lighting today

JANUARY - MARCH 2016

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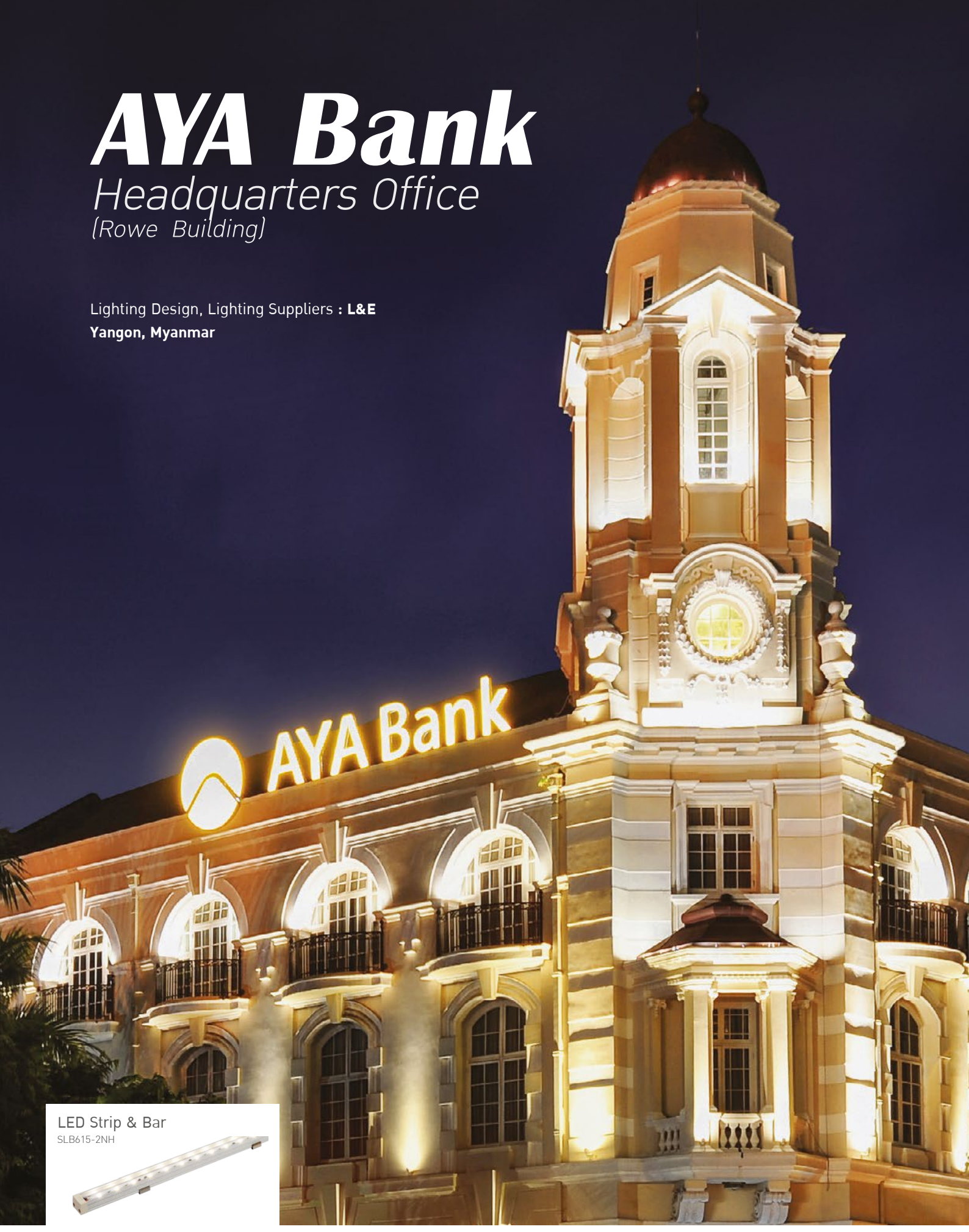

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DEAR READERS,

Happy New Year! I trust that the holiday season was filled with good food, happy reunions and a break from the daily grind. It's the beginning of another new year and as usual – all too exciting! 2015 just flew past just like that and we're back to figuring out our New Year's resolutions and how to finally achieve them… or not ;-)

This year's first issue of Lighting Today includes a series of brand new projects and products that that have emerged in the market not too long ago. The Cover Story itself is a spanking new project that has just been completed within a matter of weeks of publication – the Suntec City Convention Centre & Shopping Mall. The redevelopment of this rather iconic building in Singapore has created an opportunity for better architecture, lighting design and sustainability efforts in order to create an aesthetically pleasing and comfortable environment for all patrons and visitors.

This issue has also been graced with some exciting new projects from around the globe – from luxury hotels and a car museum to a Japanese factory and the façade of a bank's headquarters… we truly bring you a diverse mix of lighting design projects. Read on to find out more.

2016 is set to be an exciting year with many exhibitions and expositions within the lighting industry. Do check out our "Show Preview" section for a sneak peek into some of these events.

On another note, it is with bittersweet feelings to share that I will no longer be with the team at Lighting Today and henceforth will be moving on into the next exciting chapter in my life. Being the editor of this publication for slightly more than two years has taken me places – I've travelled to some pretty amazing countries, met some awesome individuals (like you!) and of course, I've learnt a lot about lighting design and how it makes a difference to my world. Thank you for this.

For those whom I have gotten the opportunity to know personally, do keep in touch – and those of you whom I haven't had the chance to meet, I hope to work with you in the near future.

From Lighting Today Volume 2 onwards, I leave you in the hands of the new editor of Lighting Today.

I wish you all the best as I bid adieu.

Jo-Ann Elicia Teo
Editor

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LIGHTING AS A SERVICE

is this the future direction of lighting and lighting design?

As we embark on a new year, it is probably a good time to look ahead to what the lighting and lighting design future has in store for us. The arrival of LED lighting technology has prompted many in the industry to rethink their position as conventional technologies are gradually phased out. It is perhaps interesting to note that the incandescent lightbulb was launched more than a century ago as a product to solve our lighting needs in replacement of candle, oil and gas lamps. The initial light bulb had a life time of around 1500 hours but improvement in technology quickly saw that increased to 2500 hours. Commercial lamp manufacturers however did not like this development and historically formed a cartel to sign an agreement limiting the lifespan of incandescent bulbs to 1000 hours only…and so the money making model of producing lighting products designed to fail started. There is a great movie called the Light Bulb Conspiracy which gives a detailed account of this… worth watching!

However, technology kept developing and improving with the subsequent arrival of improved metal halide and compact fluorescent lighting technologies to where we are today with LED technology. Yet the underlying drive has always been a waste model where products are designed with improved performances and features (you have to give consumers reasons to buy!) but are still designed to fail. Technically in today's market you are buying a product that is about to fail. Since our consumer model drives on replacement with disposal at "end of life" as the result (and little recycling options), most of the material products are wasted.

Manufacturers and sales representatives are going all out now to get a slice of the LED market, billed as the next big thing. To scare you even more into buying LED, incandescents are being phased out in many countries supported by politically motivated governments. While some are sincere about their sales pitches, many of them (whom I call the LED Cowboys) just shoot, hit and run; their only goal being to make quick money not caring about any quality, performance or environmental impact.

In the days of compact fluorescent lighting the sales pitch was "energy saving", but when the LED technology came around they had to find something else and "sustainable" became the new buzz word, with many not really understanding the meaning of sustainable. But now with every Tom, Dick and Harry jumping on the (sustainable) LED bandwagon, the powers that be are scratching their heads to find ways to differentiate themselves. And so was born the "human centric" lighting approach, putting the human being (you!), your health and productivity at the centre… who would not want that? But wait, that is not all… Because of all the features, dynamic and interactive as they may be, there is now "smart lighting" where the lighting systems will think and act for you. They (the lights!) will sense your presence and switch on when you enter a space, automatically increase lighting levels when you need it and in the process connect with you through Wi-Fi or Bluetooth driven smart apps.

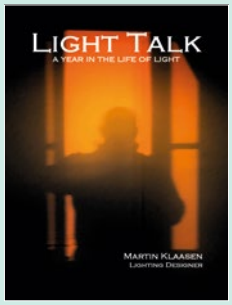
I think it is time for a new attitude towards the way we approach lighting and lighting design. All the above is still just a gimmick to sell more lights and in the process create more and more waste. Not surprisingly this new approach has not come from the lighting industry but from environmentalist architects looking at sustainable ways to build a really sustainable living environment, not one based on wastage but one build around the fact that here on earth we live in a closed system with limited resources and commodities and the answer is a circular economy, an economy where we use, re-furbish, repair, re-use and properly recycle our products. In this case we don't buy a product we buy a service. You don't buy a fridge, you by cooling…you don't buy a lamp or light fitting, you buy lighting. It is called Light as a Service or Pay per Lux and brings along a fundamental change in our thinking. The idea has been around for a long time (think of the big Xerox copy machines in offices, you don't buy the copy machine but you pay a monthly fee to use the service of copying).

Now it is here for lighting as well with the first Pay-per-Lux schemes already being pioneered. One of these projects is Amsterdam Schiphol Airport's new refurbishment which comes with a Pay per Lux scheme where the airport's owners pay only for the light they use over a pre-agreed amount of time, fifteen years in this case. All this time it is the manufacturer (a consortium including Philips) who takes ownership of the installation, the electricity bill, the maintenance and replacement. Not only that, they are also responsible of taking back, re-using and recycling the lighting systems. The beauty of all this…?

First of all, the lighting manufacturer is now forced to rethink the design model for its products since they now are responsible for quality, performance, and durability. It is in their interest now to develop products to the highest quality and performance, consuming the lowest amount of energy since they now pay the bill and are responsible to assure the lights work at all time! Secondly, since they are taking back the lights at the end of the contract, they now have a vested interest to assure the lights are re-useable and recyclable. In other words, each and every part of the light fitting is now designed to be durable, demountable and re-usable a total shift in thinking.

It is a win-win for each and every one involved. The end user gets top notch products where big capital outlays are no longer needed with guaranteed performance results. The manufacturer is forced to keep innovating for the best of the best lighting product and our scarce material resources are no longer wasted but re-used and recycled. It is time we start changing our attitude, a new year is as good as any time to start! Way to go!

Follow Martin's daily blog about lighting, Light Talk, at:
http://lighttalk.via-verlag.com



Martin's Book, '***Light Talk, A Year in the Life of Light***'
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LIGHTINGEUROPE AND IALD ANNOUNCE COOPERATION AGREEMENT

Brussels, Belgium – LightingEurope and the International Association of Lighting Designers (IALD) are pleased to announce that they have signed a cooperation agreement in recognition that the two organisations share common goals and objectives. Each group will focus on its own priorities and programs, and the two will collaborate where possible in order to increase public understanding of the art and science of lighting, and to promote the general recognition of lighting quality.

Secretary General of LightingEurope Diederik de Stoppelaar, said "With the dramatic changes in lighting technology, we see the need to actively engage with lighting designers and other stakeholders along the value chain. We believe our partnership with IALD will further crosspollination, education, cooperation and, ultimately, help bring the best new technologies and innovations to market,"

"2015 is a great year for lighting: technology is advancing, and quality of light is being more widely discussed by all those concerned with the built environment. This is also UNESCO's International Year of Light; specialists are uniting to share their contributions, from science and research to buildings and art. Our agreement with LightingEurope will allow both organisations to reach out more broadly and will strengthen the voice of the entire lighting community," added IALD CEO Marsha Turner.

IALD opened its European office in Brussels in 2014 to meet the needs of its fast-growing membership and to be able to serve its European members more effectively.

RESEARCH: ARTIFICIAL LIGHT AFFECTS BREEDING PATTERNS OF NATIVE AUSTRALIAN MAMMALS

Light pollution in urban fringe areas is significantly affecting the breeding patterns of native Australian mammals, new La Trobe University research has found.
The groundbreaking research has revealed artificial night lighting has delayed the breeding season of Tammar Wallabies, which could severely reduce populations in years to come.

Researcher Kylie Robert, who is a senior lecturer in La Trobe's Department of Ecology, Environment and Evolution, said the findings could be applied to many species of nocturnal mammals.

"Light pollution is growing at a faster rate than any other human made disturbance and it's having an increasing impact on wildlife," Dr Robert said.

"Wildlife in urban areas and urban fringes are the most at risk. Studies have been conducted on birds before but to our knowledge, no study has ever examined the impacts of light pollution on the reproductive timing of wild mammals." Mammals such as the wallaby are heavily dependent on light levels as seasonal indicators. Their breeding season is timed especially so offspring are born when food and water are in abundance for nursing mothers.

However, artificial night lighting affects the melatonin levels in mammals, which is their internal signal of when to reproduce.

More alarmingly, there is an increasing growth rate in the use of energy efficient LED lighting. Despite the energy-efficient benefits of LED's there is growing concern for their impacts on wildlife as they emit wavelengths in the blue spectra that further impact melatonin.

The delayed breeding season will see young born when there are reduced food sources, which would force malnourished mothers to abandon their offspring.

Dr Robert and her team coincidentally discovered the impacts while working on another project on Garden Island, WA. The island is home to a large Naval base, which is heavily lit during the night with artificial lighting.

Artificial lighting has delayed the breeding season of the tammar wallaby

The team observed that the wallabies living near the naval base entered their breeding season later than those wallabies living in natural bush land, free from artificial light.

"These results are very exciting because it means we can start mitigating the cause of the problem," Dr Robert said. "We are currently working on developing wildlife friendly lighting which removes the blue wavelength light spectra in LED globes."

CHROMA-Q ANNOUNCES APPOINTMENT OF JOHN FULLER AS GLOBAL BRAND MANAGER

Chroma-Q®, a world-renowned brand of premium performance LED lighting solutions manufactured in North America, is pleased to announce the appointment of 30 year industry veteran, John Fuller, as the company's Chroma-Q Global Brand Manager - effective immediately. This position is a result of Chroma-Q's continued strong ongoing growth in the global entertainment and commercial lighting markets.

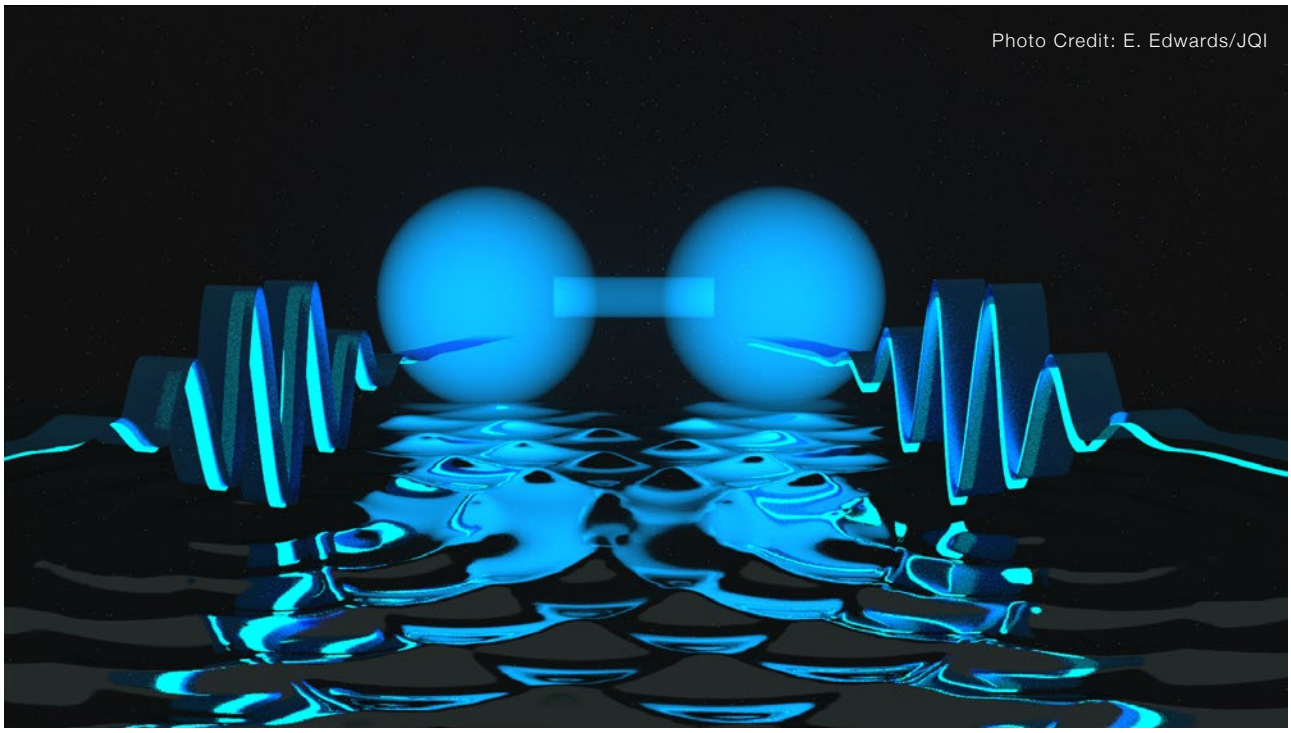
John has been deeply involved in the entertainment industry for over 30 years in various roles, bringing a wealth of industry experience and technical knowledge to the role. For the past 10 years he has been principal of Denver, Colorado-based Mountain Light Company, where he had intimate involvement with corporate events, lighting rentals and special projects using LED lighting.

While studying physics at the University of Colorado and continuing after he concluded his studies, John worked as Technical Director of Macky Auditorium, a 2,000-seat road house in Boulder, Colorado. In the subsequent years, John worked as Regional Manager and ultimately Vice President of Sales and Marketing at Colortran Inc., after which he held a position as Vice President of Panavision, directing the North & South American operations of Lee Filters USA until 2003. He was then Vice President of Sales & Marketing at Wybron until founding Mountain Light Company in 2005. In these roles John assisted in the development of numerous products and is listed as inventor of two US patents pertaining to our industry.

As Global Brand Manager, John will provide the direction to promote and continue the growth of the Chroma-Q brand, with support and training for clients and users. He will also work closely with Chroma-Q's R&D team to create forward-looking, successful product development efforts that anticipate and fulfill end-user lighting design needs.

John will be based near Chroma-Q's North American manufacturing operations in Toronto, Canada, and can be reached at +1 (518) 860-7399, or via email: **john.fuller@chroma-q.com**.

NIST PHYSICISTS SHOW 'MOLECULES' MADE OF LIGHT MAY BE POSSIBLE



Researchers show that two photons, depicted in this artist's conception as waves (left and right), can be locked together at a short distance. Under certain conditions, the photons can form a state resembling a two-atom molecule, represented as the blue dumbbell shape at center.

It's not lightsaber time, not yet. But a team including theoretical physicists from the National Institute of Standards and Technology (NIST) has taken another step toward building objects out of photons, and the findings* hint that weightless particles of light can be joined into a sort of "molecule" with its own peculiar force.

The findings build on previous research that several team members contributed to before joining NIST. In 2013, collaborators from Harvard, Caltech and MIT found a way to bind two photons together so that one would sit right atop the other, superimposed as they travel. Their experimental demonstration was considered a breakthrough, because no one had ever constructed anything by combining individual photons—inspiring some to imagine that real-life lightsabers were just around the corner.

Now, in a paper forthcoming in Physical Review Letters, the NIST and University of Maryland-based team (with other collaborators) has showed theoretically that by tweaking a few parameters of the binding process, photons could travel side by side, a specific distance from each other. The arrangement is akin to the way that two hydrogen atoms sit next to each other in a hydrogen molecule.

"It's not a molecule per se, but you can imagine it as having a similar kind of structure," says NIST's Alexey Gorshkov. "We're learning how to build complex states of light that, in turn, can be built into more complex objects. This is the first time anyone has shown how to bind two photons a finite distance apart."

While the new findings appear to be a step in the right direction—if we can build a molecule of light, why not a sword?—Gorshkov says he is not optimistic that Jedi Knights will be lining up at NIST's gift shop anytime soon. The main reason is that binding photons requires extreme conditions difficult to produce with a roomful of lab equipment, let alone fit into a sword's handle. Still, there are plenty of other reasons to make molecular light—humbler than lightsabers, but useful nonetheless.

"Lots of modern technologies are based on light, from communication technology to high-definition imaging," Gorshkov says. "Many of them would be greatly improved if we could engineer interactions between photons."

For example, engineers need a way to precisely calibrate light sensors, and Gorshkov says the findings could make it far easier to create a "standard candle" that shines a precise number of photons at a detector. Perhaps more significant to industry, binding and entangling photons could allow computers to use photons as information processors, a job that electronic switches in your computer do today.

Not only would this provide a new basis for creating computer technology, but it also could result in substantial energy savings. Phone messages and other data that currently travel as light beams through fiber optic cables has to be converted into electrons for processing—an inefficient step that wastes a great deal of electricity. If both the transport and the processing of the data could be done with photons directly, it could reduce these energy losses.

Gorshkov says it will be important to test the new theory in practice for these and other potential benefits.

"It's a cool new way to study photons," he says. "They're massless and fly at the speed of light. Slowing them down and binding them may show us other things we didn't know about them before."

** M.F. Maghrebi, M.J. Gullans, P. Bienias, S. Choi, I. Martin, O. Firstenberg, M.D. Lukin, H.P. Büchler and A. V. Gorshkov. Coulomb Bound States of Strongly Interacting Photons. Physical Review Letters, September 16, 2015.*

NORIBACHI FORGES PARTNERSHIP WITH SAMSUNG TO REDEFINE THE U.S. LED LIGHTING MARKET

Noribachi, a leading U.S.-based custom LED manufacturer and Samsung Electronics, a global leader in advanced component solutions, announced establishment of a major partnership. This broad partnership will draw upon the technology and engineering strengths of each company to spark innovation in an initial step toward redefining the U.S. LED lighting industry.

