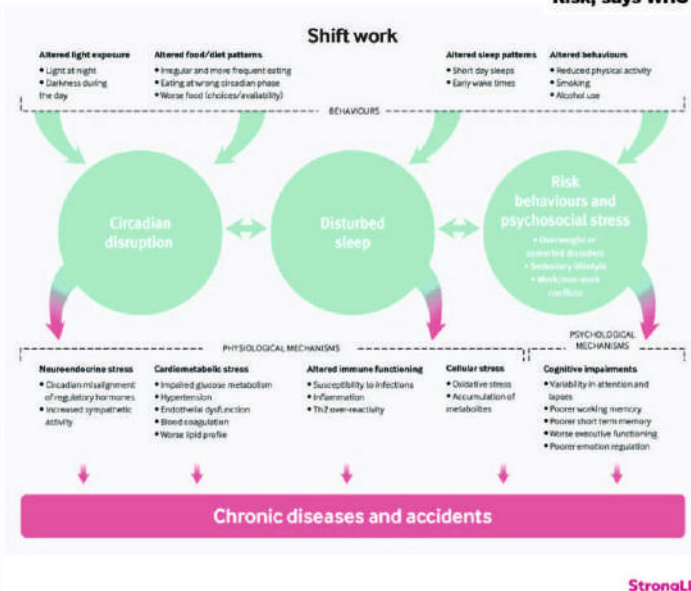
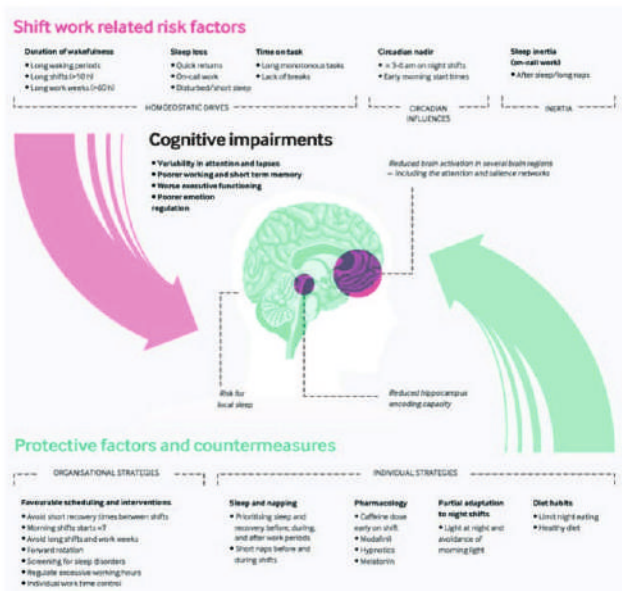
Centric Lighting (HCL), the evolution and transformation of concepts and technologies is continuous and never stops and the global LED lighting market is and remains demanding and challenging. The capabilities of SSL on full-spectrum, optional spectrum and digitalization are keys for the new era of lighting. We get inspiration from the all the ongoing research on Light and its impact and effects on human health and wellness. There are also several Evidence-based research called Light Recipes Stimulation that are helping to redefine the meaning of HCL. The Key target contributions of HCL are Circadian Rhythm phase-shift

Management, Emotions navigation Management and the Distortions of circadian rhythms that destroy wellness. There are many examples of such phenomenon that affect us in daily life. Working overtime or in late shifts, 24 hour 3 shift jobs, late night parties and late night studies are some of the most common trends of modern life. Then we have cross-time zones travel where we get jet lag from long-haul international flights. Due to the pressures of modern hectic life, 90% of humans remain under bad artificial lighting with fixed CCT, fixed LUX levels and poor CRI and lack of sunlight. Modern life requires new definitions of



**Night Shifts Increase Cancer Risk, says WHO**

## Risk of Circadian Rhythm distortions



StrongLED® 大映器



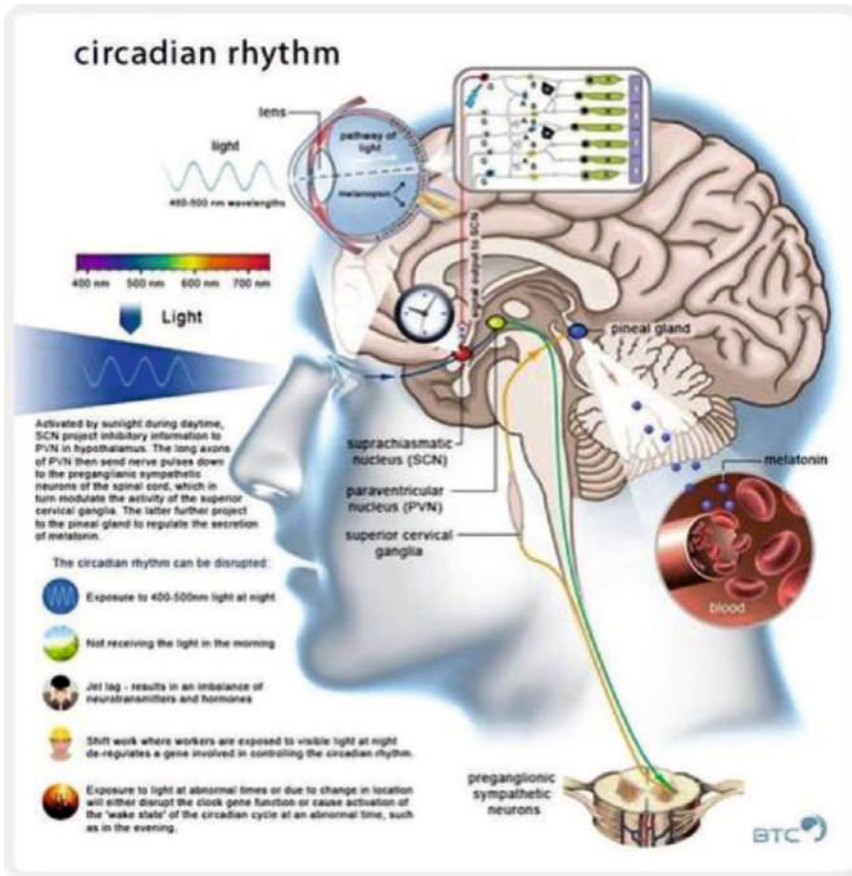
"Colorhome's smart lighting products are exceptional, elevating my home ambiance. Their top-notch after-sales service demonstrates their commitment to customer satisfaction. Highly recommend for quality and support!"