"We are excited to partner with Samsung," said Farzad Dibachi, Noribachi, CEO. "There has been little disruption in the lighting industry for over 50 years. The growth of the LED marketplace has, for the first time since Edison's invention, made lighting a technology centric industry. There is no better way to approach this new market than for two technology
innovators to partner to move this industry forward."

"Noribachi presents an excellent strategic fit as our LED Lighting partner," said Young Joo Jin, Vice President, Strategic Marketing Team, LED Business, Samsung Electronics. "As a technology-centric company dedicated to meet specific customer requirements, Noribachi will be able to continuously develop LED lighting products that showcase Samsung's superior core products."

Noribachi will incorporate Samsung's various LED component products and technologies, including high power LED package LH351B, which features high efficacy with color stability, into its Bespoke Engineered and Specifically Tailored (BEST) LED product strategy. As a result, customers will continue to receive LED lighting products built to their exact specifications with state-of-the-art, industry-leading components.

The partnership combines Noribachi's engineering strengths with Samsung's electronics expertise and advanced LED components.

Noribachi will continue to manufacture its BEST LED light engines and light fixtures at its manufacturing facility in beautiful Harbor City, CA.

About Noribachi
U.S.-based Noribachi is a leading custom LED manufacturer for high output commercial and industrial solutions. Noribachi applies a Bespoke Engineered & Specifically Tailored (BEST) methodology to deliver unlimited LED lighting applications. Noribachi is dedicated to improving the lighting industry by incorporating design and technology to our BEST lighting solutions. For more information, visit **www.noribachi.com**.

W-DMX™ DEMONSTRATES GREEN PRACTICES AT LIGHTS IN ALINGSÅS

Once a year, leading lighting designers and companies are invited to Alingsås to demonstrate their expertise, attend networking events and hold workshops. For five weeks, the dark evenings of Sweden are transformed into beautiful lighting installations around the town.

The theme for Lights in Alingsås 2015 was 'The Evolution of Light', from the big bang to the present age, with a specific focus on how new technologies such as LED can help reduce the environmental impact. W-DMX was used to demonstrate the elimination of excess cable.

Lighting designers Bertil Göransson and Johan Moritz from the company Luxera were responsible for the installations, three of which used W-DMX: The Living Room under the highway with Workshop Head Reinhardt Gerber, using 1 W-DMX WhiteBox F-1 G4 Transmitter to control 24 Aster AX-3 fixtures; The rhythm of flames with Workshop Head Vivid Katarina Henning, using 1 W-DMX WhiteBox F-1 G4 Transmitter and 1 Receiver for one SGM –Spot, sending the signal to the other end of the site; and Yin & Yang with Workshop Head Andrea Hartranft, using 1 W-DMX WhiteBox F-1 G4 Transmitter and 1 Receiver for sending the signal over a street.

"When it comes to technology and the use of the Wireless Solution W-DMX system," said Margareta Starmark, project manager for the Lights in Alingsås workshops, "It went very smoothly during installation and worked flawlessly during the entire event, so we are very happy."

Niclas Arvidsson, CEO of Wireless Solution said, "Wireless Solution has worked with Lights in Alingsås in the past 3 years with great results. We were especially happy that the focus this year was on using products that help reduce the carbon footprint of traditional lighting. The WhiteBox series is our weatherproof, IP-65 rated solution for architectural and entertainment projects that seek a green alternative. The reaction was very positive."

NANOTHERM SCOOPS ELEKTRA 'LED PRODUCT OF THE YEAR' AWARD

Cambridge Nanotherm, a producer of innovative thermal management technology, has won the "LED Lighting Product of the Year" award at the 2015 Elektra Awards for its 'Nanotherm DM' product. The industry's largest technology and business awards, the Elektras is in its 13th year of celebrating the best the electronics industry has achieved.

Cambridge Nanotherm beat stiff competition from NASDAQ listed ON Semiconductor, Khatod Optoelectronics and Zeta Specialist Lighting to win the LED Lighting Product of the Year category. Commenting on the award the judges noted that Nanotherm DM is uniquely compatible with standard manufacturing processes and picked up on the fact that the company manufactures Nanotherm DM at its facility

near Cambridge and exports to customers in the US and Asia.

Nanotherm DM is a robust and cost effective alternative to aluminium nitride, an electronics grade ceramic that is used in thermally challenging electronics. The production of Nanotherm DM involves a patented 'ECO' process (Electro Chemical Oxidation) that converts the surface of aluminium into a nanoceramic dielectric layer. The nanoceramic aluminium is completed with a copper circuit sputtered onto the nanoceramic to customer specifications. This results in a material with thermal properties that rival aluminium nitride but with the mechanical properties of aluminium that offers the best thermal performance to price ratio available.

Initially targeted at Chip-on-Board modules and LED packaging markets, Nanotherm DM enables LED manufacturers to make significant cost savings without impacting the performance of their products.

Collecting the award on Tuesday night Mike Edwards, Sales Director, said: "Winning an Elektra award is testament to the hard work and dedication our team has put into the development and commercialisation of Nanotherm DM. It cements Nanotherm's place at the vanguard of UK high-technology manufacturing and I'm delighted to be taking the award back to our manufacturing facility in Haverhill. 2016 is shaping up to be a very exciting year for Nanotherm as we continue to ramp up our production capabilities to meet unprecedented demand for our thermal management solutions."

The win follows on from Nanotherm being shortlisted for the R&D 100 awards and winning the 2015 Insider Media Made in the East technology award.

The winners of the 2015 were announced on the Tuesday 24th November at the awards ceremony, which took place at The Lancaster, London.

IALD SOUTHEAST ASIA'S FIRST EVENT CELEBRATES LIGHT IN SINGAPORE

Text: Yah Li Toh, CLD, IALD, regional coordinator of IALD SEA, Principal of Light Collab
Photographs: Design Singapore Council, Light Collab
Organizer: Design Singapore Council, IALD Southeast Asia
Curator and Producer: Shophouse & Co
Sponsors: Bizlink Associates Pte Ltd, Luxlight Pte Ltd

The International Year of Light 2015 (IYL) was a global celebration of light and lighting proclaimed by the UN General Assembly and was celebrated by more than 100 partners from more than 85 countries. Throughout 2015, the International Association of Lighting Designers (IALD) had worked to help raise the profile of the architectural lighting design profession within the activities of IYL, and was instrumental in establishing "light and the built environment" as a key pillar of the IYL.

The IYL inspired lighting designers all over the world to get more involved with the IALD; 2015 also marked the creation of two new IALD regions – IALD India and IALD Southeast Asia. IALD Southeast Asia (IALD SEA) held its inaugural event, "In Light of Shadows," on 28 August 2015. The event was held at the National Design Centre in association with the Singapore Night Festival 2015, which was organized by Design Singapore Council, and curated and produced by Shophouse & Co.

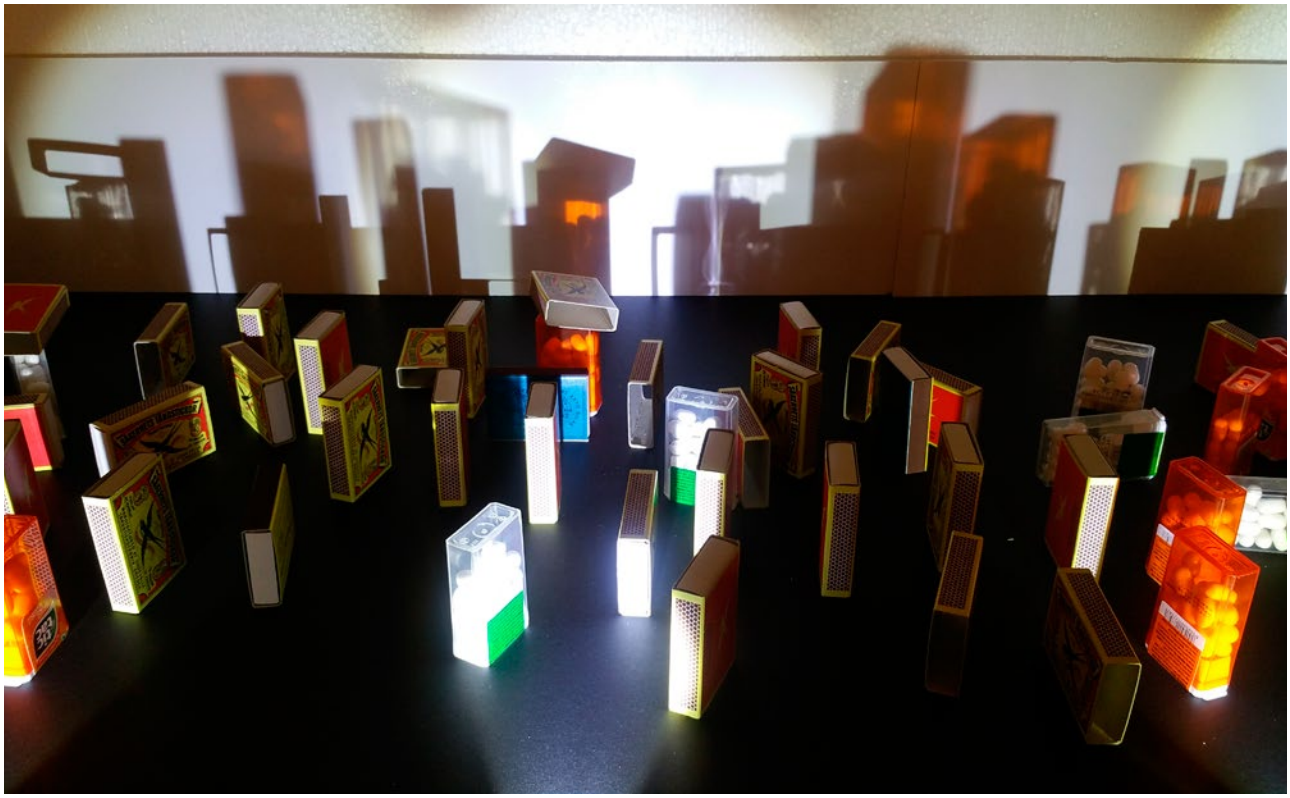
Four IALD member lighting designers spoke at the start of the event to give some background on the processes, history and future of the lighting design profession. Yah Li Toh, IALD, CLD, of Light Collab, is the regional coordinator for IALD SEA and she gave an introduction of the IALD and the activities of the association. Shigeki Fujii, Associate IALD, of Nipek, presented various working stages of a lighting designer from start to completion, helping to explain the activities of the profession and the benefits of working with a lighting designer. He explained that lighting designers are often engaged by the client, and work collaboratively with the architect or interior designer to determine the best possible lighting scenario to elevate a space.

Yusuke Hattori, Associate IALD, of Lighting Planners Associates, touched on the evolution of lighting design in his talk. He defined three important considerations of lighting design: function, aesthetics and ecology. He also gave examples of the evolution of lighting of the Victoria Concert Hall throughout the decades, as a case study to help the attendees understand how lighting shaped the space. Melvyn Law, Associate IALD, of Limelight Atelier, spoke last, speaking about his appreciation for both light and darkness – and about the human history of these elements, which date back millions of years ago to the discovery of fire.

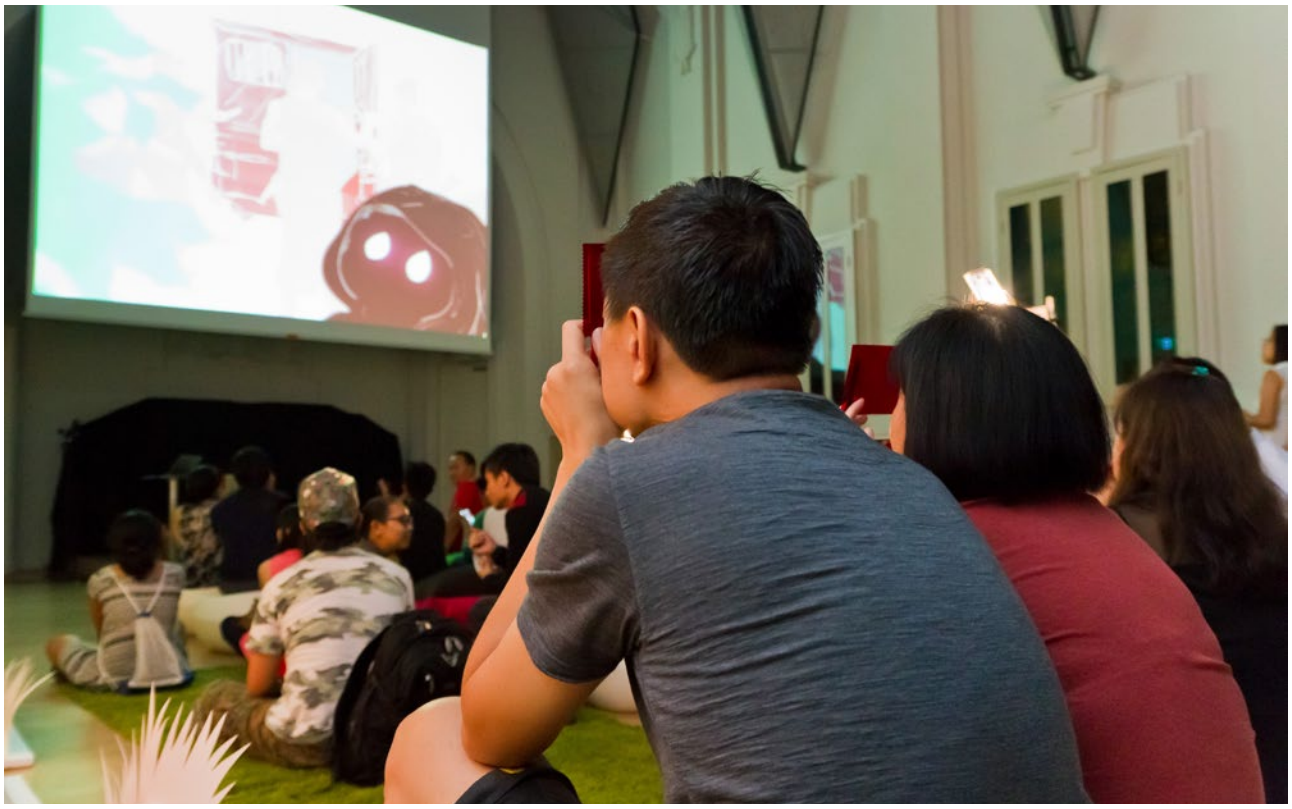
The event concluded with interactive lighting installations:

- Little Red Riding Hood – an abridged Singaporean version by Angela Woo Scott, Associate IALD, of Aurecon, illustrated by John Scott and sound designed by Semi-colon
- The Legend of Bukit Merah by Yah Li Toh, Eddy Iskandar, and Nicole Ban from Light Collab;
- Shadows of Our City by Yah Li Toh, Eddy Iskandar, and Nicole Ban from Light Collab; and Nurul Wardani from Limelight Atelier.

At each of these installations, the audience was invited to use lighting props to create light-and-shadow narratives, taking inspiration from the most basic element of lighting design – shadows. The installations were designed to create an immersive storytelling experience that demonstrated how color transforms perception, how layers of shadows create depth, and how simple objects can create interesting shadows.



Members of the public interacted with the installation, Shadows of our City, using battery-operated torches to watch the interesting shadows unfold.



Members of the public holding up red filters to watch Little Red Riding Hood - an abridged Singaporean version

The video elements of the "Little Red Riding Hood" installation were developed utilizing filters to toy with the viewer's perception of color by revealing and concealing. The audience was invited to watch each frame carefully – both through the filters and without them – and to listen to the soundtrack and narration. The multimedia elements gave the fairytale a twist of Singaporean flavour as Little Red Riding Hood journeyed through Singapore, experiencing interesting encounters with various characters, and the big bad wolf himself.

"The Shadows of our City" utilized three iconic Singaporean scenes – Sentosa, the Housing Skyline, and Changi Airport. This installation was designed using nostalgic or daily objects such as matchboxes, tic-tacs, and erasers to portray a complex scene in miniature through the use of light and shadow. Though the elements were simple, the play of light and shadow created many different perspectives. These varying visual effects can be achieved with the layering or overlapping of shadows, and by carefully applying depth of field by moving objects nearer or further from light sources. These tricks project the shadows carefully, revealing unexpected scenery. Visitors were encouraged to move the battery-operated torchlights to create unfolding sceneries and see the effect of the light.

"The Legend of Red Hill" is inspired by a traditional Singaporean story. The

The Legend of Red Hill: Eddy Iskandar, Nicole Ban, Junior Associate IALD and Benedict Chan, student volunteer from Temasek Polytechnic, performing on the overhead projector, while the audience used the lighting props to interact with the narrative.

Light Collab team – Eddy Iskandar and Nicole Ban Xiu Fen, Junior Associate IALD, along with student volunteers – narrated and performed the story of how Red Hill (a place in Singapore), got its name, using an overhead projector and transparencies. The challenge of this installation was to rethink storytelling and interactivity, and to explore how a flat medium could be layered to create textures and movement. The show was a crafted performance where three performers were required to manually control and coordinate the scenes, characters, and layering. The overhead projector became a mini-stage, and the show used principles of light, projection, layering, and focusing to tell its story. Forty torches with various characters such as villagers, swordfish, and soldiers were specially created and used by visitors to engage with the storyline.

With the formation of IALD SEA region, IALD members in Southeast Asia can look forward to more collaborations, showcases and dialogues to network, inspire, and increase awareness of the lighting design profession. Visit the IALD website at www.iald.org or the IALD SEA Facebook page at **www.facebook.com/IALDSEA** for more information and updates.

2ND EDITION OF LIGHTING DESIGN FORUM "LIGHTING OUR HERITAGE LANDSCAPES" A HUGE SUCCESS

The second edition of the Lighting Design Forum was held at the URA Centre in Singapore on 12th November 2015 and celebrated a huge and significant success with almost 200 attendees from Singapore, Indonesia, Malaysia, Thailand, the Philippines and Australia.

The topic of the Forum, Lighting our Heritage Landscapes, was actually a rather specific one, nevertheless all the speakers were able to involve the audience passionately in the "heritage world" for almost 3 hours. Thanks to their fascinating speeches and the presentation of their unique works, they succeeded in showing how lighting plays an essential role in our heritage landscapes all over the world and how we are becoming aware of this day by day.

The Director of Conservation of URA, Mr. Kelvin Ang, gave an interesting overview of the history of the nightscape of Singapore and displayed the different phases of its masterplan. He led the audience into the topic by sharing his vision and underlying how lighting "…affects a person's conduct and influences the way people perceive and enjoy the city at night…"

Particularly notable was the demonstration by Ms Jean Wee (Director of Preservation of Sites and Monuments of the National Heritage Board) about how the Singapore Government is aware and sensitive about the importance of lighting related to heritage buildings. Ms Jean Wee went through the milestones of lighting events in Singapore in order to let the audience understand which requirements of a lighting project are needed from the point of view of the Heritage Board.

According to Emmanuel Clair from Light Cibles, lighting is one of the main players in our city's landscape. Lighting affects people everywhere and every day - for example, it is so important that a good night environment makes a difference in terms of attraction for tourists especially in countries like Singapore where the weather is often more enjoyable during the late afternoon or evening.

These contributions of three different experts' point of views introduced the lecture of Mr Roger Narboni of Concepto Lighting Studio. Narboni made an enchanting overview of the possible solutions to light up the heritage landscapes from Europe to Asia: he sees lighting in his works as the result of an amazing mixture of these two different cultures. This made a good contrast to the pragmatic approach to details of Mr Kaoru Mende from Lighting Planners Associates. He gave a very useful and schematic guide to the approach of a lighting designer when has to face the challenge in lighting heritage buildings.

What has come out very clearly from the 2nd Edition of the Lighting Design Forum is that in order to achieve the best results in lighting, the combination of technical knowledge and creativity is absolutely needed.

Mr Peer Sathikh , Associate Professor at NTU – ADM, pointed out that the merge of different disciplines needs to be cultivated by students in their studies and careers.

The Lighting Design Forum eagerly wants to promote a constant exchange among different disciplines and between professionals that work in the lighting field and the students that are studying architecture or lighting design. The first edition of the Forum gave birth to some great initiatives: a sponsorship that gave the chance to two singaporean students to fly to Rome and to attend a 3-day European conference on lighting and a research project between an Italian lighting company and NTU–ADM that is involving a 2-year scholarship for another Singaporean student.

The Street Children project in Bandung, Indonesia **http://www.bandungstreetchildren.org/** that "…has been started by some local volunteers some years ago is another project the Lighting Design Forum is proud of. This project gives the opportunity to some kids to grow up in a good environment and to attend school" as Roberto Baggio, the organizer of the Lighting Design Forum, stated, while thanking the audience and the speakers for their presence at the second edition of this event.

STUDY BY THE NATIONAL UNIVERSITY OF SINGAPORE SHOWS POTENTIAL OF BLUE LEDS AS NOVEL CHEMICAL-FREE FOOD PRESERVATION TECHNOLOGY

Blending design and innovation, Philips introduces award-winning Luceplan and Modular range in Singapore

Singapore – Royal Philips the global leader in lighting, has brought to Singapore the highly anticipated range of luxury luminaires from Luceplan and Modular Lighting Instruments. Set to transform luxury homes and commercial spaces, these high-end luminaires combine the best of design and innovation.

Established in Belgium and best known for its bold and creative architectural lighting, Modular's high-end design lighting is found in many prestigious projects and architectural buildings all over the world. From design right through to ensuring ease of installation, Modular optimizes every step of the development and production process to ensure efficiency.

Luceplan's versatile and distinctive pieces feature both functionality and aesthetics, adding a modern touch to designer homes. Hailing from Milan, this internationally sought-after range of unique lighting pieces will inspire, excite and improve quality of life. Blending luxury and contemporary design in fifteen delicately crafted, stylish pieces, Luceplan luminaires bring a quiet sophistication to any space. From the modern style of Silenzio to the traditional charm of Hope, these fixtures offer understated elegance in an artfully designed package.

The new luminaires make use of innovative design techniques to ensure that they are not only decorative, but offer practical features such as reduced energy consumption and varying configurations. Hope, one of the collection's unique floor lamps, uses thin Fresnel lenses that optimize light reflection and reduce electricity consumption. Another piece, Silenzio, is designed for acoustic comfort – the lamp is lined with a premium Kvadrat textile that offers high levels of sound absorption, making private and public spaces like convention halls, restaurants and board rooms that much more comfortable. These features make Luceplan versatile and functional additions to residential and commercial spaces, with distinctive silhouettes that complement modern décor.

"At Philips, we want to improve people's lives through our lighting innovations. Lighting plays a key role not just in illuminating a room but also enhancing quality of life through complimenting home design and setting the right ambience for the family. It is with this in mind that we are bringing Luceplan and Modular to Singapore, a premier line of designer luminaires that combines contemporary design with practical functionality," said Mr. Wee Shiang Ning, General Manager of Philips Lighting Singapore.

Acquired by Philips in 2010, Luceplan is a market leader in the designer lighting segment. Its product portfolio consists of a wide range of table and floor luminaires, ceiling pendants and wall fixtures, as well as an outdoor range. Luceplan has won many industry accolades including Good Design, Design Plus and the European Community Design Prize.

Modular Lighting Instruments has been part of Philips lighting since 2006. Headquartered in Belgium, Modular is heavily focused on researching and developing new lighting solutions, and plays a leading role in the architectural lighting sector throughout the world since 1980.

Both Luceplan and Modular range of lighting solutions were on display at the Red Dot Design Museum in Singapore on 15 October 2015, and are available for sale in Singapore through Philips Lighting.

For more information, visit **http://www.lighting.philips.com.sg/**

show preview

MAISON&OBJET ASIA

8th – 11th March 2016
Marina Bay Sands Expo and Convention Centre
Singapore

Sempre Cafe Concept in M&O Paris - Courtesy of Sempre

MAISON&OBJET ASIA (M&O ASIA) continues to be a trendsetting salon in Asia-Pacific with its return in 2016 to Singapore and will take place from 8 to 11 March 2016 at the Marina Bay Sands Expo and Convention Centre.

M&O ASIA not only reflects the industry trends of the region, but also a unique identity that sets it apart from its sister salons in Paris and Miami Beach.

As it enters its third year, M&O ASIA will place itself as a hub in Asia-Pacific where property developers, hoteliers, restaurateurs, interior designers, and architects can network and gain deeper insight into the latest trends and market development in the design industry.

Redefining M&O ASIA

With its first two editions, M&O ASIA has seen a trend in its visitor profile that reflects Asia's rapidly growing property development, real estate, and hospitality industries. 50 percent of the visitors to the 2015 salon were from these sectors, resulting in a visitor profile that is markedly different from that of M&O PARIS.

Among some of the more prominent visitors include property developers The South Beach (Singapore),

Sansiri (Thailand), JUT Living Development (Taiwan), Hong Kong Parkview Group (Hong Kong) and MORI Development (Japan); hoteliers COMO Hotels and Resorts (Singapore), Oberoi (India), and The Peninsular Hotels (Hong Kong); designers WOHA (Singapore), Kerry Hill Architects (Singapore), Wilson Associates (Singapore), Junglim Architecture (Korea), and LRF Designers (Hong Kong).

With this in mind, the 2016 salon will see a greater focus on providing a more targeted showcase for property developers, hoteliers, restaurateurs, interior designers, and architects. M&O ASIA has formed a partnership with MIPIM ASIA, a leading summit for property leaders in Asia-Pacific, to further connect with the real estate markets.

A Unique Showcase of Hospitality Design Concepts

In response to the fast-moving hospitality industries of Asia-Pacific, the mission of M&O ASIA 2016 is not only to introduce exquisite interior design brands but also to provide inspiration and concepts for projects like luxury/boutique hotels, haute cuisine and spa experience. These concepts will illustrate how different techniques, materials, accessories and finished products can converge together to create enchanting yet functional interiors to meet the ever-changing requirements of high-end hoteliers and restaurateurs.

Among some of the available concepts that visitors can explore are the two cafés within the salon designed by *Eichholtz* from the Netherlands and *Sempre* from Belgium. Taking their highly successful experience in the September edition of M&O PARIS 2015, both *Eichholtz* and *Sempre* will present thematic environments which reflect their design philosophy and unique craftsmanship.

"The *Sempre* Café will act as an experience room, where we offer different ways to 'breathe' the *Sempre* philosophy. All your senses will be excited and many new emotions will be awakened. You will forget that you're at a fair and you will feel like coming home in the *Sempre*-house where in each corner, you will find something new and unknown in a cozy and comfortable

M&O Asia 2015 - Courtesy of M&O

M&O Asia 2015 - Courtesy of M&O

atmosphere. It will be the perfect spot to get inspired for future projects. So come along and visit our café, where you can have a drink in one of our handmade glasses. It doesn't stop after designing and producing, the most important part is 'using'," explains Gust Sempre, Creative Director of *Sempre*.

In addition, Singapore's successful home-grown brand *Supermama* will present a thematic retail-cum-exhibition project 'Blueprint for a Boutique Hotel Shop' at M&O ASIA 2016. The space draws on research conducted by *Supermama* on the various elements of a boutique hotel room as well as the material aspect of a hotel, such as its vision and cultural significance of its locality.

The results of the research will be translated into a publication and an exhibition that offers a practical breakdown of the exhibited objects, including the brand, manufacturer, material and purchasing information.

The accompanying retail section will see a curated display of contemporary gift items and souvenirs, with Singapore providing the context for the curation. The entire project aims to offer hoteliers a method of creating boutique hotel gift shops.

"Time is precious for designers, project managers and investors. They are not just looking for beautiful products, but, more importantly, original ideas, curated content and an authentic experience. This is why M&O ASIA is investing the time and resources to create different kinds of design concepts with our exhibitors," says Regina Chan, M&O's Director of Asia Pacific.

Visitors can also expect to meet a number of new players at M&O ASIA 2016. *The Rug Maker* (Singapore) will launch a new rug collection designed by Singapore's multi-disciplinary design collective *outofstock*.

A new creative brand, *ipse ipsa ipsum* (Singapore), which offers high quality and sophisticated design solution for hospitality projects, will also make its debut in the show.

M&O ASIA will continue to be a relevant platform to connect designers, brands and clients. "The South Beach was delighted to discover a number of brands and artists which fit perfectly with the Hotel of Design's H.I.P. (Highly Individualised People & Places) ethos. It is wonderful to have M&O ASIA right at our doorstep," comments Jan Buttgen, General Manager of The South Beach.

The salon will announce the 2016 winners of Designer of the Year and Rising Talents Awards as well as a preview of the Interior Design and Lifestyle Summit in December.

To pre-register or for more information on M&O Asia, please visit **www.maison-objet.com/en/asia**.

M&O ASIA is a partner event of SINGAPORE DESIGN WEEK, a week that celebrates the very best in design. The second edition of the Asia Hotel Design Awards (AHDA) will also be hosted during that week.

M&O ASIA is organised by SAFI ASIA PTE LTD. SAFI is a subsidiary of Ateliers d'Art de France and Reed Expositions France.

show preview

Light + Building 2016

13th – 18th March 2016
Fair and Exhibition Centre, Frankfurt am Main, Germany

The planning work for Light + Building 2016 is in full swing with all the signs indicating an equally large number of exhibitors as at the previous event. The world's biggest trade fair for lighting and building-services technology brings all market leaders together at the Fair and Exhibition Centre in Frankfurt am Main. At Light+Building from 13 to 18 March 2016, everything will revolve around the latest trends and innovations in the sector. Around 2,500 companies are expected to present and launch their latest products for the fields of lighting, electrical engineering and house and building automation during the six-day event.

Light + Building 2016: 'Where modern spaces come to life'
'Modern Rooms' will be brought to life at the fair using future-oriented new products. The leitmotif 'digital – individual – networked' outlines the way modern commercial, industrial, public and residential buildings are designed.

For these three aspects are the keystones for creating 'Modern Rooms' that also provide a high standard of living.

Building-services technology plays an important role by bundling all technical disciplines together and caters not only for growing expectations in terms of energy efficiency, safety, security and comfort. The increasing interlinkage of electrical installations, modern house and building automation and individual lighting technology increases the quality of life at home and work. Also, the industry presents solutions and technologies aimed at low energy consumption and modern safety and security demands, as well as at individual creative opportunities and a high degree of comfort.

At the same time, Light + Building is the world's biggest platform for the lighting market – a market dominated by the current transition to LED technology. National and international manufacturers present a broad spectrum of products – from technical, via design-oriented and decorative lighting for the home and contract sectors, to street lighting. The integrated presentation of lighting and building-services technology makes Light + Building in Frankfurt am Main the world's leading trade fair with a product range unrivalled worldwide in terms of both depth and breadth.

The programme of events at Light + Building 2016

In addition to the exhibitor product innovations, which are spread over 21 exhibition halls,

Light + Building 2016 will also be distinguished by an extensive programme of events. The main themes at the coming fair will be safety and security technology, building information modelling, smart powered buildings and trends in the lighting market. A themed programme, some of which has already been implemented, is being prepared for all trade visitors, e.g., architects, engineers, planners, interior architects, designers, craftspeople, retailers and the industry.

The Building Performance lectures and seminars give trade visitors the chance to gather information revolving around the subjects of lighting and integrated building-services technology. In their lectures, renowned experts from home and abroad explain the latest developments and hold discussions with participants about them.

A magnet for architects, interior architects, specialist retailers and designers is the Trendforum, which presents the home trends for 2015/16 exclusively at Light + Building. It visualises a number of different home scenarios and shows selected products integrated into unusual room settings. In each case, the focal point is a specific style, which is reflected in the home worlds. The Trendforum is the work of the internationally renowned designers of Stilbüro bora.herke.palmisano from Frankfurt am Main and Berlin.

The Design Plus powered by Light + Building competition presents innovative and future-oriented products of Light + Building exhibitors from the lighting, electrical engineering and house and building automation sectors. The award-winning products are chosen by a jury of international experts in accordance with the criteria technology, ecology and design. The competition is organised by Messe Frankfurt in cooperation with the German Design Council (Rat für Formgebung), Germany's centre of excellence for design.

A cultural highlight during Light + Building is Luminale. The biennale for lighting is held concurrently with the fair in Frankfurt am Main and constitutes the evening programme for Light + Building visitors.

Further information can be found at **www.light-building.com**

BMAM EXPO ASIA 2016
www.maintenance-asia.com

GREEN BUILDING & RETROFITS EXPO ASIA 2016
www.greenbuilding-asia.com

21 22 23 SEPTEMBER 2016

Hall 5, IMPACT Exhibition & Convention Center, Bangkok, Thailand

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show preview

LED Expo & Thailand Energy Saving Week 2016

19th – 22nd April 2016
Hall 4 – 8, IMPACT Exhibition and Convention Centre
Bangkok, Thailand

Photo Credits: LED Expo Thailand

Electricity Generating Authority of Thailand (EGAT) teams up with IMPACT and MEX Exhibitions to answer the government's energy conservation plans by organising LED Expo & Energy Saving Week 2016, combining 3 major energy saving events into one, aiming to respond to every energy saving-related technological needs and to be the biggest stage for business in ASEAN, with an estimate of more than 30,000 expected visitors and over 1 billion baht of revenue circulated.

On 19th November 2015, Mr. Soonchai Kumnoonsate, Governor of Electricity Generating Authority of Thailand (EGAT) said that the Ministry of Energy has announced a 20 year energy conservation plan (for 2015 – 2036), which aims to reduce energy consumption by 30 percent by 2036, and has set both short term and long term strategies and direction to encourage the conservation of energy in all sectors.

As a result, in line with this government policy, EGAT is joining IMPACT Exhibition Management Co. Ltd., and MEX Exhibitions Pvt. Ltd., in investing over 50 million baht to organise "LED Expo & Thailand Energy Saving Week 2016", which combines 3 major events – LED Expo Thailand 2016, Thailand Energy Saving Week 2016 and PCB Expo Thailand 2016 – into a successful one. The event

will be held on 19th – 22nd April 2016 at Hall 4-8, IMPACT Exhibition and Convention Center, Bangkok, Thailand covering an exhibition area of 32,000 m2, making it the largest international exhibition for energy saving technology in ASEAN. The exhibition is expected to draw over 30,000 visitors, with over 1 billion baht of revenue circulated.

The growing energy saving trends have resulted in great success for the LED Expo Thailand over the past 3 years. Last year, a total of over 350 businesses from around the world exhibited their products and around 21,996 people visited the event, an increase of 34% from the previous year. Among those were 1,755 international visitors from 63 countries, such as China, Australia, Japan, Korea, Singapore, Malaysia, India, whose business transactions generated over 800 million baht in revenue, said Mr. Soonchai.

Ms. Pornpan Bulner, Director of IMPACT Exhibition Organiser, IMPACT Exhibition Management Co. Ltd., said that LED Expo & Thailand Energy Saving Week 2016 is considered to be the largest international exhibition in ASEAN, covering all technology related to energy conservation, acting as a center for energy saving products, as well as an important stage for business negotiations, aiming to promote the adoption of high quality equipment in every sector, including increasing the use and widening the scope of LED lighting.

The event comprises of an international exhibition for energy saving technology and electronics under the "No. 5 energy saving" seal, ESCO, an international exhibition of electronics and LED technology, and an international exhibition of printed circuit boards and electronic components, with 3 trading days for business to business transactions, and 1 public day, which will give the general public the chance to explore the exhibitions and purchase energy saving equipment at special prices.

Additionally, the "Modern Lamp Design Contest 2016", a contest to design and build LED lamps, has set the challenge to build floor-standing LED lamps for indoor use. This competition is aimed for students, both those in high school and bachelor's degree levels, who have a passion for designing and building LED lamps, which might result in commercial production in the future. The contest also encourages the adaption and innovation in the use of LED technology for energy conservation, and has prize money totalling over 300,000 baht, as well as a winner's trophy from the Minister of Energy. Applications are open now and will remain open until 8th January 2016.

Thailand Energy Saving Summit & Thailand LED Summit, international seminars about energy saving technology and LED products, will also be organized during this event. Experts from the public and private sectors, as well as related associations will offer for those who are interested, the chance to learn about different topics, without any additional charge.

This year, the organizers have created a special new campaign – the VIP Hosted Buyer Program – which offers a unique program for international buyers to visit and experience the variety of products and services exhibited in the event, join the seminars and visit a several factories that produce energy saving technology and LED products in Thailand.

For additional information about the event, visit **www.ledexpothailand.com** & **www.pcbexpothailand.com**.

show review

Shanghai International Lighting Fair

23rd – 25th September 2015
Shanghai New International Expo Centre
Shanghai, China

Photo Credits: Shanghai International Lighting Fair

For the second year, the Shanghai International Lighting Fair closed with visitor figures seeing an increase. This growth is indicative of the business potential for players in China's lighting industry. The fair, which ran from 23 – 25 September 2015, focused on project-based opportunities and smart lighting solutions available across Central and Eastern China. Over the course of the show, a comprehensive display of the latest lighting technologies for industrial, residential and commercial applications was showcased at the Shanghai New International Expo Centre.

The 298 exhibitors in attendance included notable brands such as Aishi, EASEIC, FSL, Fulham, Geosheen, HEM Lighting, HPWINNER, Mean Well, Nationstar, OML Lighting, Romney, Sozn, Sunpuled and several others. Mr Peter Li, Sales Manager at Fulham Electronic Co Ltd, stated: "Due to strengthened visitor flow and exhibitor quality, I have witnessed an improvement in results from exhibiting and exchanged contacts with professional buyers. As a well-established industry brand, staying up-to-date on market trends is far more important than brand building and promotion for us. The fair helps me gain a deeper understanding of the lighting industry, enabling me to better position my products and brand in the market."

Visitors to the show also represented a diverse pool

of 11,676 trade- and project-based experts from 50 countries and regions. First-time visitor from Italy, Mr Raffaele Rea, Manager at Star Deco by Ar Luminarie, established several business leads. He mentioned: "I am searching for new wired LEDs and lamps, and quality and safety are my top concerns. I have exchanged business cards with many local suppliers and there is strong potential for future business collaboration."

Ms Lucia Wong, Deputy General Manager of Messe Frankfurt (Shanghai) Co Ltd, commented: "We are delighted to witness the Shanghai International Lighting Fair 2015 maintaining momentum from its inaugural launch last year. We certainly plan to continue growing organically with the industry. It was an honour to welcome lighting manufacturers, trade- and project-based visitors, leading industry associations, and the media in one location to explore the green lighting sector. Market opportunities abound, we continue to strive to help the industry capture new business."

Multifunctional platform continues to serve various business needs

Intelligent and energy-efficient lighting solutions have become a driving force behind industry growth. Recognising this, fair organisers aimed to create a platform that serves the various agendas of lighting and LED businesses.

Mr Jin Guochang, a representative of China Energy Management Contract Net, visited the fair to gain a better understanding of the lighting market. He explained: "With of the amount of attention the Shanghai Government is placing on energy efficiency, I came here especially to learn more about the lighting market, specifically the development regarding street lights and senor lights. The products on display here are diverse and the fair is well organised. I plan to attend again next year."

For new exhibitor Mr Long Cheng Li, representative from Para Light Nanjing Electronics Co Ltd of Taiwan, gaining market intelligence was key. He said: "Understanding more about industry trends through the fair allows us to re-examine our market positioning in China. This enables us to launch appropriate products to better meet customer demand."

Sharing the same sentiment in regards to using the fair to gain industry insight was Mr Qingzhou Wang, Engineer at Anhui Tuodian Lighting Co Ltd. He commented: "The Shanghai International Lighting Fair caters to our sourcing needs better than others. I have met several companies here that offer high-quality and cost-effective products. Many suppliers are now actively developing intelligent and smart lighting technologies of higher quality to cater to the market's needs. This is an eye-opening visit for me. Not only does it help me reach more LED manufacturers, but it also helps me get a better understanding of the industry."

Increased seminar offerings and concurrent fairs keep participants abreast of new market developments

Aside from the exhibition's ability to provide wide-ranging solutions, an event programme consisting of over 50 sessions of high-level seminars, forums and product presentations was also on offer. Such a programme enabled attendees to stay informed about the latest lighting market developments surrounding design, technology and market channels.

Sharing his positive experience was attendee Mr Frank Yan, Sales Manager at By Rydéns (China) Co Ltd of Sweden. He said: "The fair's seminar programme is very informative and the speakers are very professional. All of the talks, which covered a wide range of topics from dimming technologies to control systems, helped me to understand the industry and available technologies. It is also very encouraging to see that the fair gives companies a great opportunity to demonstrate the latest and distinctive products."

In agreement was seminar speaker and professor at Tsinghua University's School of Architecture, Mr Xin Zhang, delivered an introduction to photometry from a design and research perspective. He stated: "The concurrent events gather experts to exchange ideas and effectively promote the development of the lighting industry. Ordinary visitors do not participate in this trade fair; only those who own original ideas and understand the industry attend."

The show was held concurrently with four other regional technical events, including ISH Shanghai & CIHE, Shanghai Intelligent Building Technology, Shanghai Smart Home Technology, and Building Solar China. Collectively known as the "Intelligent Green Building – IGB" exhibition platform, the five events spanned 40,000 sqm and four halls. The holistic platform provides solutions for the building efficiency, sustainable development, and intelligent and green building industries. This strategic integration of technologies optimises synergies between industries and a diverse group of professionals in the lighting solution, HVAC, smart home and integrated solar building businesses to facilitate partnerships.

Benefiting from the platform was Mr Steven Zhao, Assistant Business Development Manager of Advanced Technologies – OLED at Merck Chemicals (Shanghai) Co Ltd of Germany. He commented: "With a number of other fairs taking place at the same time, it makes it easier for me to observe the trends and creative applications of lighting technologies throughout various markets. I also observed a handful of useful demonstrations and impressive LED panel lights on display here."

The next edition of the Shanghai International Lighting Fair will be held from 31 August – 2 September 2016 at the Shanghai New International Expo Centre. The Shanghai International Lighting Fair and Guangzhou International Lighting Exhibition are sister events focusing on comprehensive lighting and LED technologies in Asia.

Both fairs are headed by the biennial Light + Building event, which will take place from 13 – 18 March 2016 in Frankfurt, Germany. Messe Frankfurt also offers a series of other light and building technology events worldwide, including Guangzhou Electrical Building Technology in China, BIEL Light + Building in Argentina, Light Middle East in the United Arab Emirates, Interlight Moscow powered by Light + Building in Russia, Light India, the LED Expo New Delhi, and the LED Expo Mumbai in India.