**- A satisfied Colorhome Retailer**

# ILLUMINATING WORLD!

EPITOME OF QUALITY AND DURABILITY





the role of light in our new, connected world. Light can no longer be static with fixed CCT, Fixed LUX levels in a never changing environment. The needs of our Circadian clock require dynamic, ever changing light levels, colors and intensity to ensure human wellness, health and growth.

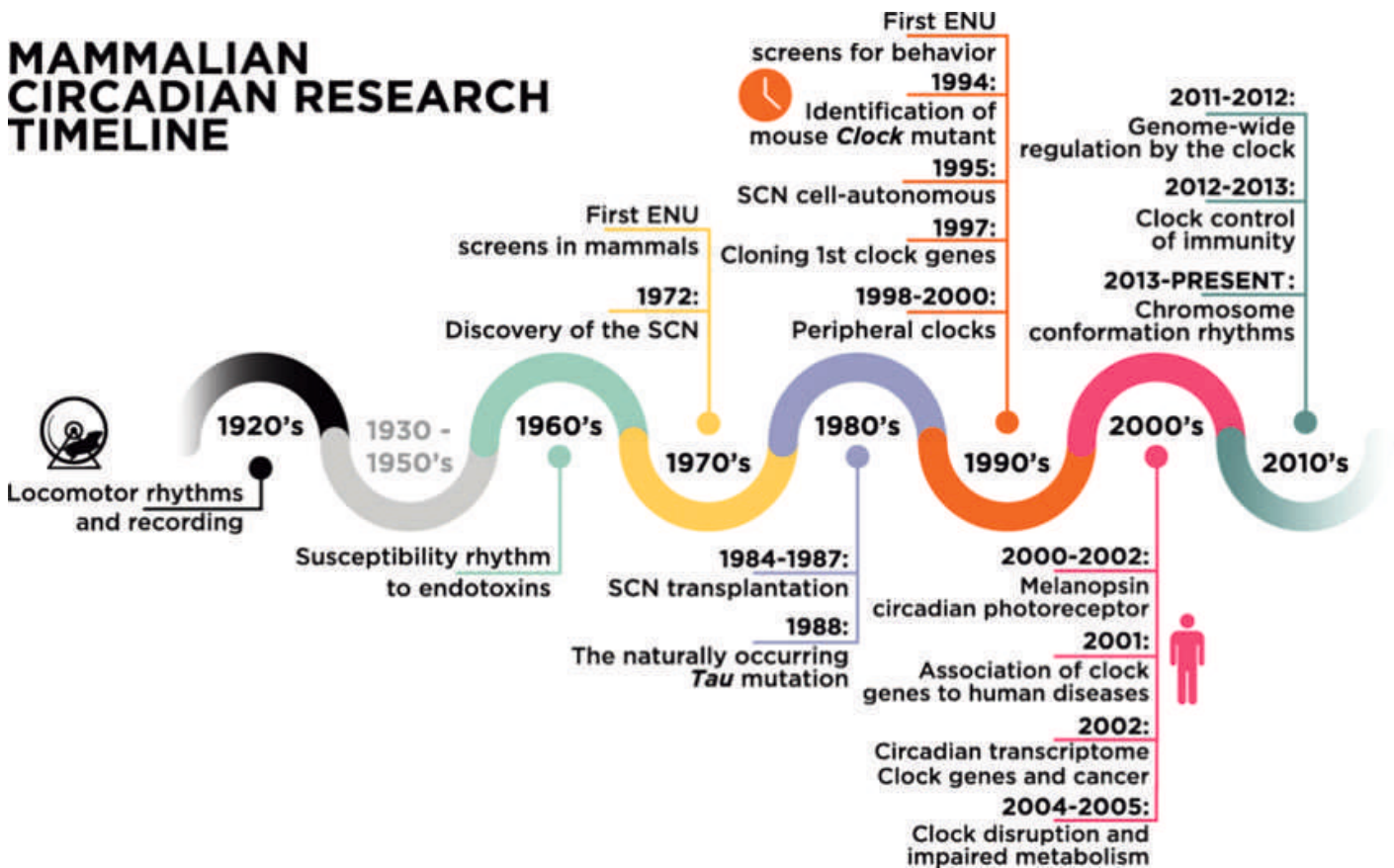
The lighting companies of the future will need to be able to provide IoT based lighting coupled with dedicated and value-added Light-As-A-Service (LaaS). Lighting that knows what is best for the human in the current, dynamic environment. Lighting that raises the position of light in building and continually improves and changes in real time.

With the right products coupled with the right lighting services , the future is indeed bright

**AUTHOR : LAWRENCE LIN, FOUNDER OF LIGHTING RECIPE STUDIO**

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# MAMMALIAN CIRCADIAN RESEARCH TIMELINE





# Be road ready

## Dash cameras: Now you can prove it really happened



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# OSRAM



# Smart Streetlights Solution from Orient Electric

## An overview of Orient Lighting's NB-IoT Smart Streetlight Solution

**O**rient Smart Lighting provides energy-saving, environmentally friendly, and exclusive innovative designs tailored for industrial applications, incorporating high-power LEDs as the primary light source for a long-lasting and durable ecosystem. Orient offers a comprehensive solution for Smart Street Light management systems utilizing NB-IoT and 4G technology.

The IoT platform serves as a support system on the NB-IoT/4G platform, acting as the backbone of the ecosystem. It offers a wide variety of functions to manage devices, data, applications, data security, and integrity. In addition to providing ubiquitous connectivity, the IoT platform facilitates device and service management, data acquisition, and exposure to applications through federation. Security is inherently integrated into the platform's foundation, ensuring end-to-end protection throughout the data lifecycle.

### Intelligent Light Controller (ILC)

The Intelligent Light Controller (ILC) is a self-contained module that seamlessly integrates into individual Street Light Devices.

- **Cellular Connectivity:** Leveraging cellular networks (NB-IoT/4G), the ILC directly connects to local cell towers, eliminating the need for dedicated gateways.
- **Remote Streetlight Management:** The ILC empowers individual remote management of streetlights, functioning as an Individual Smart Street Light Controller.
- **Energy Monitoring:** The ILC features an integrated energy metering system, providing precise

monitoring and measurement of energy usage and streetlight performance within the web application platform.