For more information regarding the shows, please visit **www.light.messefrankfurt.com.cn** or email to **light@china.messefrankfurt.com**.

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show review

Light Middle East

6th – 8th October 2015
Dubai International Convention and Exhibition Centre
Dubai, United Arab Emirates

Photo Credits: Messe Frankfurt / Light Middle East

Glittering awards ceremony brings fitting finale to three-day Light Middle East exhibition in Dubai

10th edition of region's premier lighting design and technology trade fair welcomes 6,155 trade visitors from 65 countries

Dubai, UAE: A glittering gala awards dinner provided a fitting finale to three days of busy networking at Light Middle East 2015, which concluded in Dubai after welcoming 6,155 trade visitors from 65 countries.

Box Park and Souk Al Manzil in Dubai, along with Qatar's Banana Island Resort by Anantara, were among the big winners at the 3rd Light Middle East Awards, which was attended by 500 industry professionals to recognise and reward the region's most outstanding lighting projects and products.

Designed by Delta Lighting, Box Park won the Exterior Retail Lighting Project of the Year and Public Lighting Project of the Year categories, as an independent judging panel evaluated the merits of 32 shortlisted finalists competing across 10 categories.

The Banana Island Resort by Anantara, designed by Studio Lumen Lighting Design, won the Exterior Hospitality Lighting Project of the Year Award, while

Souk Al Manzil and Thani Murshid Establishment, both from the UAE, were joint winners of the Sustainable Lighting Project of the Year award.

"Every year, the Light Middle East Awards attracts an increasingly diverse range of projects and products with energy efficiency and the use of new LED technologies a constant theme," said Ahmed Pauwels, CEO of Messe Frankfurt Middle East, organiser of Light Middle East and the Light Middle East Awards.

"It's very important to highlight the thought process behind these amazing projects, and share with the public the reason why lighting, whether in public spaces, exteriors or interiors, is so stunning.

"We see lights wherever we go, and providing an award for such an integral aspect of our daily lives is very important and great for the lighting design industry's recognition," added Pauwels.

The Light Middle East Awards is the customary conclusion to Light Middle East, the region's premier trade show for the lighting design and technology industry, which took place from 6-8 October 2015 at the Dubai International Convention and Exhibition Centre.

Now in its 10th edition, Light Middle East continues to climb a steep double-digit growth curve; in 2015, it featured 370 exhibitors from 33 countries, and was 14 per cent larger than the previous year.

Innovative product launches and energy saving lighting solutions dominated the show floor, in particular at the Future Zone, where more than 100 of the world's leading manufacturers showcased their latest high tech products, providing a clear view of the future direction of lighting design and technology.

US-headquartered Lutron, a specialist in lighting controls and dimmers, launched in the Middle East market its Quantum Vue Facility Management Tool – an integrated system that manages light and temperature in buildings from anywhere, on any device.

The high tech system was installed in The New York Times office building, saving the daily newspaper US$600,000 in annual lighting expenses. According to Shadi Kharouf, sales director for Lutron in the Middle East, Turkey, and Central Asia, Quantum Vue will be just as effective in the Middle East.

"The Middle East is one of the most interesting regions that Lutron operates in because there is a strong demand for sustainable lighting solutions and new technology," said Kharouf.

"Another advantage of this region is that everything is being built right now. It's not an established market such as Europe where most lighting and building management solutions are retrofitted.
"Here they are building new cities and new buildings, so there is this opportunity to embrace the latest sustainable technology from the beginning. There's an acceptance of these new technologies, and the money to spend on them as well," added Kharouf.

Another exhibitor pushing the boundaries of technology and imagination at Light Middle East 2015 was German manufacturer Lux Velocitas, which presented a global launch of its volaTiles – ultra-thin LED modules with control software mounted under glass mosaics.

Winners of the Light Middle East Awards 2015

Joerg Bordan, President of Lux Velocitas, said the volaTiles can display millions of colours, and have proximity and touch sensors allowing them to intuitively adapt to surrounding environments. A smartphone volaPlay app also allows users to download and transfer personalised colour designs onto the tiles to reflect a specific mood.

"The uniqueness of volaTiles is that we combine traditional 2x2cm glass mosaics with a high end state of the art LED technology," said Bordan. "The lights are driven by the user experience or desire to have a specific lighting mood; they're not just buying a product, they're buying emotions.

"We're targeting high end property developers and designers involved in the luxury hotel segment, and the feedback we've received at Light Middle East has been very positive. Every second visitor at our stand has asked for specific information, and many have already come back with various projects that they'd like to use the volaTiles for."

Elsewhere, Light Middle East 2015 was the scene of new partnerships, as manufacturers and distributors combine to expand their business interests in a Gulf lighting systems market that is estimated to be worth US$3.5 billion by 2020.

Yaming, which has been manufacturing luminaires since 1923, recently set up its Middle East, Africa, and CIS headquarters in Dubai earlier this year, and was a debut exhibitor at Light Middle East 2015.

Eager to hit the ground running starting with the UAE market, Yaming announced during Light Middle East the appointment of Khaled Al Hamed Group as its sole distributor in Abu Dhabi and Al Ain.

Zhuang Shenan, Chairman of Yaming worldwide, said: "Our commitment is to support this initiative in making it a successful business agreement and introduce Yaming to Abu Dhabi and Al Ain. We are, at the moment, involved in several large projects that have been referred to us by Khalid Al Hamed Group and soon more will be announced."

Aside from putting a global spotlight on the latest innovations, intuitive technologies, captivating lighting designs, new business partnerships, and a glittering awards ceremony, Light Middle East 2015 also featured the highly popular Light Middle East Conference.

The two-day summit hosted 24 international lighting experts and designers analysing the changing trends and dynamics of lighting design and their impact on architecture and urban environments.

Kevin Grant, Director of design firm Light Alliance UK, spoke about how sustainable lighting technologies are shaping architectural design: "There is a growing demand for our buildings and spaces to be more efficient, more effective," said Grant. "This has influenced an evolution in tools and technologies that allow us to shape and influence architecture.

"3D printing has made it much easier, quicker and more cost effective to create optics and prototypes, meaning that bespoke designs can be tailored to suit a particular space or application or more easily integrated within the architectural design."

Added Grant: "The Middle East is certainly taking sustainability seriously now. Most of the countries throughout the region have now set out positive visions to manage the impact and performance of their buildings and spaces, and they are actively promoting the development and implementation of more sustainable design practices and technologies."

The 11th edition of Light Middle East will return in November 2016. More information is available at **www.lightme.net**.

show review

Hong Kong International Lighting Fair (Autumn Edition)

27th – 30th October 2015
Hong Kong Convention and Exhibition Centre, Hong Kong

World of Outdoor Lighting & Lighting Accessories

28th – 31st October 2015
AsiaWorld-Expo, Hong Kong

The Hong Kong International Lighting Fair (Autumn Edition), Eco Expo Asia, Hong Kong International Building and Hardware Fair and World of Outdoor Lighting & Lighting Accessories (WOLLA) came to their successful conclusions at the end of November 2015. Together, these events attracted more than 73,000 buyers from around the world, creating a vibrant atmosphere for business discussion and networking.

For the fairs as a whole, double-digit percentage growth in buyer numbers was recorded in developed markets such as the United States, the United Kingdom and France. Buyers from emerging markets were also very active: double-digit percentage growth in buyer numbers was also recorded for India, the United Arab Emirates as well as ASEAN countries including Thailand, Malaysia and the Philippines.

World's largest lighting marketplace

The Autumn Lighting Fair has long been a major event for the global lighting industry. To build a more effective international sourcing platform and give the fair more

room for development, the WOLLA was organised by the HKTDC for the first time at AsiaWorld-Expo this year. The two events welcomed a total of 2,727 exhibitors from 35 countries and regions, forming the world's largest lighting marketplace. WOLLA was held from 28 to 31 October concurrently with the Hong Kong International Building and Hardware Fair and Eco Expo Asia at the AsiaWorld-Expo so as to provide buyers with a one-stop sourcing platform. HKTDC Deputy Executive Director Benjamin Chau said: "The lighting industry and the building material and hardware industry are closely related to each other as lighting is a key element in building design. Buyers such as real estate developers, contractors, engineering companies and construction companies can now look for related lighting solutions when they are sourcing building materials and hardware products and services. So the fairs create synergies and more cross-sector business opportunities for the industries involved."

Dipal Madlani, Manager of Madlani Associates of India visited both the Autumn Lighting Fair and WOLLA and said the two fairs together offered him a wider range of products to choose from. New World Dynamics, a Hong Kong company that offers one-stop lighting solutions, hoped to boost its brand recognition through participating in WOLLA. Brad Au, Controller - Special Projects, said that the running of the three fairs concurrently at the AsiaWorld-Expo allowed exhibitors to connect with more potential buyers and created a good atmosphere for business discussions.

Lori Zhang, sales representative of WoQinFeng (Hong Kong) Industrial, an outdoor lighting manufacturer, noted, "The concurrent staging of WOLLA and the International Building and Hardware Fair allows us to meet customers from different sectors. On the first day of the fairs, we received buyers from Switzerland, New Zealand and India. Our existing clients have also visited us to see our new products and told us that they will do their sourcing in the Autumn Lighting Fair as well in WOLLA."

Jörg Fey, Founder of Jörg Fey Industrieanlagenmontage from Germany said: "When it comes to sourcing, streetlights always top

our priority list. The European governments plan to replace traditional streetlights with LED models and that would boost the demand of energy-saving outdoor lighting. Three events concurrently held at the AsiaWorld-Expo share the same theme of energy-saving and environmental protection. Strolling through the fairground gives me new ideas and inspiration."

Smart products in demand

During the fair period, an independent research agency was commissioned to interview 645 exhibitors and buyers of the Autumn Lighting Fair and WOLLA to understand their views on product trends and market prospects. With the rapid advance of technology, all types of products are becoming more "intelligent", so much so that smart city/smart homes have become a major focus of future technological development. More than 80 per cent of survey respondents were convinced that such a technology development trend would benefit the lighting industry in the next two years. In particular, they believed that "household lighting systems that are compatible with or can be controlled by smart phone/tablet application" and "smart lighting systems primarily with energy-saving purpose for household/ industrial/ commercial purposes" would have the most potential.

Amid keen competition in the market, a new generation of lighting products is capitalising on the trend towards smart homes and intelligent offices to seek market breakthroughs. For this reason, the "Smart Lighting & Solutions Zone" was one of the highlights of the Autumn Lighting Fair.

Neonlite Electronic & Lighting (Hong Kong) (Megaman), a long-time exhibitor of the fair, this year showcased its latest LED innovations including the INGENIUM® BLU series that employs Bluetooth 4.1 technology and the INGENIUM® ZB series that adopts ZigBee technology. Since both series are capable of controlling light intensity through smart phone apps, they have caught the attention of buyers. Matthew Chu, General Manager of Neonlite, pointed out that smart lighting will bring immense changes to the lighting industry and, as intelligent lighting products constitute only about two per cent of the global market, there will be lots of opportunities to be tapped. "This year, visitor traffic has been heavy and we have already met with more than 200 buyers from all over the world on the first day of the fair.

We have also identified potential distributors from Argentina, Mexico, the Middle East and Russia."

Hi-tech green products in Eco Expo Asia gain popularity

High technology solutions are applied, not just in lighting systems but also in environmental protection. At Eco Expo Asia, a host of hi-tech environmental protection products were showcased, including the "iTrash Smart City Garbage and Recycling Integration System" from the Taiwanese company Hao-Yang Environment Science Limited. The system was well received by buyers for its e-money function: the garbage collection system has a weighing mechanism that can charge fees according to the quantity of garbage collected. On the other hand, the resource recycling machine can process rebates for plastic bottles and aluminium cans recycled. Jewel Liu, Vice General Manager of Hao-Yang, said, "The system is a breakthrough in garbage collection. We have met customers from Mexico, Russia, Hong Kong and the Chinese mainland, including cleaning and recycling service providers. The visitors are professional market insiders who come to us with serious and useful inquiries, among them are government officials from Hong Kong and Singapore who have shown great interest in us."

The Autumn Lighting Fair, WOLLA and the Hong Kong International Building and Hardware Fair were organised by the HKTDC. The events welcomed more than 38,000, over 11,000 and close to 12,000 buyers respectively. Eco Expo Asia was jointly organised by the HKTDC with Messe Frankfurt (Hong Kong) Limited and welcomed more than 12,000 buyers. The Autumn Lighting Fair was held from 27 to 30 October at the Hong Kong Convention and Exhibition Centre, while the other events were held from 28 to 31 October at the AsiaWorld-Expo. These fairs provide a one-stop sourcing platform, which creates synergies and more cross-sector business opportunities for the industries involved.

For more information on the Hong Kong International Lighting Fair (Autumn Edition) and the World of Outdoor Lighting & Lighting Accessories, please visit the following fair websites:
Hong Kong International Lighting Fair (Autumn Edition): **www.hktdc.com/hklightingfairae/tc**
World of Outdoor Lighting & Lighting Accessories: **www.hktdc.com/fair/woolla-tc/**

FACE 2 FACE

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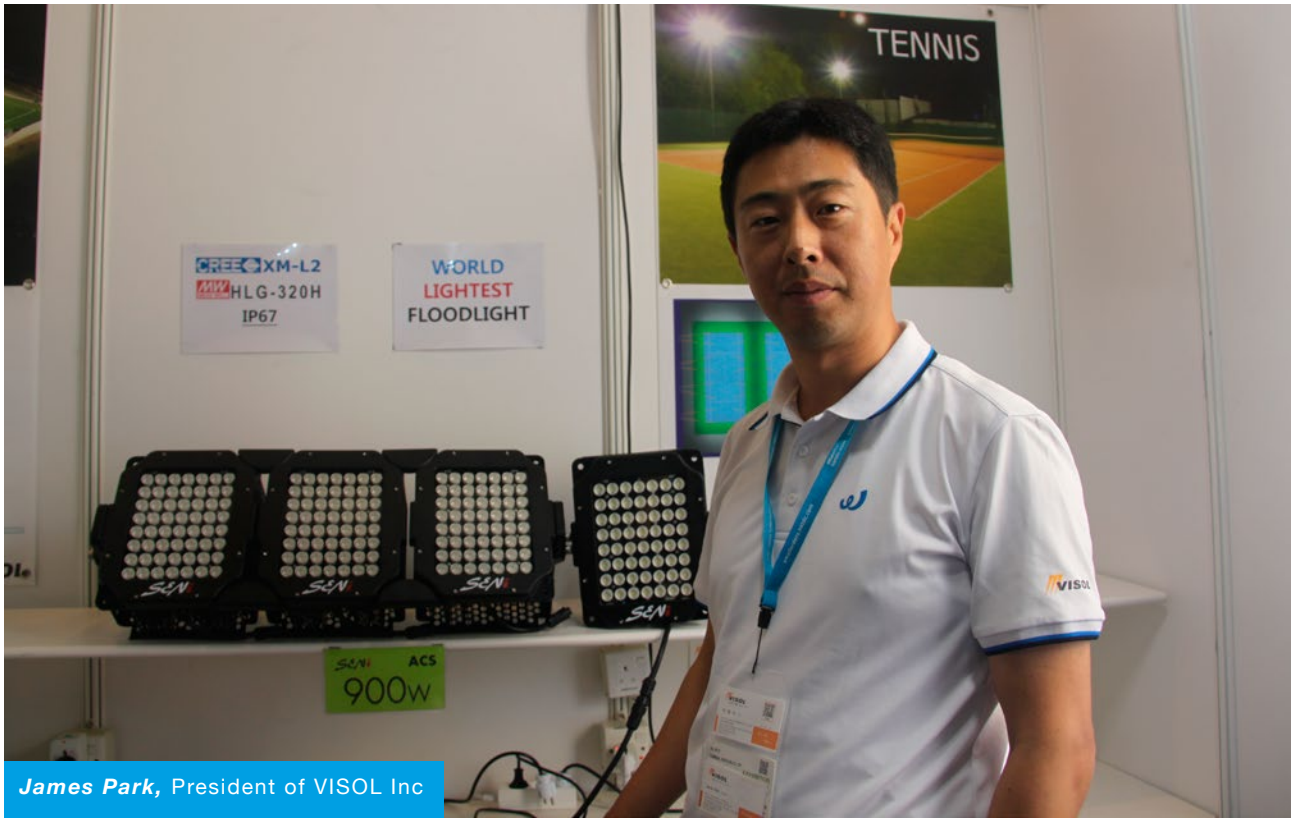
Steve Katsaros, Founder of NOKERO International

Tae-Hyung Cho, CEO of LIKO Lighting Co., Ltd

Kevin Lee, Overseas Sales Manager of Foshan Kosoon Lighting & Electric Co., Ltd

S. H. Cho, General Manager of Vossloh Schwabe (Asia) and Setsuo (Steve) Mizusawa, CEO of Panasonic Lighting Europe GmbH



James Park, President of VISOL Inc

show review

PEA presents
EcoLightTech Asia 2015

19th – 21st November 2015
Queen Sirikit National Convention Centre
Bangkok, Thailand

Photo Credits: EcoLightTech Asia 2015

"PEA presents EcoLightTech Asia", "Solar-Tech", and "C-Tech 2015", featuring state-of-the-art lighting technologies, cooling systems and solar energy systems from operators in the energy-saving industry around the world successfully finished its 3rd edition in Thailand from 19 to 21 November 2015 at the Queen Sirikit National Convention Center, Bangkok.

Ms. Bussaya Prakobthong, General Manager of N.C.C. Exhibition Organizer Company limited (NEO) as the main organizer, revealed that this year, the show comprised all innovations, products, commodities, services and knowledge in energy saving for local and international entrepreneurs and created a total trade value of more than 1,000 million baht.

During its three-day run, the tradeshow has gained tremendous success of 15.8% growth compared to the 2014 edition, with 124 exhibitors from 7 countries coveing 3,000 square meters of the Queen Sirikit National Convention Center in Bangkok, Thailand. This year's edition of the exhibition was saw an absolutely record breaking figure of more than 7,000 visitors from 10 countries all over the world. Over 1,000 visitors attended the conference which was held during the exhibition.

Additionally, the special highlights of the year

Mr. Sermsakul Klaikaew (2nd from right), the Governor of PEA presided the opening ceremony for the "PEA presents EcoLightTech Asia", the "Solar-Tech" and the "C-Tech 2015" together with Ms. Bussaya Prakobthong (1st from right), General Manager of N.C.C. Exhibition Organizer Company limited; Ms. Jaruwan Suwannasat (1st from left), Director of Exhibitions and Events, Thailand Incentive and Convention Association and Dr. Dusit Kruangam (2nd from left), President of the Thai Photovoltaic Industries Association.

included full-scale technologies from exhibitors in lighting, cooling system and solar power industries, more than 10 international and national energy-saving workshops and a conference; and a free energy-saving advice clinic. The great feedback from the 3rd edition is able to perfectly satisfy the needs of smart entrepreneurs and has reinforced the position of Thailand as the ASIA Expo of Energy Saving technologies and innovations.

The company is proud to announce a new concept of "PEA presents EcoLightTech Asia – SolarTech – C-Tech 2016" and how they are "leading the way to energy saving across the nation in 2016".

See you again in next year at "PEA presents EcoLightTech Asia – SolarTech – C-Tech 2016", together with the larger energy saving international trade shows in Asia. For more information, please visit **www.ecolight-tech.com**, **www.solartech-asia.com** and **www.chillertech-asia.com** or call +662 203-4261-62.

Inspirations & Lighting Design

Contributed by **Yah Li Toh, Principal of Light Collab (Singapore)**

> *Being a lighting designer, one also needs to be able to draw inspirations and be constantly inspired, so that one can translate such experiences into design.*

Creative energy from students in a source of inspiration

Working with students is a great way to be inspired and to rethink ideas and concepts. Students come with zero inhibitions and by having the freedom to explore, they have the energy to do anything they want. They are always excited about using new ways and new effects to see what lighting can be and can bring. Conducting lighting workshops for students bring interesting results and discovery, especially the way students who come from different backgrounds discover light differently. What amazes them about lighting is sometimes quite different from what amazes professional lighting designers, and thus, it is important to see light in various angles and from different viewpoints.

Christchurch New Zealand
March 2015

Lighting installation by students pursuing a Creative Lighting module at Nanyang Academy of Fine Arts

Every object is an inspiration – no matter how basic or small

Going back to basics such as the use of common everyday materials could be an interesting form of inspiration. Even tic-tac boxes, matchboxes and even plastic bags can be used to see how various things react with light due to their different uses or relationships with the basic elements. For example, air-filled plastic bags turn out to be more translucent, because emptiness is in fact more opaque than we think. During the recent IALD South East Asia event "In Light of Shadows" held in August last year, we were able to tell audience about "The Legend of Red Hill" using older technology such as overhead projector transparencies, coloured filters and props. An installation called "Shadows of Our City" was created through the use of tic-tac boxes, matchboxes and country erasers – by stacking and arranging these basic objects and exploring projection distances, we managed to create interesting shadows or familiar scenes of Singapore such as our housing skyline, the cable cars, as well as the iconic Merlion. These installations also required visitors to get involved by getting in contact with the materials and torches to dictate their own outcomes.

At the CHASE THE DARK 2015 event by IALD, sponsored by ACDC on 1 October 2015, the various local communities across 30 cities came together to create mini installations using torch lights on mobile phones. In Singapore, we also had students, architects, lighting designers and members of the industry participating in the event for two hours through the creation of their very own mini installations. It was a great gathering and installations were created in groups or by individuals. The hands-on exploration inspired various installations and even short animations of light. Check out #ialdchasedark for videos and photos!

Inspiration requires moving and unlearning

Like many designers, travelling around the world to see different lighting cultures and cities is one of the ways to gain inspirations. My recent trip to Barcelona gave me an opportunity to visit Sagrada Familia after a span of 10 years. It was really beautiful during the summer, where the summer sun rays filtered through the stained glass windows in the cathedral. Travelling south of Spain to Granada, it was interesting to see how reflective the white Sacromonte Caves are in the daytime and how they mysteriously transform into warmly lit tablaos and taverns at night, with the accompaniment of guitarists and flamenco dancers. Seeing how daylight filters and interacts with the magnificent Alhambra was also an unforgettable experience.

A visit to Kyoto during the cherry blossom period was also an unforgettable experience. I had the opportunity to be in Kyoto for a few days two years back and explored at least over 12 temples. It was really lovely when parks, temples and their

Sagrada Familia, Barcelona
June 2015

Pathway lighting during at Nijo Castle during the Cherry Blossom Kyoto, April 2013

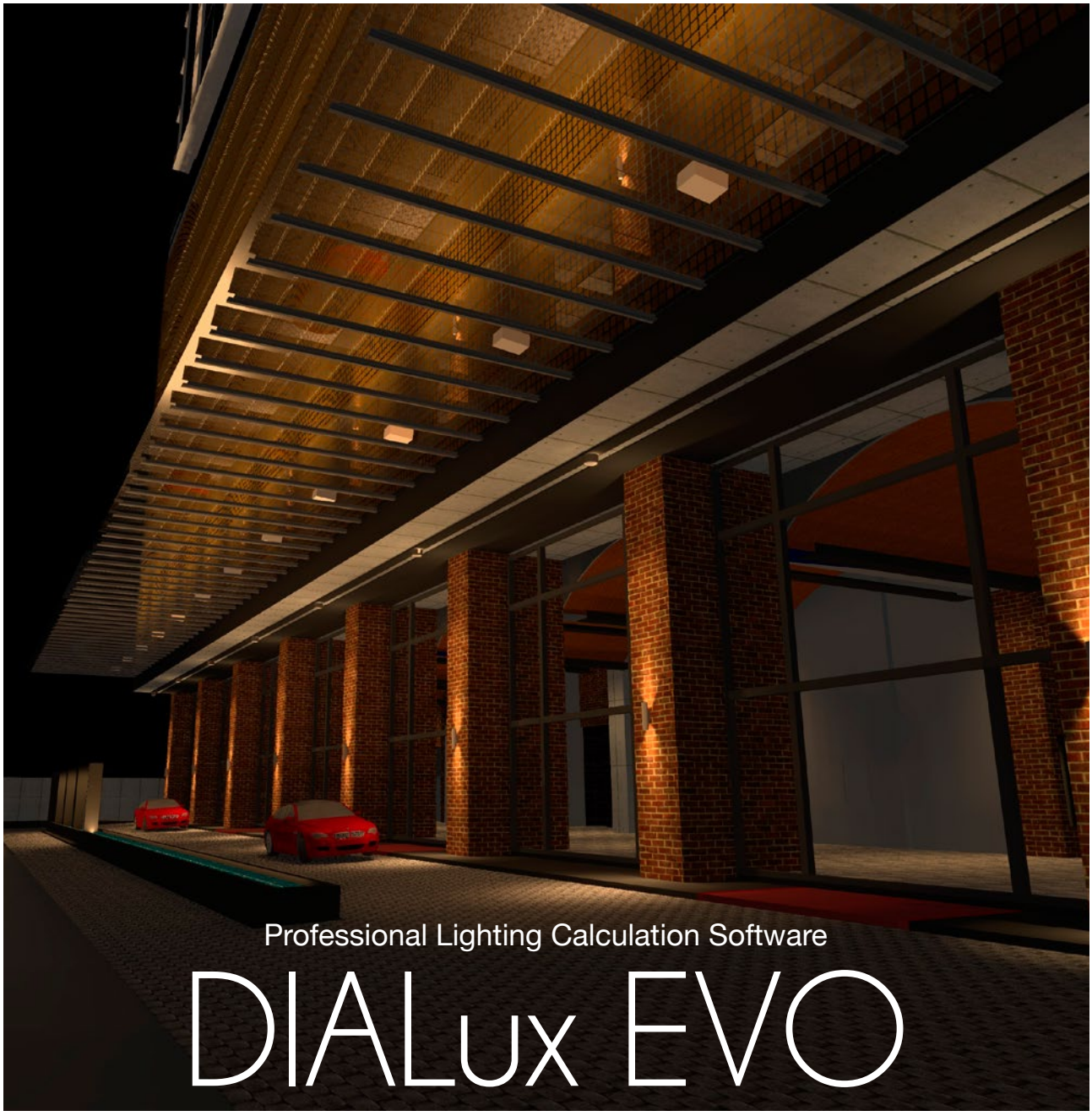
gardens were transformed magically into a fantastic nightscape, while meandering through the cherry trees and beautiful temples. Stopping by and having tea at some of the some teahouses also gave moments of reflection.

Being a Singaporean who comes from a high-density city living where we have a lighting masterplan, where many parts of the city are lit by professional lighting designers, everything is very convenient and automated. Thus, I feel that travelling to places with no light (such as self-drive trips around the world) is also very important for finding inspiration and ideas. A recent self-drive trip to New Zealand's Te Anau and Lake Tekapo in March 2015 was amazing. Lake Tekapo is part of a UNESCO Dark Sky Reserve and it was truly an experience to drive around at night up unto Mt. John with absolutely no illumination. Just simply turn off the car engine and absorb the sound of the wind and enjoy the darkness, peacefulness and the stars! It really re-calibrates my own sensitivity to light and reminds me of how little light we can survive with, how much energy we are using and how we should never take things for granted and not simply give in to demands of misinterpreted lighting codes and clients that we need more light.

Seeing, absorbing, exploring and having fun continues to be very important influences and inspiration.

About Yah Li Toh

Yah Li Toh, CLD, IALD is the Principal of Light Collab, a lighting design studio based in Singapore, with offices in Japan and Indonesia. She graduated from architectural school of National University of Singapore and pursued Masters in Architectural Lighting Design in Hochschule Wismar, Germany. With Light Collab, she worked on various notable award-winning international projects such as monuments, commercial buildings,hotels and residence in Japan, Bangladesh, India, Indonesia, Myanmar, Malaysia, China and other parts of Asia. She is one of the first 5 to be recognized with the Certified Lighting Designer (CLD) Certification. She is a professional member of International Association of Lighting Designers (IALD) and is also the Southeast Asia regional coordinator for IALD. She also speaks about lighting, is an educator and engages in facilitating workshops for design and lighting at tertiary institutions.



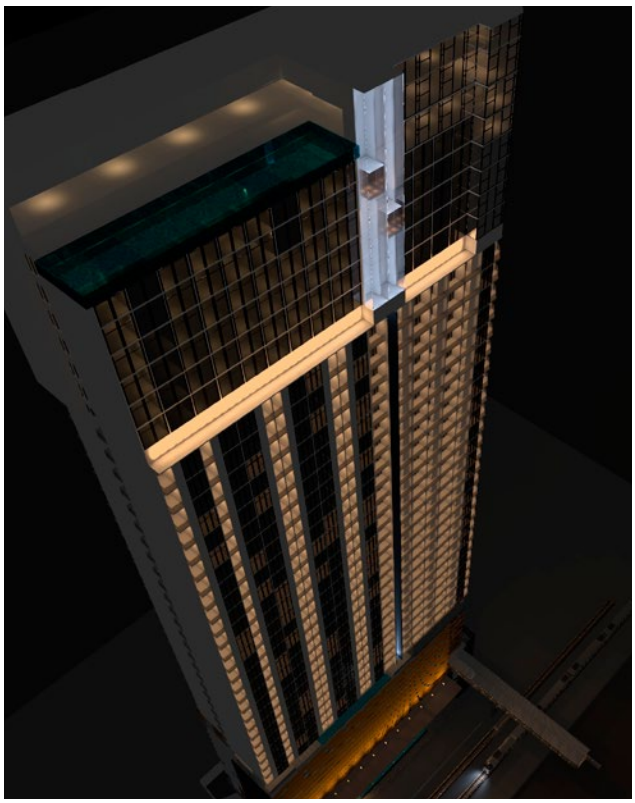
Professional Lighting Calculation Software

DIALux EVO

By Chris Teo, Certified DIALux Trainer from Lux Consultancy Singapore Pte Ltd
www.luxconsultancysg.com

Lux Consultancy Singapore Pte Ltd has established since 2012 and was created to provide lighting solutions on design and efficiency in the field of lighting. With the experience of its Director, Chris Teo, who has been in the lighting industry since 1995, the company has set itself out to do more than just conventional lighting. Today, the company has also established itself in the field of energy monitoring with its lighting control systems.

The company did not stop there just as a consultancy - in 2013, shortly after set up, Chris also established himself with the company as an education center for the software Dialux. He has seen in person that no formal training has been available in this field locally, as even when he wanted to learn about the software to understand lighting better, he only could pick it up using trial and error. With that in mind, he joined the trainer's network with Dial (Germany) to become a trainer. Since then, he has conducted many corporate and individual classes. Since the launch of Dialux Evo which replaces the conventional version of Dialux, Chris has been in the pioneer batch of Certified Trainers within the network. He is working towards being an educator in lighting and is not afraid of sharing what he knows and finding out what he doesn't.



Professional lighting calculation softwares have become more important to the international market due to the emphasis on the awareness of energy conservation. In today's market, it is not about how bright a place can be, but rather how we use the correct brightness of lights at the right position or location. Since we discovered how fire brings up light and warmth in the darkness, we have evolved to knowing how lights can be controlled. For instance, the fire of a torch enables us to point the light produced by the fire in the direction or location we want to illuminate.

Imagine in today's context, if we would want to have the correct light levels at the right places without the assistance of a lighting calculation software, we would have to physically do mock ups one after the other with different fixtures and beaming angles. This would take forever to produce the right solutions.

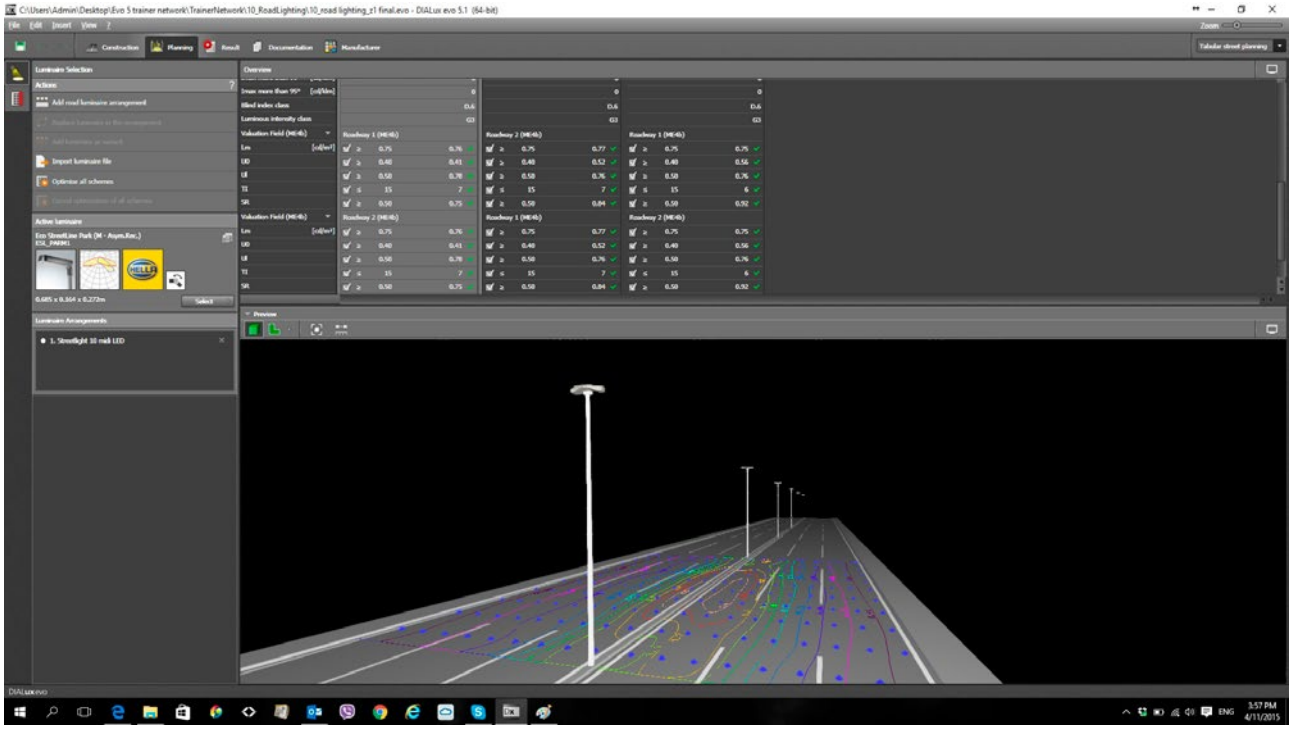
If you were trying to illuminate a small interior room, that might work; but imagine having to do physical mock ups for a street lighting project, whereby we would need to consider the different mounting positions, pole distances, boom lengths and angles – how much time would you require and how many mock ups will you need? Can you afford the road being closed for long periods just for this matter? Also, not forgetting what type of lamps you would require?

With the assistance of a professional lighting calculation software like Dialux Evo, all these can be achieved within the digital world in minutes and the software will be able to tell you all the parameters of the position of the street lamps that can meet the specific requirements of the relevant bodies. By all means, the best course the best of action would be to do physical mock ups with the selected parameters to ensure it is correct, but it requires a lot of man hours to do so.

Dialux Evo has been widely accepted and used constantly as a standard tool in pre-determining the design to meet green marks and green projects.

Designing today's lighting that is efficient also takes into consideration daylight and how we can incorporate daylight hours to further reduce the use of artificial lights. To further enhance the use of Dialux Evo, the lighting control system can be set up to feature the scene selection or settings to further enhance the place and calculations can be done via the software to further identify the need to reduce energy costs. Dialux Evo can also let the client understand the estimated cost of energy to be used for the lights annually with and without automation.

With the abilities of Dialux Evo, one is able to calculate exterior and interior lights at one go, and these will enable designers to present their findings that is not only dependant on the interior lights only but also with the exterior lights that affect the interior and also to judge how much interior lighting is required.



Light & Sound Interactive Installation

AURORA

Lima , Peru

Lighting & Interactive Concept Design: **Claudia Paz Lighting Studio**
Art Direction: **Claudia Paz**
System & Structure Design: **Cesar Castro**
Interactive System : **Cinimod Studio**
Lighting Supplier: **Astera**
Contractor & Installer: **MAS Contratistas Generales**
Production: **ARQUILEDS**
Client: **Coorporacion EW**

Introduction

AURORA art piece was created previosly as a temporary installation, exhibit in Expodeco 2014 for 5 days and in The Museum of Contemporary Art in Lima for 45 days, then was redesign as a permanent installation for Plaza Norte Shopping Mall in Lima, Peru.

The client was looking for something more to offered to the visitors that came to his shopping mall, something that provide the visitors other kind of experience, where everybody can express freely.

Aurora is an interactive installation created for the visitors to explore the magic of the light and sound with the movement of their bodies and hands.

Inspiration & Concept

We feel inspired by light and we want to inspired other people thru light. People often feel attracted to light, and our concept captures this basic essence combined with the natural flow of the movement of the body to create this installation.

From a central position, the person can see a sequence of spiral columns that wraps and moves around him/her. In this installation, visitors are taken into a delightful world of sounds and colored lights.

Is an experience that blurs the common distance between action and reaction, between user and space. Through light and sound the user is able to generate their own interactive

experience by sensing and responding to an environment that surrounds them. incredible responsiveness that captures the participants by surprise, the installation is playful development of physically interactive concepts previously explored in DJ Light Installation, the interactive Aquarium, develop by our studio.

Experience

A spiraling array of linear lights gently encompasses the participant, immersing them in an audio visual landscape in which even the slightest movement generates ripples of colour and sound across the space. With each gesture the patterns of colour evolve and move, and the generative audio system responds accordingly with a dynamic soundtrack to the user's experience. The installation seemingly switches between high energy states and calmer zen-like states in response to the degree of movement and participation of the user.

The installation switch between 10 scenarios, everytime one person approach to the center of the installation the scenario switch to a new one.

The experience always begin with a white light that blurs your eyes and transport you to the new scene.

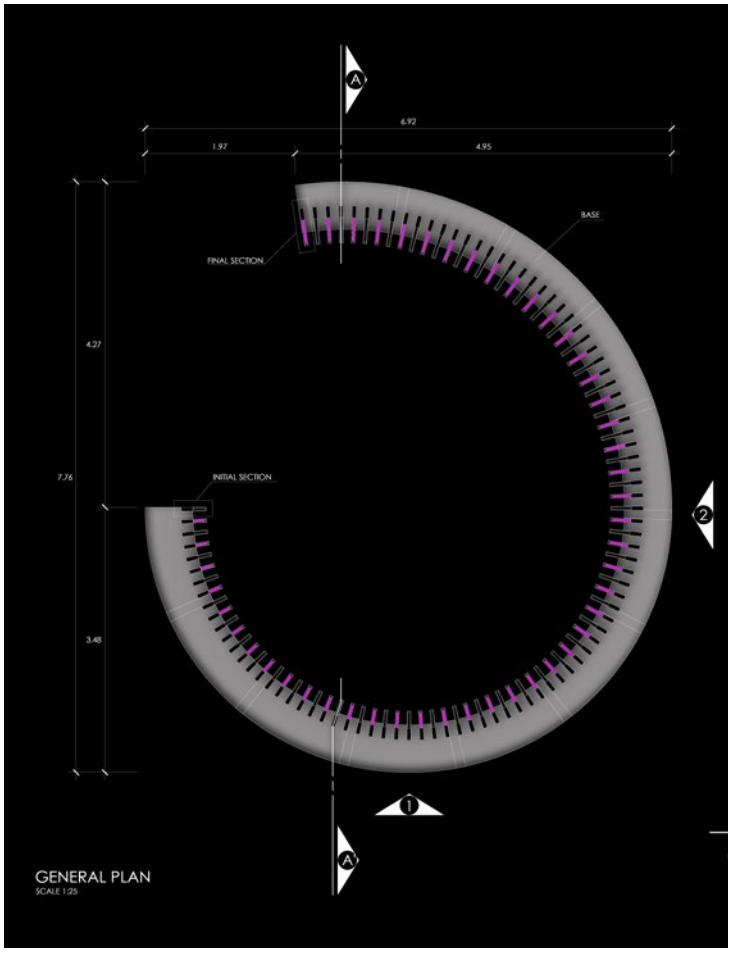
There are two versions of the aurora scene, the first one appear in shades of blue and pink lights that moves across while you move your hands follow with the sound of the wind, the second one are in shades of blue and green with that is combined with a soft sound of flutes

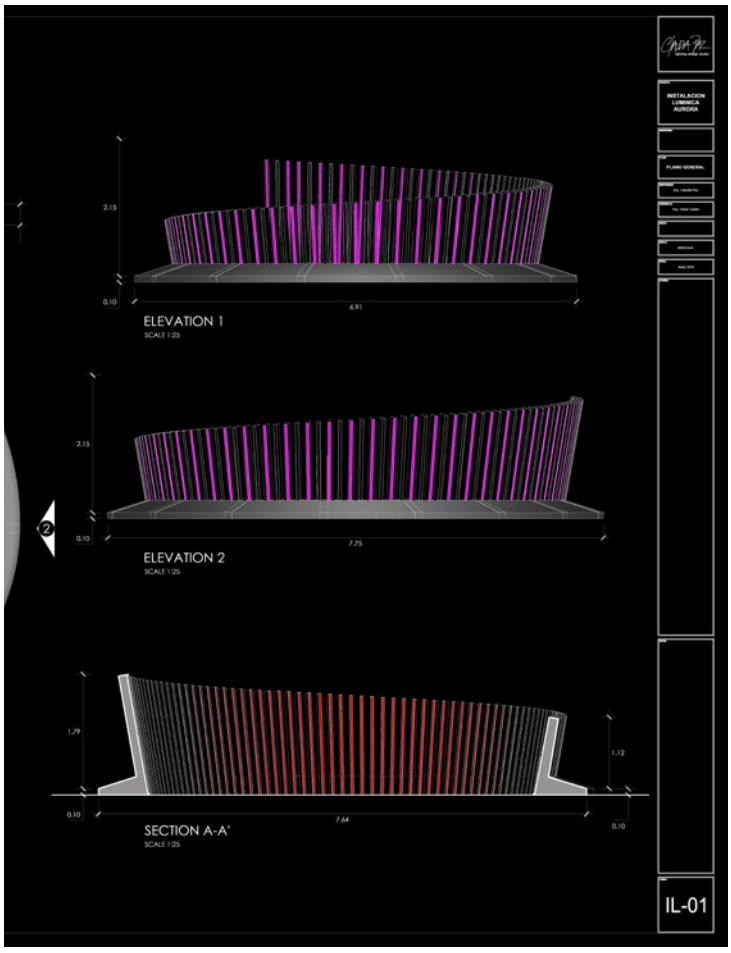
Rain, give the visitors the idea of enter in a room full of rain, were the intermittent white light give the appearance that they are moving the rain aside.