- **Comprehensive Parameters:** Measures a comprehensive set of parameters including voltage, current, frequency, power factor, power consumption, energy consumption, and lux levels.
- **Flexible Modes:** The ILC offers versatile operation modes including Manual Mode for immediate control, Schedule Mode for timed actions, and Astro Mode for astronomical-based scheduling.
- **Alerts and Indications:** Provides alerts for power failures, under voltage, overvoltage, LED faults, and communicates these issues clearly to users.
- **Safety Measures:** ILC includes built-in safety features, such as protection against short circuits and overvoltage, ensuring the system's reliability.
- **Scheduled Lighting:** Users can conveniently schedule the timing of streetlights, with pre-programmed options based on an astronomical clock.
- **LED Indicators:** Visual feedback is provided through LED indicators: a red LED signifies energy consumption, and a green LED indicates successful ILC communication with the web server.
- **User Alerts:** Alerts and messages are available for selected predefined users and can be sent to designated mobile subscriber cell numbers, ensuring efficient communication and issue resolution.

### Web Application Portal and Mobile Application

Orient provides a comprehensive smart lighting management web application, designed with user-friendly features for seamless control of smart streetlights. The cloud-based street-light application offers end-to-end functionality, encompassing the entire process from provisioning and monitoring to controlling the installed streetlights.

- **Street Light Controller Registration & Commissioning:** This feature allows users to easily register and commission street light controllers.
- **Control & Monitoring Dashboard:** Provides control and monitoring capabilities for the streetlights.
- **Individual Streetlight Visualization:** Visualize individual streetlights on a map for real-time monitoring and control.
- **Operating Mode Configuration:** Configure various operating modes for the controllers as per requirements.
- **Real-Time On/Off Status:** Quickly check the real-time on/off status of streetlights.
- **Alerts & Notifications:** Receive alerts and notifications to stay informed about important events and issues.
- **User Management:** Manage user access and permissions within the application.
- **Reports:** Generate reports to gain insights into the performance and status of the street lighting system.
- **Multiple User Authorizations:** Implement a minimum of four user

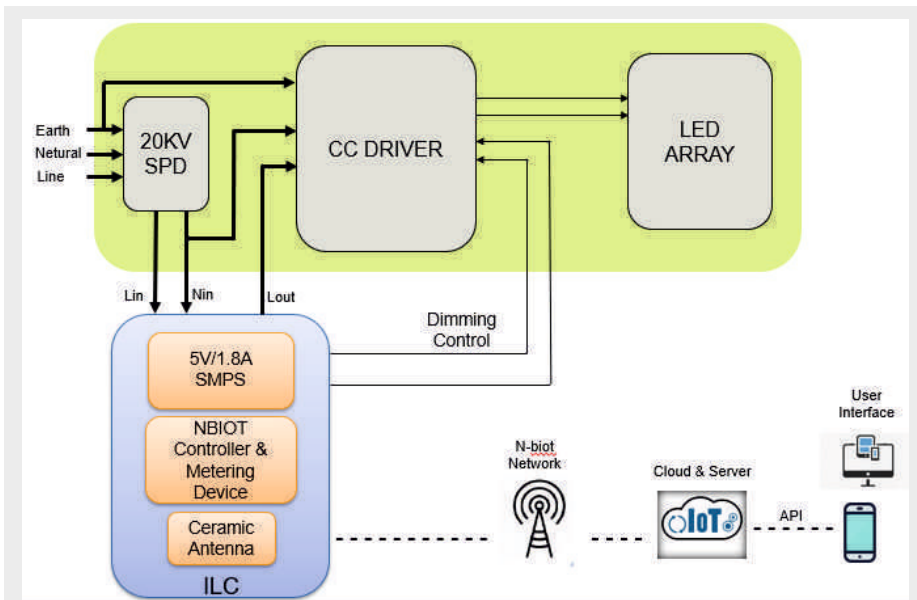


Fig : Block Diagram

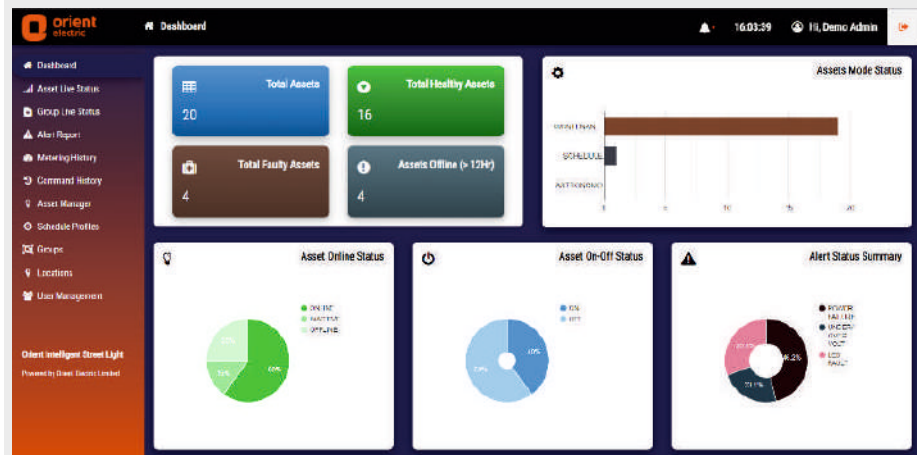
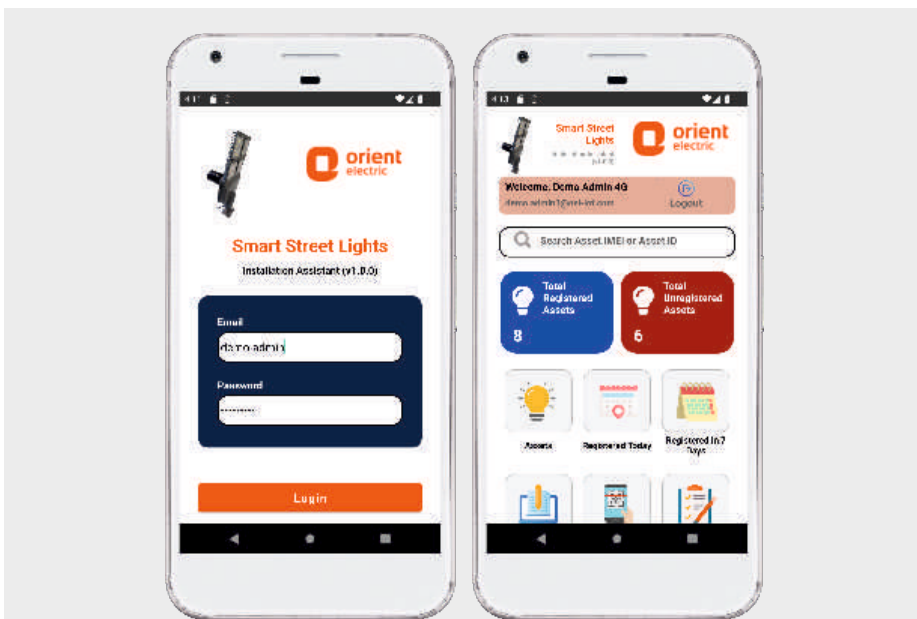