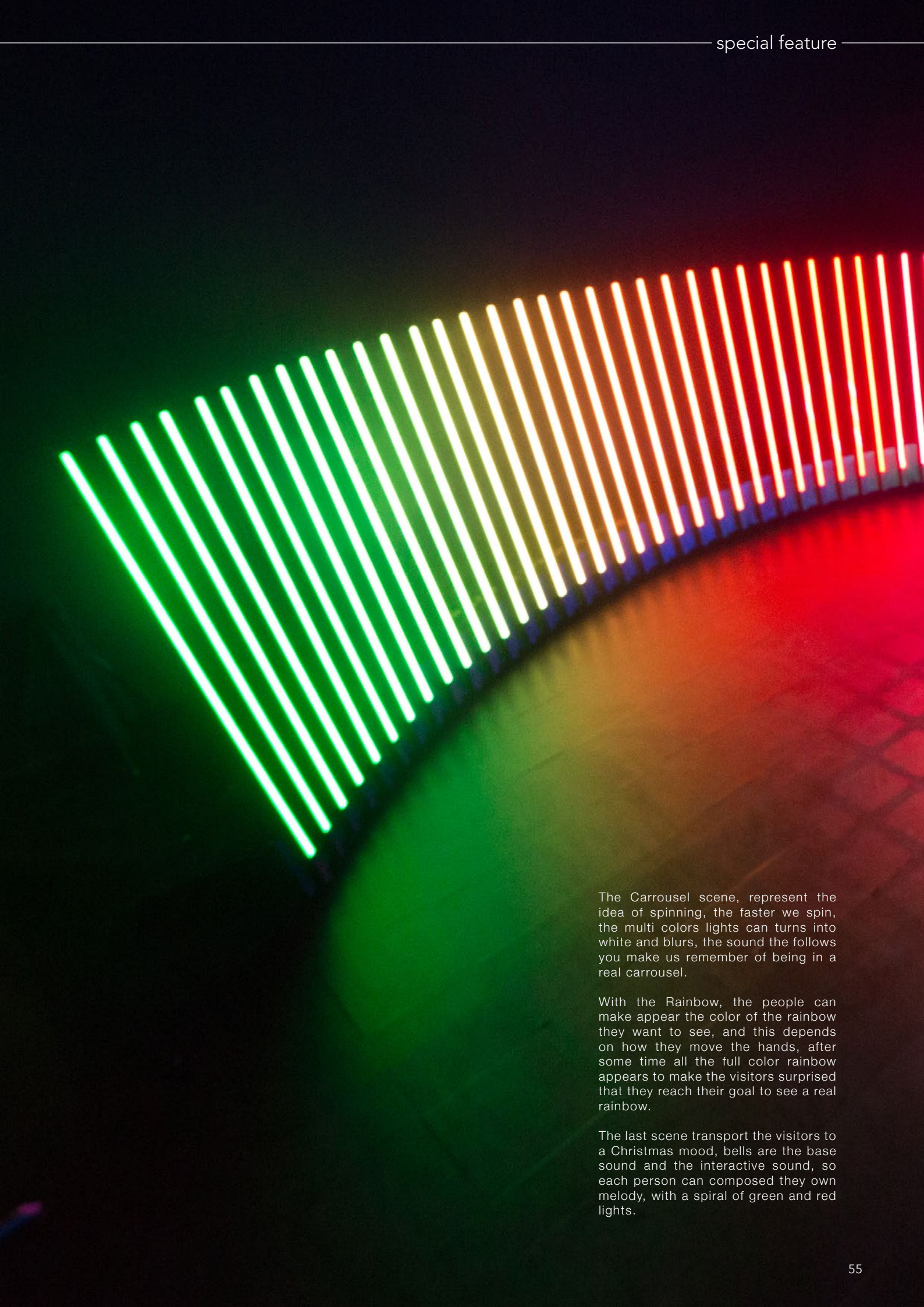
On the wave, make the visitors feel the sensation that they are creating waves, with the sound of the sea that add a surrounding experience.

Starlight is an immersive scene, were the visitor can experience the sound of shooting stars, where the speed of the movement of the person will cause a reaction on the speed of the sound and lights.

Other scenes were created based in allowing the people to composed melodies thru a common Piano, that is represented in the installation thru different colors for each note, or composed a different kind of melody by popping Bubbles, represented with pastels colors by each light.



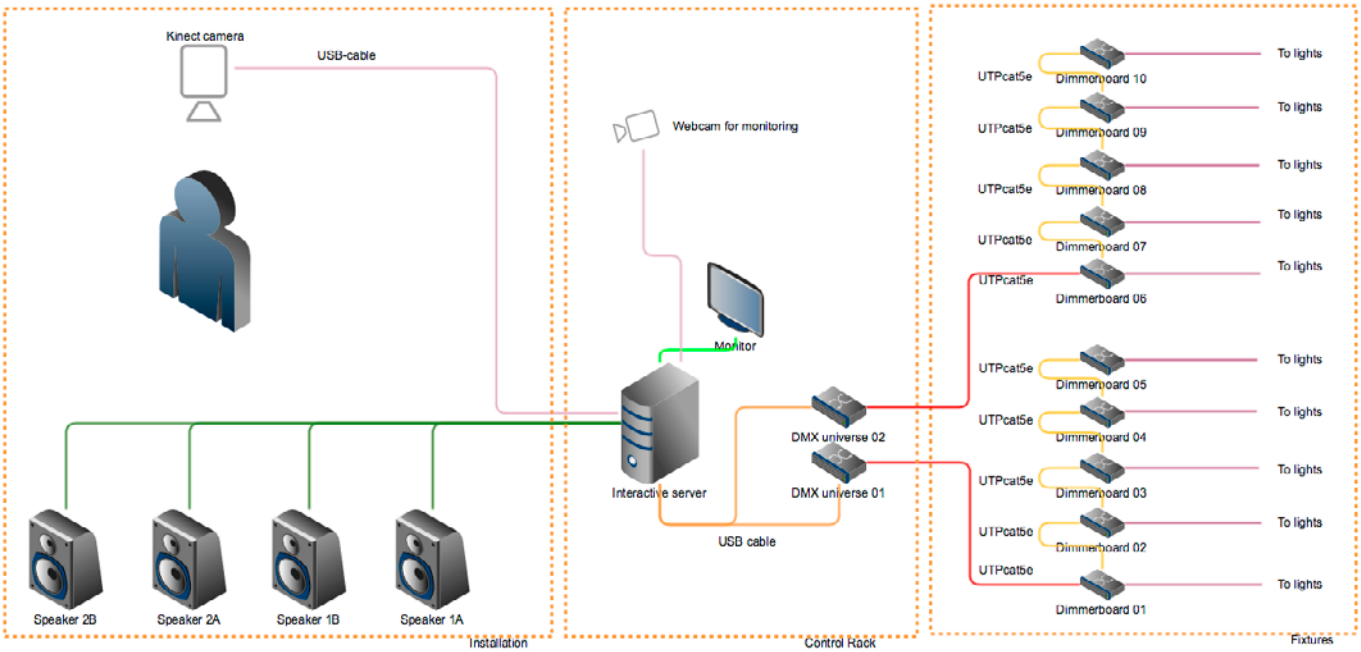




The Carrousel scene, represent the idea of spinning, the faster we spin, the multi colors lights can turns into white and blurs, the sound the follows you make us remember of being in a real carrousel.

With the Rainbow, the people can make appear the color of the rainbow they want to see, and this depends on how they move the hands, after some time all the full color rainbow appears to make the visitors surprised that they reach their goal to see a real rainbow.

The last scene transport the visitors to a Christmas mood, bells are the base sound and the interactive sound, so each person can composed they own melody, with a spiral of green and red lights.



Project Arrangement & Control System

The Interactive system consist in one Kinect camera located in the center on top of the installation, hidden by a spotlight that will light up the person that will experience the installation. The camera will track the user's movements and this information is received by a specially designed software that transforms this motion into light effects.

The Interactive server is located outside the main structure and processes all data coming from the camera and is sent to the luminaires, precisely synchronized lighting effects with body movements, with a response time almost imperceptible.

The Interactive software, has been specially designed in VVVV toolkit, mixing sound and light effects in its program to create an immersive experience for users. This software has a built-in scheduler that triggers all the 10 stages and makes it easy to schedule special events or something simple as turning on and off the installation.

Within the structure, 10 dimmer boards with 48 channels each, controlled all the 96 RGBW luminaires installed in different lengths. There are two types of lights; half of them have two sides, with strips of RGBW 40W/m in the front, looking at users, and strips with 20w/m on the back, for ambient light. The other half of the installation has only one side with 40w m looking at the center of the installation. The power supply and dimmer boards, are located at the base of the structure. Two (02) DMX universes control all the fixtures and colors of the installation.

A web camera constantly monitors the VNC server installation and makes maintenance easier, change in schedule or troubleshooting, if necessary.

Structure Design

Aurora was planned as a touring installation for Plaza Norte Shopping Mall. The owners wanted an installation that can be moved to almost every part of the mall, with the idea of heating new zones, bringing the audience to these areas to play.

With this in mind, the structure was designed as a modular system that can be assembled and disassembled easily and just spend a few minutes in the calibration of the system.

For this feature the LED inside the structure was specified as IP67 and bright enough to be seen during the day. The base of the structure has all the power supplies, dimmer boards, electrical and data wiring, and can be accessed by simply removing the covers.


HYUNDAI
SUNTEC CITY

SUNTEC CITY

Convention Centre & Shopping Mall

Singapore

Architect and Design Leader: *Aedas*
Interior Designer for MICE: *Space Matrix*
Interior Designer for Retail: *Aedas*
Landscape Designer: *Aecom*
Lighting Designer: *Bo Steiber Lighting Design*
M&E Consultant: *Aecom*
Water Feature Specialist for Fountain of Wealth: *Oase*
Photogaphs: *Bo Steiber Lighting Design / Suntec Singapore / LINYIHAN for "Fountain of Wealth"*

Suntec Singapore - a renowned institution in Meetings Incentives Convention & Exhibition (MICE) and retail industries – recently revitalised its brand by embarking on a 5-year redevelopment of its property starting in 2010. Having gone through a series of partial openings in the last couple of years, Suntec finally completed the last phase of the renovations in October and fully opened its doors once again - revealing more than 200,000 square meters of ultra-modern MICE facilities and fresher up-to-date retail premises.

Along with major revamp in architecture and interior design with Aedas Singapore as lead designer, lighting design was an integral part in breathing new life to Suntec development. Bo Steiber Lighting Design, BSLD - an international lighting design consultancy based in Singapore - was commissioned to undertake the overall lighting design for the US$290million redevelopment project.

Façade and External Lighting

Suntec's building façades and external spaces underwent a dose of facelifts starting off with the acclaimed cube-like structure – shelter to Suntec Singapore Convention and Exhibition Centre – all the way to the familiar roundabout plaza – foreground to the company's retail arm, Suntec City, and address to the world's largest fountain, Fountain of Wealth.

To inject a formidable nighttime presence to the convention centre, the lighting designers focused on common façade elements – the existing roof and the new vertical glass fins – to form a 'solid' coordinated lighting scheme through the varied façade planes. The roof sails were dramatically uplit with 'wash' projectors and the roof pediments accentuated with continuous linear uplights maximizing the overall roof lighting effect. Continuous vertical covelights were integrated into the 9-meter glass fins creating a rather striking and consistent nighttime feature across the façades.

The convention centre's western façade called for a much-needed lighting intervention to camouflage the unsightly views seeping through the perforated wall panels at night - generated by the multi-level loading bays and staging areas located directly behind the facade. This presented a good opportunity to introduce an array of LED nodes - capable of animated effects and low-resolution media displays - onto the perforated walls to effectively disguise the back-of-house views.

Once a lacklustre outdoor space, Suntec's expansive roundabout plaza went through a major lighting design revamp to give it a livelier and more coordinated visual impact.

At the heart of the plaza, Fountain of Wealth was upgraded with synchronised water&light shows and served as the

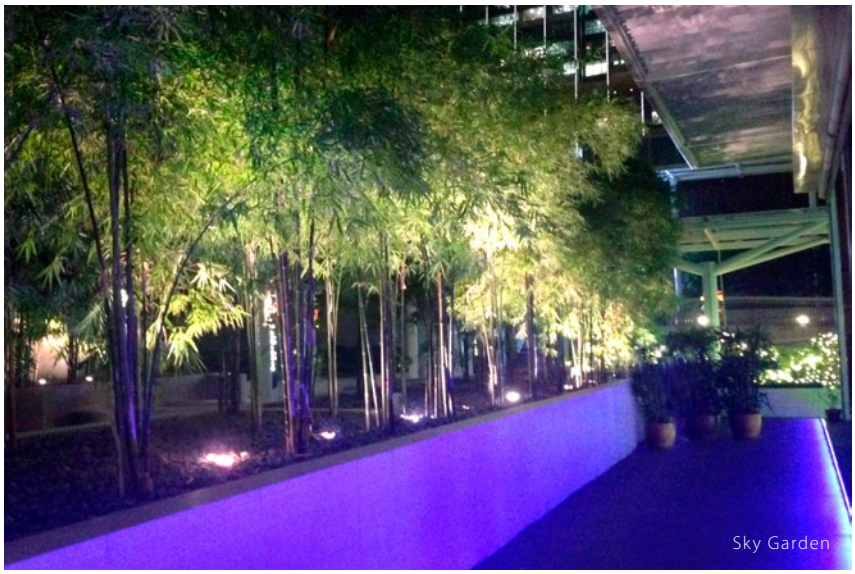
Fountain of Wealth
Photo by: LIN YIHAN

focal point of the nighttime scenario. Overlooking the grand water feature, the Fountain Terrace at Level 1 was rendered with a complementary yet unobtrusive ambiance focusing on 'wash' lighting of key surfaces such as railings, seating and foliage.

On the other side of the roundabout, the old nondescript street light poles were replaced with signature pieces adding a touch of exclusivity to the streets. The grand canopy fronting the new multi-level shopfronts was made even more impressive with dynamic uplights integrated into its column details. New trendy F&B outlets abutting the retail entrance promenades injected their own interesting variations and added to the overall nighttime appeal.

Suntec's retail development also saw the addition of the new Sky Garden, an intimate outdoor F&B destination occupying the retail roof deck and directly accessible from the roundabout plaza via a pair of 3-storey-span outdoor escalators. Housing a collection of hip restaurants and bars amidst the landscaped environment, Sky Garden was designed to project an elegant lighting ambience prioritising the enhancement of the natural settings and the appreciation of surrounding views.

Suntec's façade and external lighting installation predominantly used LED luminaires capable of colour-changing and animated effects. A central lighting control system was incorporated into the design for full programming and synchronization of the entire lighting installation. This gives the development the ability to create endless nighttime transformations that would keep it visually interesting and adaptable to various occasions and seasons.



Sky Garden

Lighting for MICE Facilities

Lighting design for MICE facilities is in itself a big challenge due to the highly technical requirements that come with lighting multi-functional and specialised event spaces. In Suntec's case, this was paired with yet another set of lighting

MICE Main Entrance Lobby

design considerations - the cutting-edge interior design and the clients' wish for maximum design flexibility and advanced technology integration.

Lighting for triple-volume lobby spaces – the entrance lobby in Level 1 and the concourse lobby in Level 3 - was designed to cater to different lighting moods and varied lighting levels that could either stand on their own or be adapted to the requirements of major events being held in the exhibition and meeting halls. Architectural lighting, effects lighting, video walls and other multi-media amenities were synchronised to achieve maximum visual impact within the lobby spaces.

Level 3 was dedicated to meeting room facilities that posed some major lighting design challenges: first, the movable partitioning of the meeting rooms; second, a generally low ceiling height across the interior spaces; and last, the use of very dark colour palette throughout the interior design.

Level 3's partitioned spaces were intended to be fully configurable and needed lighting control that would address that kind of flexibility. A lighting control system with partitioning feature was integrated - enabling all lighting circuits to be grouped, dimmed and controlled based on the required configurations of the meeting rooms.

Diffused linear downlight extrusions were chosen for general lighting of most interior spaces not only for their contemporary look that perfectly matched Level 3's interior design intent, but also for the reason that diffused linear lights would typically have much better direct glare control – most crucial for low ceiling heights - as opposed to most point-source downlights. Covelight features were also introduced to various ceiling planes to give them a softer appearance and to camouflage their low height. To mitigate the perception of dark interior ambiance, the lighting designers introduced 'wallwash' lighting techniques to all major wall surfaces in the meeting rooms and within the circulation areas as well.

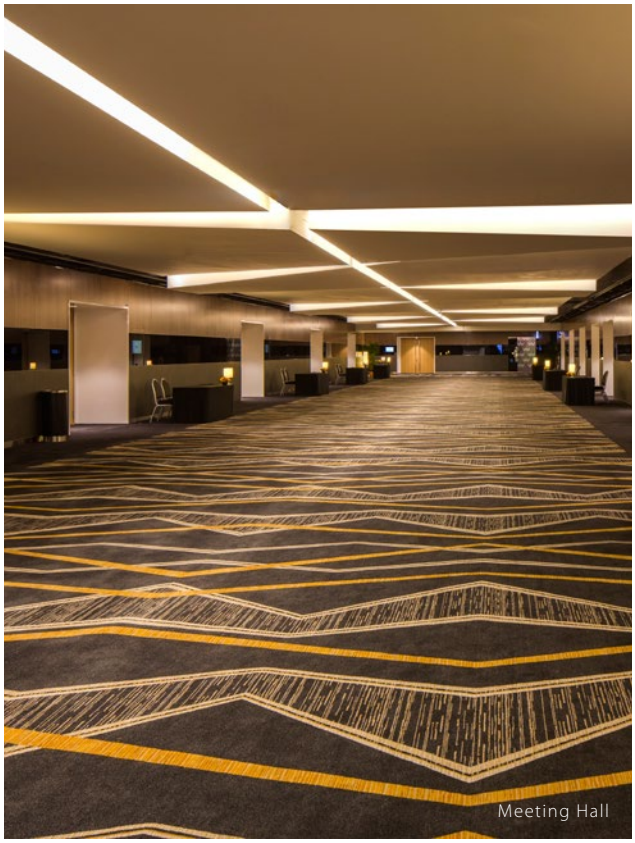
Exhibition halls in Level 4 were refurbished to become state-of-the-art venues for a vast variety of functions - from travel fairs to professional exhibitions; from weddings to boxing events. The halls required extremely varied spatial transformations to be executed in a matter of hours in order to maximize the potential returns from the spaces. All eyes were in lighting design to provide the quickest yet highly effective solutions in altering the general ambiance of the spaces according to the requirements of specific events.

Bo Steiber, Founder and Design Director at BSLD, recalled, "Our team had to make sure that the lighting design would not fall short of the expectations for each and every event – that a wedding celebration would be given the same romantic ambiance as that of a grand hotel ballroom; that a company D&D would get the exciting vibe of a top disco venue; that a product launch would be provided with the maximum attention that it required; and so on. Since walls, ceilings and other interior design elements could only remain relatively static, it was mostly up to lighting to wave a magic wand."

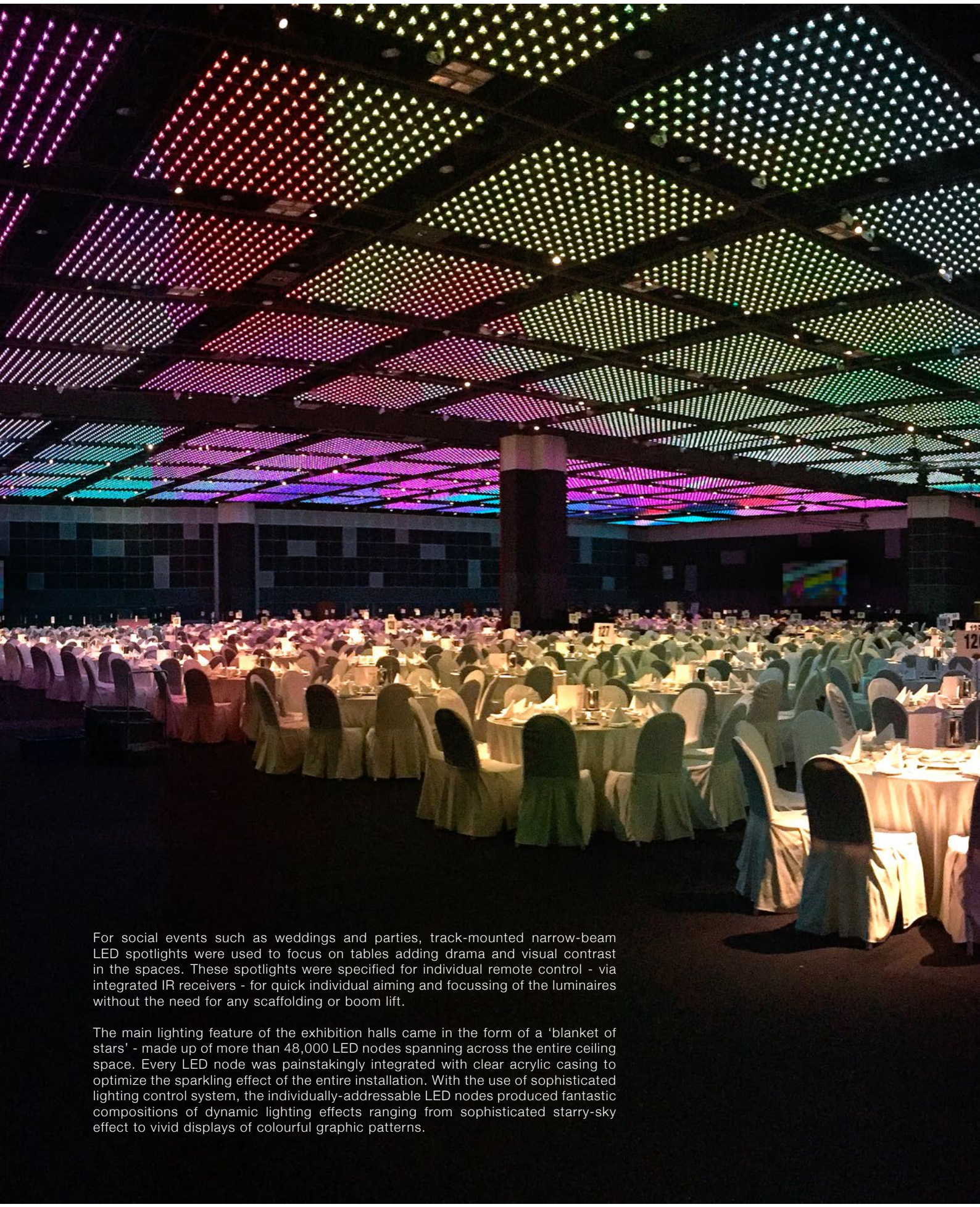
The lighting design solution for the exhibition halls involved several layers of lighting elements –

New LED high-bay lights – a 1-to-1 replacement to the old high-bay lights using conventional lamps - were introduced to address the high illuminance requirement for exhibition, trade show and similar set-ups.