Fig : Web and Mobile Application Screenshots

authorization levels for enhanced security and control.

### Street-Light Luminaires

The housing of these streetlight luminaires is meticulously designed using thermally efficient pressure die-cast aluminium, featuring heat-dissipating fins for an expanded surface area. It includes an easily replaceable IP66-rated driver compartment, fully compliant with IS 10322 (Part 5/Sec 5)-2012 standards. The optics are equipped with a PC lens providing a wide 90° distribution pattern.

The light source utilizes a high-efficiency, long-life LED package within a module, boasting superior lumen efficacy. Furthermore, the electronic driver operates independently and incorporates features such as active power factor correction (APFC), lower total harmonic distortion (THD), protection against open and short circuits, input under/over-voltage protection, and internal surge protection of up to 4KV.

- Achieves higher lumens and offers an extended lifespan.
- Delivers superior efficacy, resulting in lower power consumption.
- Drastically reduces operational costs when compared to conventional lighting systems.
- Features an easily replaceable driver, enhancing field serviceability.
- Produces no harmful UV and IR radiations.
- Environmentally friendly with zero mercury content.
- Boasts an average lifespan of 50,000 burning hours.
- Utilizes an isolated PWM dimmable LED driver specifically designed to withstand Indian power conditions.

**AUTHOR : INNOVATION CENTRE  
ORIENT ELECTRIC LIMITED**

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# Orient Electric illuminates Smart City Srinagar with façade lights



Orient Electric Limited, part of the diversified \$2.8 billion CK Birla Group, has illuminated some of the famous buildings and structures in the beautiful city of Srinagar, Jammu and Kashmir, with its indigenously developed Façade lighting solutions. The list includes heritage buildings, religious places, public libraries, and bridges, which are among the popular places of interest in the city due to their historical and cultural significance. The company is partnering with local authorities across Indian cities to illuminate landmark buildings and sites with façade lights.

Puneet Dhawan, Executive Vice President, Orient Electric Limited said, "We are proud to partner with the Srinagar Smart City Limited (SSCL) for the illumination of these iconic buildings and sites in Srinagar, which reflect the region's rich cultural heritage. The lighting has been done in a way to highlight the intricate architectural details of each building, and we hope this will help create a unique visual experience for the residents and visitors





and promote night tourism in the area. I would like to thank and congratulate our on-ground team to execute the project successfully while working under extreme temperatures, with trial runs happening late night at these sites.

It's important to note that execution of façade lighting projects require great technical expertise and architectural design sensibility. The right combination of light fixtures, colours, and effects can add style and character to any building

or structure, creating a captivating display that will catch the visitors' attention. We have successfully developed design competencies in façade lighting to deliver exceptional projects, innovations, and experiences for our clients.”

The company has used custom Linear lights and varying colour temperatures depending on the specific requirements to bring out the architectural aesthetics of each building and structure. All the

façade lighting fixtures used in the project have anti-glare visors which help minimize the glare, making it more comfortable for the eyes of the viewers.

In addition to Srinagar, Orient Electric, as part of its #OrientLightsUpIndia initiative, has also recently lit up the famous buildings of Rail Bhawan, Baroda House and Travancore House in New Delhi, Varanasi Cantt Railway Station, Bareilly Junction railway station, Dobra Chanti bridge in Tehri, Rani Kamalapati Railway Station in Bhopal, Ganga Barrage in Kanpur, Bharathi Park in Pondicherry, and Leh Main Gate, Shanti Stupa, and the gate of Mahabodhi International Meditation Center in Leh, with its Made-in-India Façade lighting solutions.

Orient Electric offers a wide range of Façade lighting solutions, including LED Linear profiles, Spotlights, Projectors, Uplighters, Underwater lights, Controllers, and other accessories.

**AUTHOR : ORIENT ELECTRIC LIMITED**

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# Competing with Clarity

An article on lighting vs other services

I was invited for a discussion on HCL in hospitals by one of the consultants last week and as usual went on a rant gleefully about the importance of HCL in all applications including hospitals. She wanted some scientific evidence to support the HCL claims to convince her customers. While I agreed to submit the studies which talk about the impact of HCL on our health and wellbeing, I mentioned to her that it is not about the lack of evidence but more about the priority and budget allocation for lighting among the services.

I have always believed that our competition is with other services and equipment in the building as they occupy bigger mind share and budgets in the customer's mind. Barring a few exceptions lighting has always suffered due to budget constraints more than the

commodification of the industry. When we start with a budget lower than "carpet works", naturally it is not going to end well!

Still not many stakeholders, including the lighting industry, seem to realize the different eras in lighting history. The

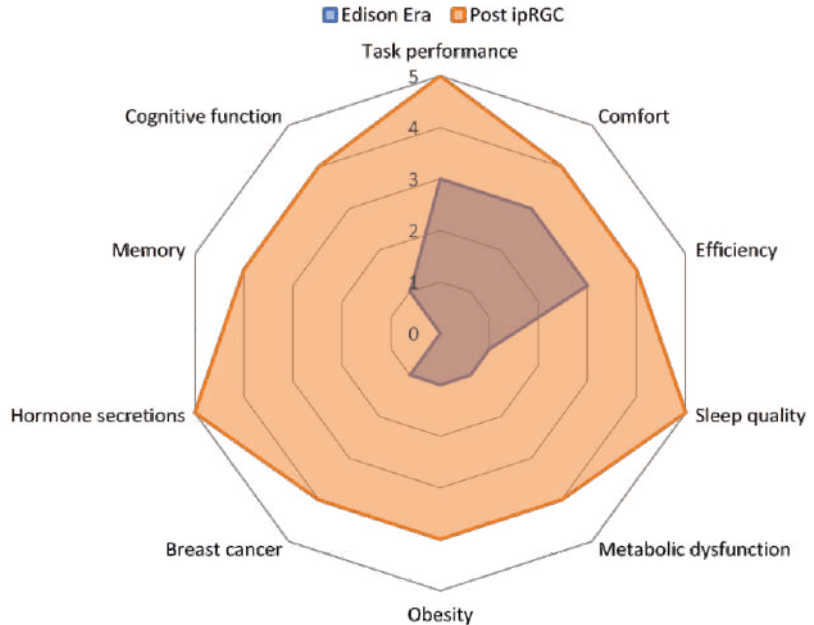
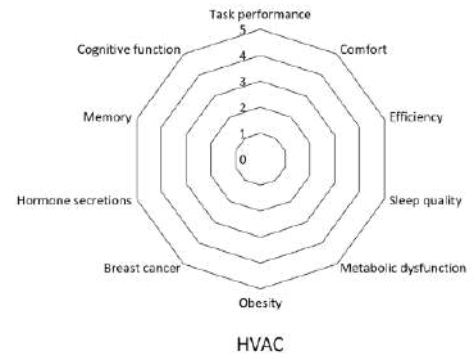
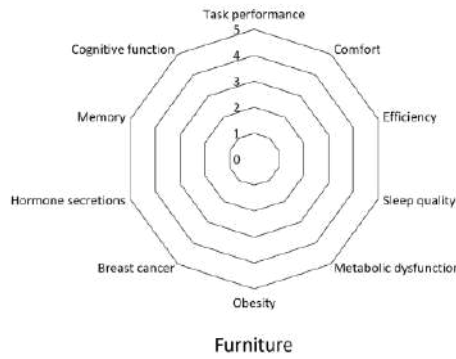
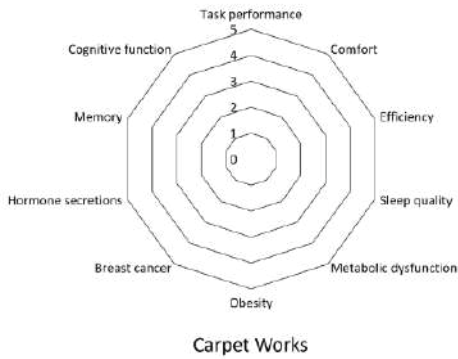


TABLE 6.1: Fit-out cost breakup as of Q3 2022 (Gn INR)

	Mumbai				Delhi - NCR, Bangalore & Chennai				Hyderabad & Pune			
	Premium	High	Medium	Basic	Premium	High	Medium	Basic	Premium	High	Medium	Basic
Soft Cost / Consultancy Charges	423 - 468	423 - 467	317 - 350	212 - 235	401 - 443	401 - 443	301 - 332	200 - 222	389 - 430	390 - 429	291 - 323	194 - 215
Civil & Interiors Works	1,902 - 2,104	1,374 - 1,519	845 - 934	634 - 703	1,805 - 1,993	1,302 - 1,441	802 - 886	600 - 665	1,750 - 1,935	1,265 - 1,397	778 - 859	582 - 645
Modular False Ceiling Works	317 - 351	265 - 293	159 - 176	85 - 93	301 - 332	251 - 278	151 - 167	80 - 89	291 - 323	244 - 269	147 - 161	78 - 87
Plumbing Works	127 - 140	127 - 140	96 - 106	63 - 70	120 - 133	120 - 133	91 - 100	60 - 67	116 - 129	116 - 129	86 - 96	58 - 64
Signage & Graphics	69 - 76	69 - 76	53 - 59	37 - 41	65 - 72	65 - 72	51 - 56	35 - 39	63 - 70	63 - 70	50 - 54	34 - 38
Preliminaries and Housekeeping, HSE	106 - 117	106 - 117	69 - 76	37 - 41	100 - 111	100 - 111	65 - 72	35 - 39	97 - 108	97 - 108	63 - 70	34 - 38
Raised Flooring Works	106 - 117	106 - 117	85 - 93	69 - 75	100 - 111	100 - 111	80 - 89	65 - 72	97 - 108	97 - 108	78 - 86	63 - 70
<b>Carpet Works</b>	<b>211 - 234</b>	<b>211 - 234</b>	<b>159 - 176</b>	<b>106 - 117</b>	<b>201 - 221</b>	<b>200 - 222</b>	<b>151 - 167</b>	<b>100 - 111</b>	<b>194 - 215</b>	<b>194 - 215</b>	<b>147 - 161</b>	<b>97 - 108</b>
Workstations	1,057 - 1,169	793 - 877	423 - 467	265 - 293	1,003 - 1,107	752 - 832	401 - 443	251 - 278	973 - 1,076	731 - 806	389 - 429	243 - 269
Meeting Room Tables	106 - 117	106 - 117	79 - 88	53 - 59	100 - 111	100 - 111	75 - 83	51 - 56	97 - 108	97 - 108	73 - 81	49 - 54
Office & Meeting Room Chairs	582 - 643	371 - 409	238 - 262	159 - 176	552 - 610	351 - 388	226 - 249	151 - 167	535 - 592	341 - 377	218 - 241	145 - 161
Loose Furniture	423 - 468	317 - 350	159 - 176	106 - 117	401 - 443	301 - 333	151 - 167	100 - 111	389 - 430	291 - 323	147 - 161	97 - 108
Internal Electrical Works	528 - 584	529 - 584	423 - 467	343 - 380	501 - 554	501 - 554	401 - 443	325 - 360	486 - 537	487 - 537	389 - 429	315 - 349
<b>Lighting &amp; LLL</b>	<b>65 - 72</b>	<b>65 - 72</b>	<b>45 - 52</b>	<b>25 - 28</b>	<b>65 - 72</b>	<b>65 - 72</b>	<b>45 - 52</b>	<b>25 - 28</b>	<b>65 - 72</b>	<b>65 - 72</b>	<b>45 - 52</b>	<b>25 - 28</b>
UPS System	85 - 94	85 - 93	58 - 64	48 - 52	80 - 89	80 - 89	55 - 61	45 - 50	78 - 87	78 - 87	53 - 59	44 - 49
HVAC Low Side Distribution	486 - 538	486 - 537	423 - 467	343 - 380	461 - 509	461 - 510	401 - 443	325 - 360	447 - 494	448 - 494	389 - 429	315 - 349
CRAC Units	106 - 117	106 - 117	79 - 88	53 - 59	100 - 111	100 - 111	75 - 83	51 - 56	97 - 108	97 - 108	73 - 81	49 - 54
FPS & ELV System	211 - 234	211 - 234	159 - 176	106 - 117	201 - 221	200 - 222	151 - 167	100 - 111	194 - 215	194 - 215	147 - 161	97 - 108
Building Management System	79 - 88	79 - 88	58 - 64	37 - 41	75 - 83	75 - 83	55 - 61	35 - 39	73 - 81	73 - 81	53 - 59	34 - 38
Access Control System	85 - 94	85 - 93	63 - 70	37 - 41	80 - 89	80 - 89	60 - 66	35 - 39	78 - 87	78 - 87	58 - 64	34 - 38
CCTV System	85 - 94	85 - 93	42 - 47	32 - 36	80 - 89	80 - 89	40 - 44	31 - 34	78 - 87	78 - 87	39 - 43	29 - 32
Baggage Scanner / Turnstiles	53 - 59	53 - 59	42 - 47	32 - 36	51 - 56	51 - 56	40 - 44	31 - 34	50 - 54	50 - 54	39 - 43	29 - 32
Kitchen Equipment	211 - 234	127 - 140	79 - 88	42 - 47	201 - 221	120 - 133	75 - 83	40 - 44	194 - 215	116 - 129	73 - 81	39 - 43
Networking Passive Works	211 - 234	211 - 234	159 - 176	127 - 140	201 - 221	200 - 222	151 - 167	120 - 133	194 - 215	194 - 215	147 - 161	116 - 129
AV Equipment	317 - 351	317 - 350	211 - 234	106 - 117	301 - 332	301 - 333	201 - 222	100 - 111	291 - 323	291 - 323	194 - 215	97 - 108
Active Components	449 - 496	450 - 496	317 - 350	212 - 235	426 - 470	426 - 471	301 - 332	200 - 222	413 - 457	413 - 457	291 - 323	194 - 215
<b>Total</b>	<b>8,600 - 9,514</b>	<b>7,251 - 8,010</b>	<b>4,522 - 5,441</b>	<b>3,423 - 3,789</b>	<b>8,158 - 9,009</b>	<b>6,869 - 7,604</b>	<b>4,671 - 5,160</b>	<b>3,241 - 3,592</b>	<b>7,908 - 8,753</b>	<b>6,670 - 7,374</b>	<b>4,530 - 4,999</b>	<b>3,140 - 3,482</b>