For big-volume seminars, lectures and similar events, LED cylinder downlights with wide-beam distribution were provided to render pleasant uniform illumination. Track-mounted LED wallwashers complemented the lighting scenario by increasing the perceived brightness within the spaces.


Meeting Hall


Standard Meeting Room



For social events such as weddings and parties, track-mounted narrow-beam LED spotlights were used to focus on tables adding drama and visual contrast in the spaces. These spotlights were specified for individual remote control - via integrated IR receivers - for quick individual aiming and focussing of the luminaires without the need for any scaffolding or boom lift.

The main lighting feature of the exhibition halls came in the form of a 'blanket of stars' - made up of more than 48,000 LED nodes spanning across the entire ceiling space. Every LED node was painstakingly integrated with clear acrylic casing to optimize the sparkling effect of the entire installation. With the use of sophisticated lighting control system, the individually-addressable LED nodes produced fantastic compositions of dynamic lighting effects ranging from sophisticated starry-sky effect to vivid displays of colourful graphic patterns.

Exhibition Hall

Main Atrium

Lighting for Retail Spaces

The clients' brief was made very clear right from design inception – the tenant spaces would be the focal point of the shopping experience and everything else in the design should complement this objective.

In response to this, the lighting designers prioritised visual comfort and pleasant ambiance - setting aside "over-the-top" technology - in the lighting design of the mall interiors. As the Team Leader for the project and Director at BSLD, Josephine Dimalibot, explained, "While it could have been easy for us to inject colour-changing ceilings and maximum effects as widely seen in retail lighting nowadays, this was not the case for Suntec City."

General downlights for mall corridors were carefully selected to ensure optimum glare control and minimum interference to the tenants' shopfronts. Linear light extrusions were also introduced as contemporary yet unobtrusive accentuation to the trellis-like ceiling design of the corridors. Ceiling covelights were used to emphasize the graceful lines of the atrium spaces and interior design features.

Lighting levels for corridors and other interior common areas were purposely designed to the minimum lux value allowed by the local authority in order to provide differentiation from typically much brighter tenant spaces.

Lighting Design Sustainability

The lighting designers pushed for energy efficiency and sustainable design within the practical bounds of the project. The selection of light fittings, lighting components, lamp types, and lighting control systems were taken into account throughout the design process so as to meet optimum energy efficiency. Lighting design and layouts were thoroughly reviewed and coordinated with stringent power load requirements.

The redevelopment project garnered Singapore Building & Construction Authority's *Green Mark Gold*^{Plus} *Award* for its sustainable design on various trades - lighting design included.

Retail Corridor

AYA Bank Headquarters Office (Rowe Building)

Yangon, Myanmar

Lighting Design, Solutions & Supplier: **Lighting & Equipment Public Company Limited (L&E)**
Writer: **Suchanan Ngamwutthiwong**

There are many attractive colonial buildings in Yangon, Myanmar. The Rowe building is one of the buildings with a long history located at the corner of Mahabandoola Road and Mahabandoola Garden Street next to Yangon City Hall. It was built in 1910 as a department store, Rowe & Company, which was one of the biggest and oldest department stores in Asia and the Rowe Building also received the Blue Plaque of Yangon as a preservation building from Yangon Heritage Trust. After that, it was an office for the Department of Immigration and Manpower for more than 30 years until the Myanmar government moved the capital city from Yangon to Nay Pyi Taw in 2005, which left these colonial buildings vacant. Recently, it was bought over and refurbished into the headquarters office of AYA Bank in 2012.

The building is built in Victorian Classic style and is decorated with red and yellow bricks with the tower at the centre corner. The restoration aims to retain the identity, style and element of the building; therefore only some damaged materials are replaced with the new objects. The new façade is white and sand white painted in the pattern of the original building and L&E has participated in this renovation and design. Due to the aspects of preservation, the façade lighting is designed to avoid demolishing the building's elements, faces and structures by using surface luminaire types. LED is an effective option for historic buildings because it has non-

UV radiation levels and has low-heat, which are harmful causes of physical deterioration of architecture. Also, compared to the conventional lamps, LED consumes less electrical power with higher efficiency. LED also has various designs that can replace conventional lamps and can be modified to be installed in specific areas and lengths.

The colours of all lighting fixtures are customized to match the façade. In order to create a glorious and attractive vibe to the building, warm white (3000K) LED is used to enhance the old building atmosphere and reveal the classic elements of the façade. Two types of floodlights are used for emphasizing the building elements; 27-watts accent lights for the main entrance columns while 9-watts LED lights are used for the small columns. In small and specific details such as arches and tower elements, linear type LEDs are cut to fit the installation lengths to create smooth lighting effect. As a result, the façade lighting revives the elegance of classic architecture as it was in the glorious past. It allows the headquarters of AYA bank to become one of Yangon's landmarks and to be a refreshing enhancement to the night cityscape. ■

ABOUT L&E

L&E is a lighting equipment manufacturer and lighting solution provider based in Bangkok, Thailand. We are specialists in lighting and have been involved in many prominent projects in Thailand and Asian countries for more than 20 years. For more information, please visit ***www.lighting.co.th****.*

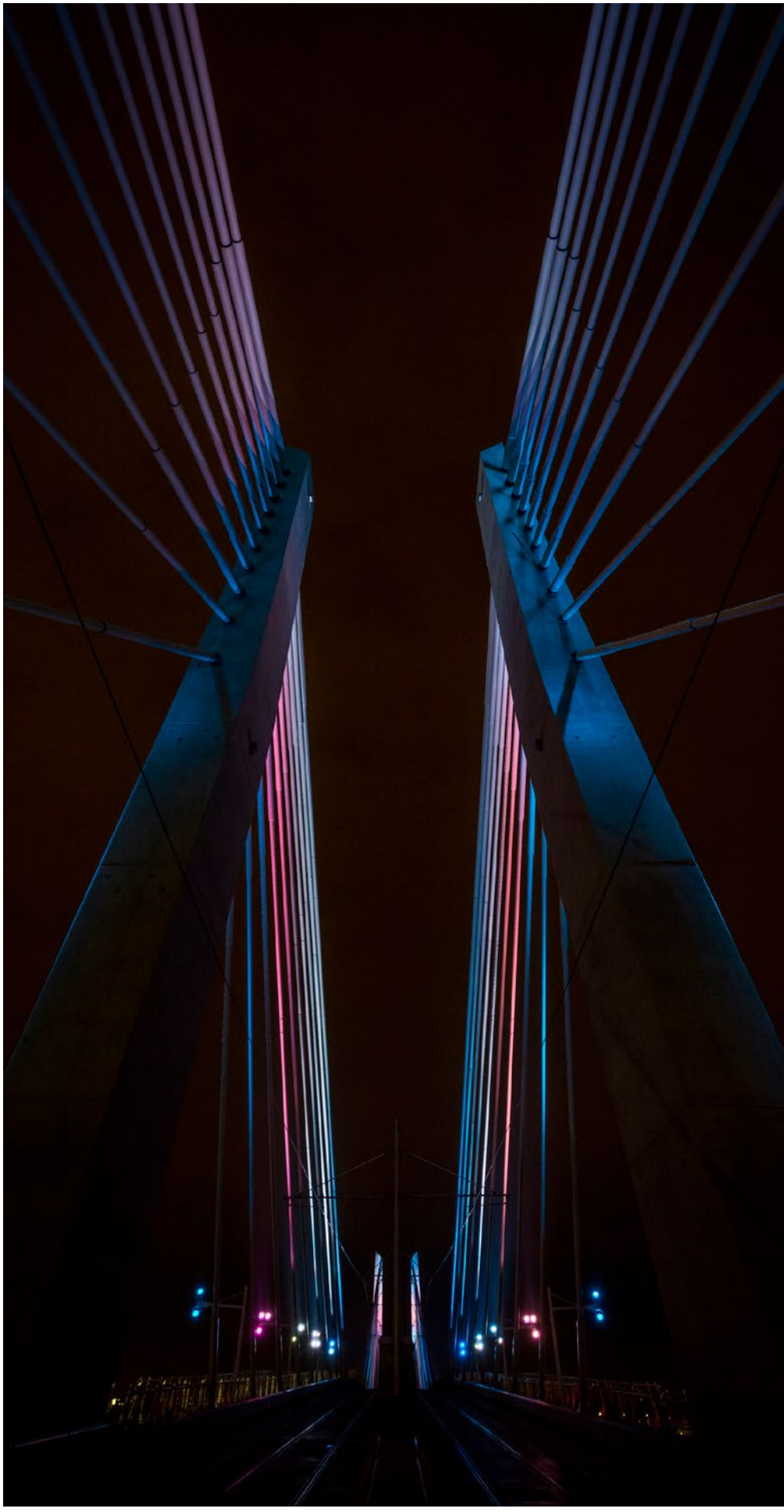

AYA Bank

Tilikum Crossing

Oregon, USA

Client: TriMet Public Transportation
Architect: Donald McDonald
Lighting Designers: Anna Valentina Murch and Doug Hollis
Contractors: O'Neill Electric (Installation), Reyes Engineering (System Design)
Photo Credits: TriMet
Lighting Manufacturer: ETC
Lighting Solutions:

- Desire D40XTI LED wash fixtures with x7 Color System
- Ion Remote Processor Unit triggered by contact closure inputs
- ETC Systems Engineering provided DMX opto-isolators and repeaters housed in outdoor enclosures to accommodate the extended data travel distances



Spanning the Willamette River in the US state of Oregon, you'll find a confluence of nature, light, art, engineering and architecture. Tilikum Crossing, Bridge of the People, is the first new bridge in the Portland area in 40 years. Accessible only by pedestrians, cyclists and public transport, it's an eye-catching spectacle both day and night, designed and lit to emphasise the importance of the river to the city and its inhabitants.

"I've always made sure that a bridge evolves out of the community, the environment that it's in," says Donald McDonald, the San Francisco-based architect who designed the bridge. As a statement on the importance of the river to the Portland area, Tilikum Crossing was designed to integrate compelling architecture and dynamic river conditions with a thrilling display of light art that now accentuates the Portland skyline, keeping the 55m structure visible and changing throughout the night.

The system design, crafted by Reyes Engineering in Portland, involves a dynamic lighting system that alters the bridge's lighting effects. As environmental data is collected by US Geological Survey equipment, it is translated by specialised software designed by programmer Morgan Barnard. That software triggers a series of commands to an ETC Ion® Remote Processor Unit (RPU) which executes a series of cues programmed specifically for each of those changing conditions.

The late San Francisco artist Anna Valentina Murch and her husband Doug Hollis were commissioned to compose the lighting effects that adorn the bridge structure after dark. Murch's design called for an aesthetic lighting scheme that would change with the behaviours of the Willamette. Murch died prior to completion of the project, but Hollis saw her vision through to the end.

Water temperature determines the base colour, while river speed affects the timing of colour changes and intensity shifts that "move" the light across the bridge. River depth is conveyed by a secondary colour pattern that transitions on the crossing's two towers and array of suspension cables.

Jon Friedemann of HL Stearns Inc., ETC's representative in Portland, originally worked on the project as a control gear and system engineering task. But once Murch discovered the diverse colour offerings of ETC Selador® Desire® LED fixtures, the decision came easily to award ETC the lighting package as well.

"Colour was at the centrepiece of Anna Murch's lighting design," explains Friedemann. "Only the D40 XTI offered a colour palette broad enough to bring her artistic vision to life." Fortunately, ETC's US manufacturing operation offered full compliance with the project's "Made in America" requirements.

Unmatched colour capability, paired with Ion RPU control and a seasoned field service team meant the through line of the Reyes's system design was set. 178 Desire D40 XTIs, a series of DMX opto-isolation repeaters in outdoor enclosures, and over 4.5km of data cable complete the lighting system and integrate it with the collected river data.

Since bridge workers were not allowed to work at night, the D40s were focused by mounting a rifle scope to each fixture, allowing them to be aimed at specific points on the structure. Programming was another hurdle, with logistics and support provided by ETC dealer Hollywood Lights. At night by the riverside, Trevor Burk of Visual Noise Creative in Los Angeles, working alongside ETC technical support engineer Josh Selander, programmed cues on a Gio® console in a rented recreational vehicle – their lodging and control booth for the three consecutive nights of programming.

"It was a small price to pay," says Karl Haas, ETC's architectural national sales manager, "to see a vibrant display of light art, cast on such a breathtaking structure, programmed by one of ETC's most adept technicians…while living in a van down by the river."

With much fanfare, Portland held a long-awaited bridge lighting ceremony on 10 September 2015, and Tilikum Crossing, Bridge of the People, officially opened two days later. ■

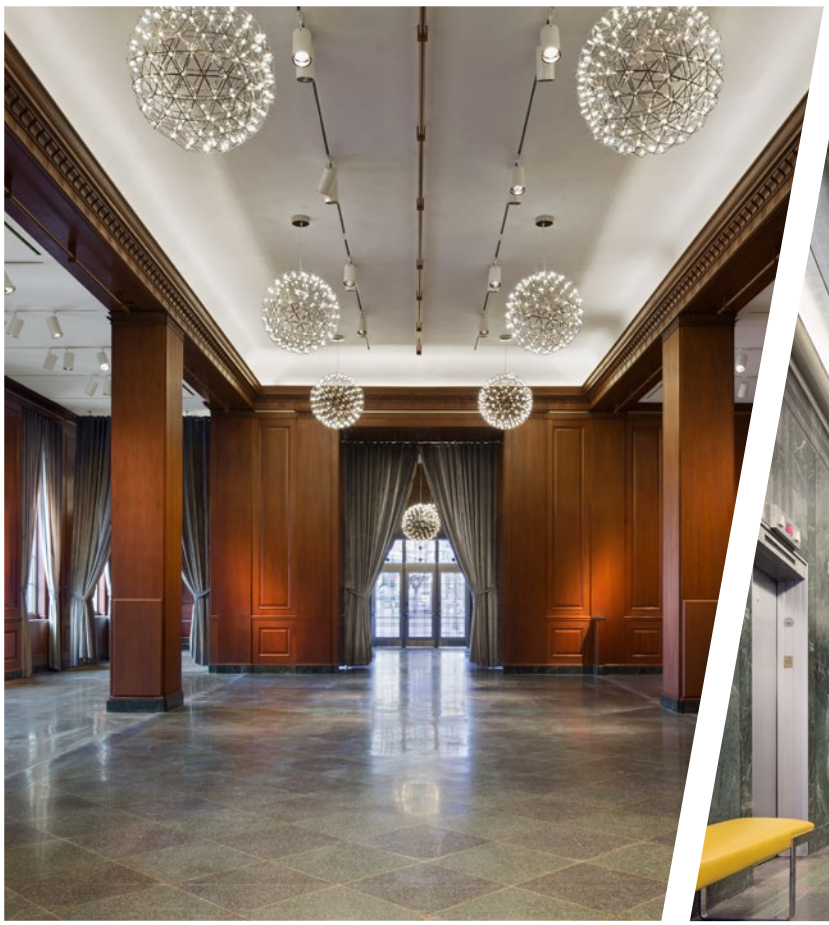
21c Museum Hotel

Durham, USA

Lighting Designer: Illuminationworks
Lighting Design Team: Chad Rains (Director) & Panos Ferentinos (Senior Designer)
Architect: Deborah Berke Partners
Client: 21c Museum Hotels
Size: 12,550 m^2 / 134,000 ft^2
Noted Manufacturers: Lighting Services Inc, Lucifer Lighting, 3G Lighting, Lightolier, Feelux, KKDC, BK Lighting, Delta Light, Viso, Bega, Lumiere, Eco Sense, Cooper Controls
Photography: 21c Museum Hotels
Text: Illuminationworks

Housed in the historic Hill Building, designed by Empire State Building architects Shreve, Lamb and Harmon, 21c was looking for a lighting design that suited the needs of a sophisticated boutique hotel and a contemporary art centre both open 24 hours a day. Further, the lighting needed to unify the public spaces and galleries whilst being sensitive to the historic features of the building.

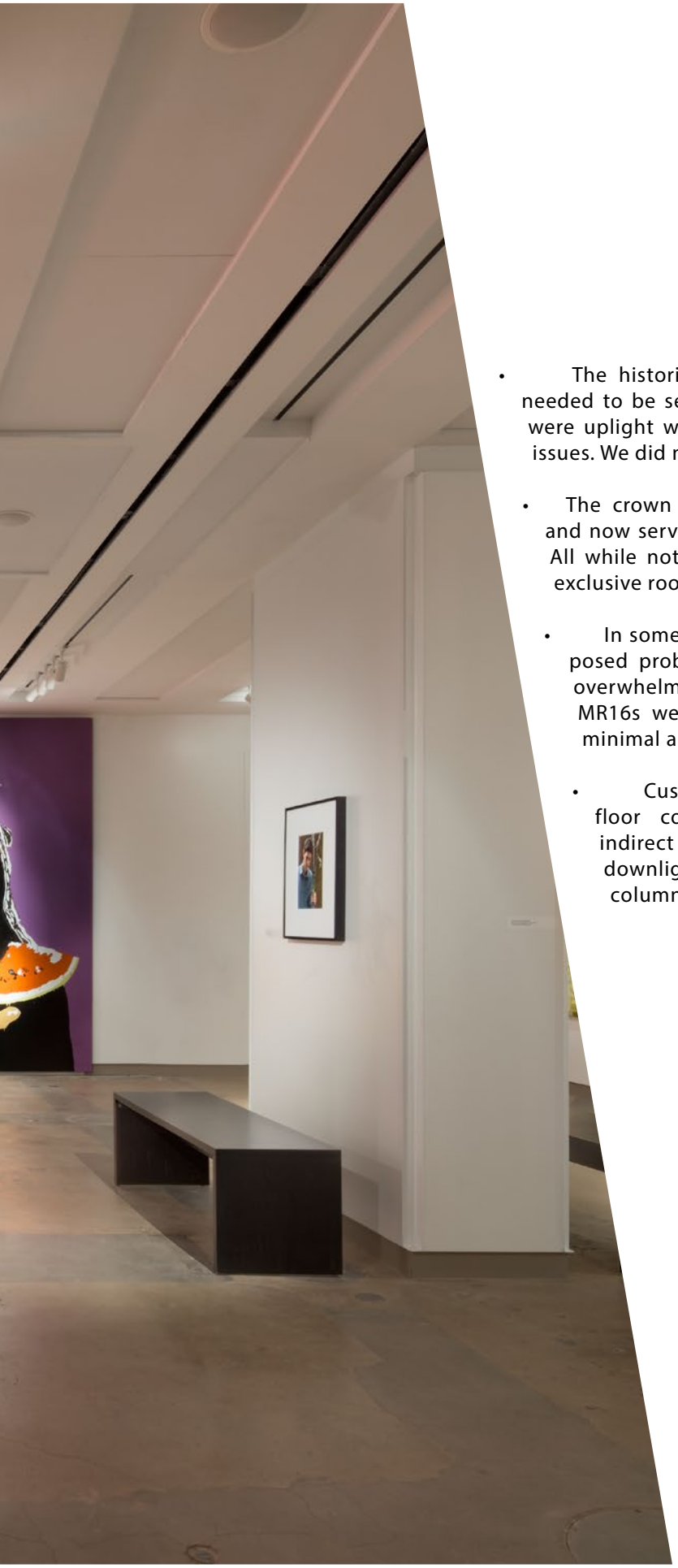
Art galleries are lit per the requirements of the 21c art team. A strict parallel track pattern is established in each rectilinear space. Tracks are perpendicular to primary art walls to allow the art team maximum flexibility for positioning track heads away from the art and light different size pieces. With all areas of the hotel having the potential to be used for displaying art, dual usage posed many challenges during the design development stages as we had to try to think ahead of the art team and prepare any open wall as display space. At the same time, it was vital not to overwhelm hospitality areas with too many light fittings. In more functional areas, like corridors and lift lobbies, gimbal fittings are utilised to light art for a cleaner, more architectural appearance. The restaurant, for example, has lighting for the tables as well as art walls. Adjustable downlights are bright enough for use throughout the day, while the art lighting system is flexible enough for all future exhibitions. This dual function exists in the bar, spa, and ballroom, as well as many other areas of the hotel.