Source: CBRE project Management, CBRE Research, Q3 2022



Edison era till the year 2002 where we knew by instinct and the era post Y2k with scientific proof that light has a huge impact on humans Physiologically, Psychologically and Biologically. It was a paradigm shift for us to think differently about lighting in terms of priority, budget, applications, design, products etc. Lighting had become much more than what it was.

The discovery of ipRGCs in our eyes expanded the scope and potent of lighting. It has catapulted Chronobiology to new heights, transgressed multiple disciplines and produced promising research for our future health and well-being.

Put simply, HCL is all about much higher lighting levels than we are getting now in the early part of the day and much lesser lighting levels than we are getting now in the later part of the evening with enough dynamism in terms of intensity, spectrum, direction, duration and quality of light like uniformity or contrasts. You can refer to my previous article on this.

Probably because HCL straddles both our professional and personal time, it is in nobody's scope, or is it? But we as individuals are there continuing to be influenced on a continuous cycle, aren't we? And it takes years before symptoms show and, they will show up. I don't see the trend of us spending more than 90% of time indoors changing forever.

I might not be fully aware about these other services, but other stakeholders

might be aware of say, carpet works, furniture, HVAC impact on these factors and decide on the priority and the budget for lighting. What ratings can we give for other services and equipment for its impact on these parameters? Probably they do or they do not, but the fact remains that lighting does impact and deserves more scientific approach and bigger investment.

Now for the evidence. Hope you will take action after going through the science as you invest, plan, design, build homes and facilities for your family, colleagues and future generations.

Every consumer might not be a professional, but every professional is certainly a consumer be it an investor, PMC, architect, consultant or contractor. I am enclosing links to various studies which establish the impact of light on our health and well-being.

For proper links not printed here, Check : <https://www.linkedin.com/pulse/lighting-vs-others-pon-kumaresh>

Believe when fluorescent tubes were launched in the market, dealers and public used to wait in queues to buy, like what people do nowadays for smartphone launches. Will lighting regain its rightful glory and become most critical factor in any space, no doubt! it will happen.

I have tried to list few studies done by research establishments and not any associated with the lighting industry.

Stay safe, stay healthy...

**Research Studies:**

- Cohort study of over 40000 women for over 6 years for LAN while sleeping and Obesity: <https://jamanetwork.com/journals/ja-maininternalmedicine/fullarticle/2735446>
- Effect of timing and intensity of light on BMI of Adults: <https://journals.plos.org/plosone/article?id=10.1371/journal.pone.0092251#:~:text=The%20results%20of%20this%20study,associated%20with%20a%20lower%20BMI.>
- The influence of bright and dim light on substrate metabolism, energy expenditure and thermoregulation in insulin resistant individuals (basically diabetics): <https://link.springer.com/article/10.1007/s00125-021-05643-9#Sec2>
- Light and Heart care - Intense light-mediated Circadian Cardio protection: <https://link.springer.com/article/10.1007/s00125-021-05643-9#Sec2>
- LAN and breast cancer: <https://www.intechopen.com/online-first/75764>
- Light exposure improves memory: <https://www.nature.com/articles/srep15578>

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

# Signify partners with Brahmaputra Volleyball League to light up community volleyball courts in Assam

Signify has partnered with Brahmaputra Volleyball League (BVL) to light up 20 community volleyball courts in the rural districts of Assam in India. This project aims to support the growth and adoption of volleyball amongst rural communities in the state. The Brahmaputra Volleyball League (BVL) is a prominent grassroots volleyball league founded by Abhijit Bhattacharya, former captain of the Indian Volleyball team.

Founded in 2020, amidst the COVID-19 pandemic, BVL has successfully nurtured and inspired youth in the state to discover and play volleyball as a professional sport. It has since become one of the biggest community grassroots volleyball leagues in the world, with over 5,000 children from across Assam, having the opportunity to play volleyball. Through its emphasis on community and youth development, the league has become an agent of positive change in the region.

In 2022, BVL witnessed an unprecedented surge in participation, with more than 350 rural village teams embracing the sport. However, beyond the daytime matches, the absence of proper lighting in the grounds cast a

shadow over the aspirations of these young athletes. Recognizing the immense potential amongst the youth in these communities, Signify took the initiative to enhance the sporting infrastructure by providing proper lighting to 20 grassroots centers in the state, under its Khel Jyoti CSR program.

With the advanced lighting solutions installed by the company, the young players can now practice under professional illumination levels mandated for national-level volleyball, reflecting Signify's dedication towards nurturing future sportsmen in the country. By illuminating these grounds, the project seeks to empower more than 5,000 players athletes with the resources they need to grow and excel in their sport, fostering a passion for volleyball, and promote a healthier, more active lifestyle within these communities.

Commenting on the project, Nikhil Gupta, Head of Marketing & Commercial Operations, Signify Innovations India Limited said, "Sports has the potential to unite, inspire, and create lasting change. Our collaboration with the Brahmaputra Volleyball League reflects our commitment towards promoting grassroots sports and offering

better opportunities to the talented youth of Assam. We believe that by illuminating the community volleyball fields, we are not just lighting up the grounds, but also igniting the dreams and aspirations of thousands of young athletes, fostering a brighter future for them."

Abhijit Bhattacharya, the visionary behind BVL, expressed his gratitude for Signify's unwavering commitment to promoting sports in rural areas. He stated, "This partnership with Signify has been a game-changer for the communities and the youth we are working with. The installation of proper lighting at the grassroots centers not only enhances safety and extends playing hours but also inspires young talent to pursue volleyball passionately. By improving the infrastructure for volleyball in rural areas, we hope to witness the rise of future volleyball champions and the growth of this beloved sport across Assam."

By supporting the growth of grassroots volleyball through this lighting project, Signify reinforces its vision to unlock the extraordinary potential of light to create brighter lives and a better world. The company firmly believes that access to superior sporting infrastructure can be transformative, empowering individuals to reach their full potential and contributing to the overall social and economic development of the region. The company has reinforced its commitment to the league by lighting up 10 additional courts this year as well.

**AUTHOR : SIGNIFY INNOVATIONS INDIA LIMITED**

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# Luker receives NABL Accreditation and Visit by Secretary DPIIT



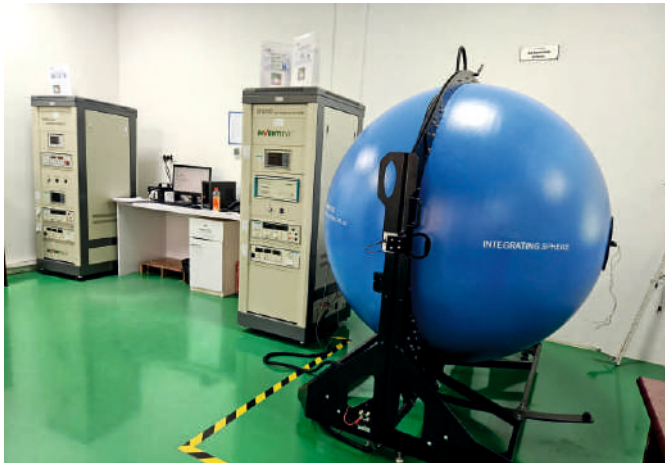
**L**uker Electric Technologies Pvt. Ltd recently received NABL accreditation for All Electrical Parameters for their facility NABL accreditation is a significant milestone for LUKER, demonstrating its commitment to excellence, reliability, and customer satisfaction. The accreditation signifies that LUKER Lab's testing and calibration services meet the highest quality standards and are internationally recognized. It instills confidence in clients and ensures that their electrical equipment undergoes rigorous testing and calibration

procedures. The NABL Accreditation covered Compliance Assessment, Training and Skill Enhancement, Infrastructure and Equipment Upgradation, Quality Management System Implementation and External Assessment and NABL Audit Shri Rajesh Kumar IAS, Secretary of the Department for Promotion of Industry and Internal Trade (DPIIT) visited Luker's Coimbatore facility in August, 2023, to evaluate the progress made in investment under the Production-Linked Incentive (PLI) scheme. The purpose of

the visit was to gain first-hand knowledge of the implementation and impact of the scheme on the ground. During the visit, the Secretary met with top officials and representatives from Luker to discuss the company's involvement in the PLI scheme and its progress so far. The Secretary was keen on understanding the challenges faced by the company and the support it received from the scheme. He observed the company's advanced manufacturing processes, quality control measures, and adherence to international standards and was impressed by Luker's commitment to innovation and research & development. Sh Rajesh Kumar emphasized the government's continued support for the manufacturing sector and assured Luker management that their investments under the PLI scheme would be protected and encouraged them to explore further avenues for growth and expansion within India.

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# Bajaj Launches New range of Streetlights and Floodlights

**A**midst rapid infrastructural growth, outdoor spaces demand versatile lighting solutions. Bajaj has recently launched the Nexo Street Light and Glatt Flood Light, designed for cityscapes, service roads, parks, commercial, and industrial areas that help to elevate the outdoor ambiance with a striking balance between aesthetics and superior performance.

## NEXO Street Light

The Bajaj Nexo range for low and mid wattage applications offers an array of wattages allowing the flexibility of using this streetlight for various applications ranging from a campus light to city lights.

Application Areas: City Roads, Factory Campus, Service Roads, Commercial Parks Spaces, Townships

Wattages available:  
25W/30W/35W/45W/60W/  
70W/90W/100W/120W



## Glatt Flood Light

The Glatt LED Floodlight is a high-performance luminaire with unique prismatic design and superior aesthetic appeal that enhances every need of illumination for various applications. It is an extremely durable and energy efficient floodlight that is compact and

light weight, making it a perfect choice for applications areas like Construction Sites, Billboards, Factory Campus, Local Playgrounds, Commercial Spaces and Parks. These floodlights are available in 30W, 50W, 80W, 100W, 120W and 150W



## Ivora Insect Shield Lamp

Bajaj's Insect Shield Lamp is designed to keep common house insects like houseflies and mosquitoes away. The Lamp uses spectrum-based lighting to shield the home from common insects like mosquitoes and house flies. These are ideal to be placed at entrances.

Features:

- Spectrum Based Lighting in the range of 580 – 590 nm
  - Beam Angle > 180 degrees
  - 15,000 hours life
  - No Side Effects
  - RoHS Certified
  - Available in 9W
- \*Note: The product does not kill or repel any insects. The wavelength of 580 – 590 nm is not visible for insects hence they see the lamp as non-lit. This prevents them from entering any premise where the lamps are put up at the entrance.



# Signify launches Philips SceneSwitch and Multi Wattage LED Lamps



**S**ignify, recently launched two new innovative LED lamps for daily lighting needs - Philips SceneSwitch and Multi Wattage in India. These modern lamps offer the convenience of multiple lighting modes in a single lamp. With just a toggle of switch users can create the perfect ambience and mood for any occasion with different color and wattage options.

### Philips SceneSwitch Bulb

With the Philips SceneSwitch 10W bulb, users have the power to transform your living space with just a flick of a switch. This bulb features three distinct color modes: Cool White (CW), Warm White (WW), and Natural White (NW) in the same lamp. Whether you need a bright, focused light for work, a warm and cozy glow for relaxation, or a natural tone for a balanced ambience, the Philips SceneSwitch bulb has a lot to offer. By toggling the switch, you can effortlessly switch between the 3 color modes to create the perfect mood for any occasion.

### Philips Multi Wattage Lamp

The Philips Multi Wattage Lamp is

designed to cater to varying brightness needs. With this lamp, users can easily switch between three different wattage levels: 15W, 8W, and 0.5W. This functionality allows users to adjust the brightness of the bulb according to their specific lighting requirements. Whether it is reading a book, getting ready for bed, or extra illumination in the kitchen, the Philips Multi Wattage Lamp delivers the perfect amount of light. Customers can enjoy bright, high-quality

illumination tailored to their preferences, thanks to the energy-saving and user-friendly design of Philips Multi Wattage Lamp.

With the Philips Multi Wattage and SceneSwitch Lamps, customers have the ultimate lighting solutions that offer flexibility in brightness and color. They can experience the power of personalized lighting and create the perfect ambience for every moment.

Details	SceneSwitch LED lamp	Multi Wattage LED lamp
Feature	1 lamp, 3 colors	1 lamp, 3 wattages
Wattage	10W	0.5W, 8W, 15w
Brightness	upto 950 lumen	upto 1500 lumen
Color	Cool White, Natural White, Warm White	Cool Day Light
Base Cap	B22	B22
Warranty	1 year	1 year
Surge	Upto 4kV	Upto 4kV
MRP	349	449

# Just About Power Introduces Innovative Protection Devices

The rapidly expanding lighting industry in India is undergoing a remarkable transformation, embracing cutting-edge developments and innovations at an unprecedented rate. This has propelled it to the forefront of the country's fastest-growing industries. While surge protection has long been a vital aspect of safeguarding valuable appliances and lighting fixtures from sudden power surges, the equally pressing concern of voltage fluctuations cannot be ignored. Voltage fluctuations can wreak havoc on electronic components, with low voltages causing overheating and high voltages leading to component failures, ultimately resulting in the failure of the entire lighting fixture.

In response to the critical need to address voltage fluctuations in the lighting industry, JAP – Just About Power has now introduced a groundbreaking product that heralds a new era in protection devices. This innovative product features a unique circuit that acts as a safeguard, instantly responding to both high and low voltage conditions. What sets it apart is its

exceptional resistance capabilities, capable of withstanding voltages as high as 440VAC. The standard product offers comprehensive protection against high voltage (> 300VAC) and low voltage (< 170VAC). Beyond this voltage range, it serves as an impenetrable barrier, preventing any voltage from entering the circuit, thereby shielding electronic components from adverse environmental conditions. The circuit efficiently clamps the voltage at the luminaire or device terminals, offering protection against multiple nominal surges of up to 10KV/5KA. Furthermore, customization options are available to cater to specific requirements.

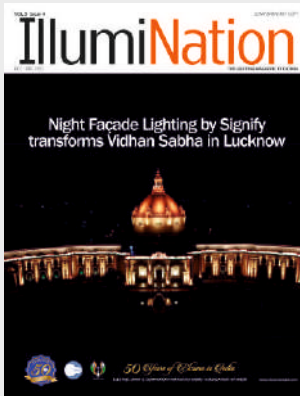
This revolutionary product, which has already made a significant impact in the global market, holds immense potential for the Indian market. It addresses a range of critical issues, including:

- **Protection from Frequent Voltage Fluctuations**



- **Rural Areas Application**
- **Safeguarding Expensive Controllers in Smart Lighting Systems.**

JAP's innovative protection device fills a significant void in the lighting industry by effectively addressing both power surges and voltage fluctuations. Its distinctive circuitry, combined with its adaptability to meet specific requirements, positions it as an indispensable tool for enhancing the durability and reliability of lighting fixtures and electronic components in India's rapidly evolving lighting sector.



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The advertisement features the ELCOMA logo at the top, with the text 'Electric Lamp & Component Manufacturers' Association of India' and 'MEMBERS' DIRECTORY 2022-23'. Below this is the LEDVANCE logo. The main image shows a modern office interior with a large window and a desk. Text below the image reads 'LEDVANCE BIOLUX HUMAN CENTRIC LIGHTING' and 'LIGHTING THAT FOCUSES ON WELL-BEING'. At the bottom, there is a QR code and the text 'LEDVANCE PRIVATE LIMITED'.

# Power gone Light ON

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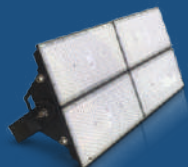
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Alpha Street Light



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