Throughout the restaurant and bar, localised lighting is detailed into the millwork to provide a warm environment that envelopes and relaxes the guest. These linear details are found behind banquette seating, as task light for bar seating at the open-plan kitchen, on the fascia of the main bar and back bar. Custom linear wall sconces also provide scale to guests adjacent to the 6m columns in the dining area.

A mixture of state-of-the-art LED technologies and traditional halogen are used throughout. The highest quality lighting elements were essential due to art lighting requirements as well as the hospitality function of each space. Colour temperatures of all selected sources match perfectly, except for the open kitchen in the restaurant. Here, a suspended fluorescent light sculpture is created using two different temperatures: cooler 3500K lamps for use primarily during daytime operation; and 2700K lamps, gelled to appear as 2000K, for use at night. Throughout the day, the dimming system transfers from all 3500K at breakfast to a mix of the two that gradually turns over to 2000K after dinner when guests are using the area as a lounge.


POP STARS:
AKIT



Special Challenges:

- The historic features of the building, originally a bank, needed to be sensitively addressed. Vaulted silver-leaf ceilings were uplight with seamless fluorescent to eliminate reflection issues. We did not want to see breaks, but a clean line of light.

- The crown of this beautiful Art Deco tower was never lit and now serves as a subtle beacon for the city and downtown. All while not interfering with the interior of the hotel's most exclusive rooms.

- In some ground floor areas, ceiling heights rose to 6m. This posed problems in the restaurant, bar, and ballroom. Not to overwhelm the restaurant and bar with huge light fittings, 10° MR16s were employed to meet all functions and maintain a minimal appearance.

- Custom linear wall sconces were developed for guest floor corridors. The vertical orientated fixtures provided indirect lighting for visual comfort and eliminated the need for downlights. The fittings were also used on the 6m restaurant columns to provide localised lighting to guests.

The dimming system includes multiple scenes to enhance guest experience from sunrise to late night. An astronomical time clock allows these scenes to adjust so a consistent atmosphere is achieved throughout the year.

21c Museum Hotel Durham is the brand's fourth hotel property to open. All have been designed by architects Deborah Berke Partners in NYC. Durham is the third for which Illuminationworks has provided lighting design services. 21c Durham is an adaptive reuse of the Hill Building, one of the city's most iconic structures originally built in 1937 and listed on the National Register of Historic Places. Bringing new life to the building, the property mixes contemporary design with historic Art Deco details and offers 10,500 square feet of contemporary art exhibition space free of charge to the public, a 125-room boutique hotel, health spa, and Counting House restaurant. ■

Gedee Car Museum

Coimbatore, India

Text: Dr. Amardeep M. Dugar
Client: GD Naidu Charities, Coimbatore/India
Lighting Design: Lighting Research & Design, Chennai/India
Luminaire Supply & Installation Support: Architectural Lighting Concepts, Chennai/India & Gojis Lifestyle, Coimbatore/India
Photography: Rajesh Menon
LPD: 0.15 W/ft2

Products Applied:

Abby	Bro 10W LED Track Spotlights
ERCO	Opton 12W LED Track Spotlights
	Pollux 6W LED Track Framing Projectors
	Pollux 2W LED Track Spotlights
Prolicht	C.S.I 10.3W LED Surface Downlights
	Nitro 10.3W LED Track Spotlights

A replica of the first automobile in the world – 1885 Benz Motorwagen

The posters on the curving driveway depicting the evolution of automobiles starting from the wheel are washed using warm-white light with flood optics to recreate the aura of that time period.

The newly opened Gedee Car Museum in Coimbatore is a tribute to Gopalswamy Doraiswamy Naidu a.k.a. GD Naidu (1893–1974), a well-known scientist, inventor, educationalist and philanthropist, also referred to as the Edison of India. A versatile genius and school dropout, his contributions span the fields of agricultural, automobile, electrical, industrial, and mechanical engineering. His list of many inventions includes making papayas sweeter, super-thin shaving blades and the first electric motor in India (that never reached production!). He was an icon for Coimbatore, the second largest city in the state of Tamil Nadu, and played a vital role in various developments in the city and the nation including industries and infrastructure. One of his dreams was to open an automobile museum for displaying his private collection, as he was totally enchanted by automobiles. His son GD Gopal Naidu, the Managing Trustee of GD Naidu Charities (Owners of the museum) has now fulfilled this dream. GD Naidu's collection of vintage cars along with a lot of wheels from all over the world is put on show at this museum.

Touted as one of its kind in India, some of the exhibited cars at the Gedee Car Museum are not to be seen anywhere else in the country. Although GD Naidu Charities own most cars, as many as eight special cars were the benevolent donation of vintage car enthusiasts and auto aficionados who wanted to share their pricey possessions with the general public. According to Gopal, "The main objective of the museum is to highlight the technological progress from the birth of the car, the various innovations and inventions which happened over a period of time, and the people behind it." With around 70 different car models, every significant development in the automobile industry is on display. Additionally, Gopal wanted to "ignite young minds" by housing the museum in the same building as the GD Technical Training Institute, so that students of the institute can observe these engineering marvels and be spurred to invent marvels of their own.

Considerable amount of research went into the design process, which required more than two years. The owners realizing the importance of lighting for appropriately highlighting the exhibits decided to involve a lighting designer early on in the project. Lighting Research & Design were appointed as the lighting designers of the museum after an exclusive interview with its founder and principal, Dr. Amardeep M. Dugar. The initial brief was to only exhibit 20-25 cars. However the lighting design had to be flexible enough to incorporate any additions to the museum collection, which finally grew to around 70 cars. Track lighting seemed the ideal solution as they offer flexibility in highlighting the exhibits as well as provide ample scope for future additions. The owners' keen drive towards energy-efficient technologies further narrowed the scope down to LED-based track lighting. Additionally, accentuation and creation of visual drama of a vintage environment required appropriate optical control, which could only be provided with LED technology. After extensive research on the available LED-based track lighting systems for cars (including visits to various car museums and showrooms), discussions with various luminaire manufacturers and several mock-ups, track luminaires from ERCO were shortlisted for their light quality, lumen output and the innate flexibility offered by their interchangeable lenses. However, as the owners had a specific budget allocated for lighting (which unfortunately did not grow like their car collection!), it was decided to use a combination of luminaires from ERCO, Prolicht and Abby.

Spread-out over a sprawling 20,000sq.ft, the museum is actually a basement parking lot. The museum layout consists of a curving driveway leading up to the main hall with five alternating bays of display and gallery space. The displays include cars, accessories and their associated documentation in the form of posters. The gallery consists of dedicated passageways for visitor movement. Hence the overall lighting strategy was divided into three types of treatments: display lighting, gallery lighting and special-effect lighting. The museum experience starts from the curving driveway itself with posters depicting the evolution of

(Above) The chronological display of cars begins with the five unique cars. Appropriate 'highlight' car lighting treatment of general wash with flood optics and accentuation with spot optics, along with framing projectors for highlighting specific areas of the posters is provided for these cars.

(Right) This chronological display of cars ends with modern racing cars.

(Far Right) Low illumination levels and appropriate optical control in the gallery space reduces light spill into the display space, thereby resulting in minimal interference with the lighting of the cars, and creation of a sense of drama and mystery.


Volkswagen
Variant
1961-1973
HENRY FORD BUILDS A
CAR FOR THE MASSES
CAR AT THE PRICE OF
MOTORCYCLE
HOW PORSCHE
BRINGS DOWN THE
COST OF THE CAR
SO DRASTICALLY?
53
MDB
164

(Opposite) The same warm colour temperature of the driveway is maintained in the AV room as well. Theme-based video shows on the history of automobiles are played at regular intervals.

(Top) 'Small' car lighting typology – either a spot or a flood optic is used to illuminate small-sized cars.

(Below) 'Large' car lighting typology – oval flood optics is used to wash the entire length of the large cars. Additional accentuation is provided with a combination of spot and flood optics.

automobiles starting from the wheel. At the end of the driveway is an Audio-Visual (AV) room for theme-based video shows on the history of automobiles. Display lighting for the posters is provided using Abby Bro 10W track spotlights with flood optics. The posters in the driveway and AV room are washed in warm-white light to recreate the aura of that time period.

After this enthralling journey through time, visitors enter the alternating gallery and display spaces with cars that are arranged chronologically: from the five unique cars that significantly impacted the automobile history, to modern racing cars. Appropriate documentation in the form of posters is displayed for each car explaining its evolution with respect to the automobile industry as a whole. Gallery lighting is provided using 4000K Prolicht C.S.I 10.3W surface-mounted cylindrical downlights with spot optic for appropriate general illumination to facilitate visitor movement. The lighting level for the gallery is deliberately kept low for minimal light spill and non-interference with the display and special-effect lighting. The owners had to be educated that darkness is pivotal for creating a sense of drama and mystery in a museum environment.

Display lighting for the cars is provided using a combination of ERCO Opton 12W spotlights with interchangeable spot, flood and oval-flood optics, and Prolicht Nitro 10.3W spotlights with flood optics. The display lighting of the cars is further categorised into 'small,'

Lighting typology 'Highlight' car – a general wash using 2700K and 3000K warm-white light with flood optic is first provided for the highlight cars. Then certain important elements like the number "53" on the Volkswagen Beetle's hood is given prominence using 4000K neutral-white light with spot optic.

'medium' and 'large', according to the size of cars so as to facilitate legibility of their details. A generic lighting typology is applied for each car size in terms of optics and colour temperature. Either a spot or a flood optic is used for small cars, while a combination of the two is used for medium cars. Oval-flood optics along with spot and flood optics is used for the larger cars. The interchangeable lens technology from ERCO was extremely useful in experimenting and arriving at the best possible optics for highlighting a particular car. Any additional accentuation for certain key elements of the car such as logos or insignia is provided using ERCO Pollux 2W track spotlight with narrow-spot optics. The pigment colour of the cars' paint or posters is used as a basis for selecting the colour temperature of light. For example, 2700K or 3000K is used for pigments in warm tones such as red, brown or gold, while 4000K is used for pigments in cool tones such as blue or silver. The choice of colour temperature for neutral pigment tones such as black or white is based on their time period. For example, 2700K or 3000K is used for cars from an older time period, while 4000K is used for cars from a more recent time period.

While each car in the museum has its own history, the underlying lighting theme was to provide a visual hierarchy based on the historical significance of these cars. Cars responsible for either a path-breaking paradigm shift in

The 1912 Ridge Multi being GD Naidu's first automobile is rendered with a 'highlight' car treatment. The body of the motorcycle is illuminated using 4000K neutral-white light with flood optic. However, the wooden carriage at the rear given prominence using 3000K warm-white light with spot optic for contrast.

automobile history or any other historical event of significance are treated as 'highlight' cars. For example, the five unique cars are treated as highlight cars. Therefore, a highlight car is first provided with a general wash to recreate its time period using flood or oval-flood optics depending upon its size. Then its special features, which have a certain historical significance such as bumpers, headlights, hood, seats or wheels, are accentuated using spot or narrow-spot optics. A combination of 2700K, 3000K and 4000K is used for the special-effect lighting instead of the standard typology of a single colour temperature based on pigment colours. ERCO Pollux 6W framing projectors are used to highlight important information depicted on the posters of these highlight cars. Special-effect lighting appropriately accentuates these cars and recreates their actual time period to add visual drama.

Lighting only adds to the visual drama of the space by not only making the cars legible, but also enhancing the overall visitor experience. The use of LED lighting technology has resulted in an LPD of only 0.15W/ft2. For the Edison of India who did not receive the credit that was due to him by his country or its people, a lighting experience such as this is indeed a fitting tribute! ■

Nuo Hotel

Beijing, China

Lighting Design: **Illuminate Lighting Design**
Article contributed by: **Simon Berry**
Photo Credits: **Illuminate Lighting Design**

With every project comes a fresh set of challenges and this hospitality project shows how varied and sometimes complex these challenges can be in a hotel.

I'm sure you all realise that a hotel is a collection of many services within one building which typically includes guest rooms, meeting rooms, restaurants (all day dining and one or many speciality restaurants), a reception area, a ballroom, a swimming pool, a spa and sometimes even hair salons and wedding ateliers.

With so many different functions, the lighting design for each area cannot follow the same treatment. While you might choose to simplify the fixture types (for ease of maintenance and I'm sure this will also help with your operator relations), you often need to approach each space with a new mindset to ensure that you are delivering a lighting scheme which is fit for purpose.

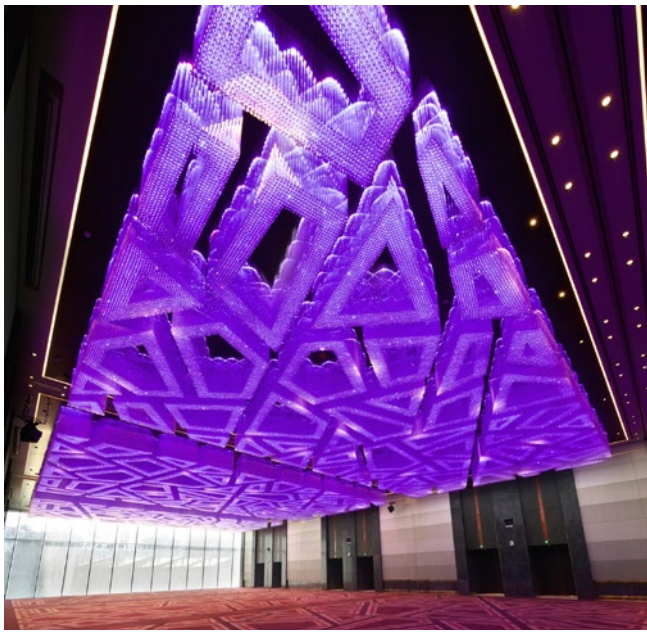
The Nuo Hotel in Beijing China had all of these challenges and the client wanted a scheme which respected the heritage and yet took a modern twist on its intent. At this stage, the term 'Modern Ming' came into existence. Upon entering the lobby, we wanted to create a "wow", a real statement piece that would help to establish the brand and also a talking piece - something which would generate internet chatter.

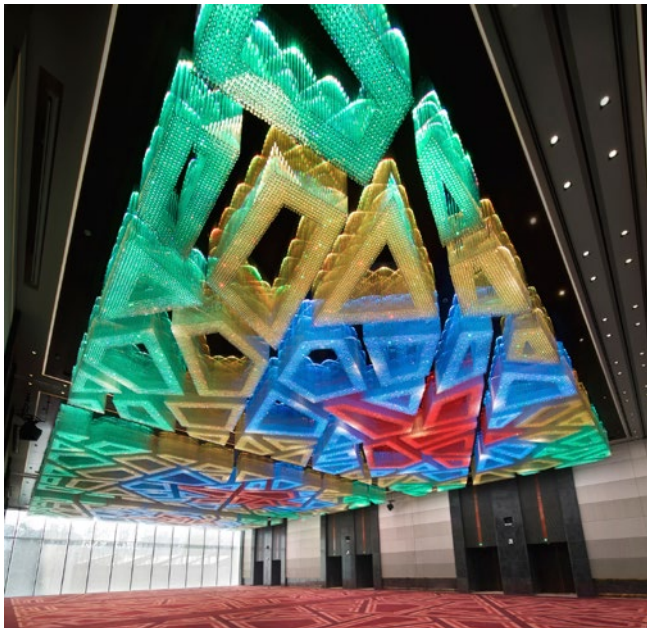
From day one, we were concerned about how the deep skylight pockets, which dominated the main lobby ceiling, would not become black holes at night. Therefore, we considered many options for the lighting approach; cove, panel, suspension, indirect, exterior supplementary lighting... in the end, we opted for a dynamic approach using LED mesh behind a stretched membrane panel on the vertical pop ups of the pocket. We figured that we could use this surface to create a layer of clouds that slowly drifts across the ceiling and then at certain times of the day, scenes of water ripples, koi carps swimming, cherry blossom falling or even Beijing Opera masks, which helps to establish a sense of place.

The lobby lounge sits within a lower ceiling space to the left of reception area. Here, we could play with the levels and create a calmer, warmer and richer environment which plays quite nicely while one is sitting next to the expansive and striking lobby.

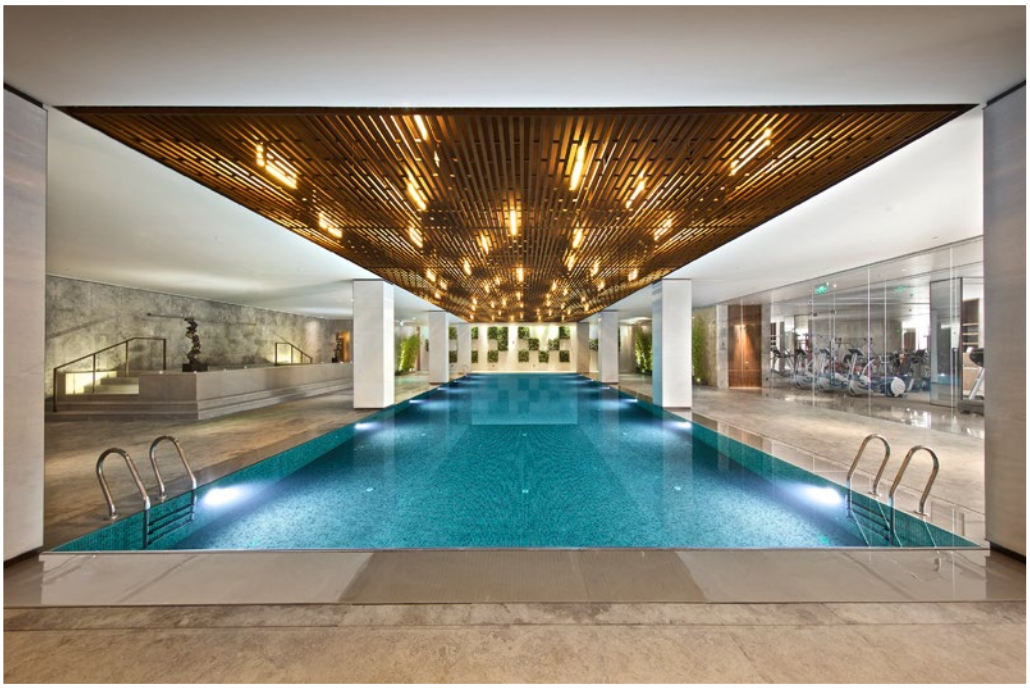
The all day dining (ADD) can also be found on the arrival Level 1 floor, and this space like any typical ADD requires good lighting to the buffet / service counters paired with a lower yet still useable level of light to the seating areas. The mood of the ADD also needs to change from breakfast which often requires a brighter and more energetic environment, to lunch which as a businesslike feel of sophistication, to dinner which has a more intimate and localized feel. On Level 1, you will also find the Chinese Dining Rooms with Private Dining Rooms along with the Tea Rooms which are treated in a serene and textured manner with a subtle breakup foliage pattern shaped to fit the tables.

On Level 2, you will find the ballroom and pre-function areas. The ballroom ceiling is dominated with a large glass drop chandelier which has been arrayed in a geometric pattern, drawing subtle reference to the lobby ceiling. We decided on a RGB solution with a separate warm white; for the controls we opted to separate each bay which we then further split into four groups. This enabled us to create a visual pattern within the ceiling and within each bay where we programmed fully saturated single colours and then complimented this with seasonal colour mixes, Spring, Summer, Autumn and Winter along with the elements Fire and Water creating stunning visual collections.





Lighting design for the spa located at Level B1 essentially needs to create a sense of arrival; a feel of exclusivity blended with atmosphere and to a degree, subconscious removal from the everyday norm. We slow the energy from the lift landing, creating a pathway to the entrance of the spa. Once in the spa, you are taken to either the lounge or one of the treatment rooms and the journey is very subdued as calm lighting is integrated into shelf details. At low level within the raised floor, each doorway is announced with a puddle of light and treatment rooms have various scenes depending on whether you are there for treatment or pure relaxation. Linear lighting is always concealed and plays onto the surfaces, while strong beams of light help to sculpt and highlight with a measured amount of drama.



Moving down to Level B2, we enter the fitness floor where the gym, yoga and indoor pool can be found. Here, you need to ensure good working light and a degree of flexibility (especially for the yoga room). The pool had a lattice design to the ceiling, therefore we looked at creating simple edge light glass drops mounted behind the lattice creating a sense of depth and layering and the green wall to the back was lit with discharge through the day and switches over to a controllable LV source at night. As for the gym, we relied on the downlights creating sparkle on the polished chrome of the equipment, creating a sense of luxury.

Lighting in the guest rooms are simple as we did not want to over complicate the lighting controls. We either have either ambient (soft diffused light) or accent (stronger beams of light) options which can also be combined to give the guest an interesting palette. There are also night lights which are commonplace now within all 5-star hotels and also additional reading lights paired in the ceiling, giving a direct concentrated beam of light to each side of the bed below. The walk in wardrobe has integrated lighting into the hanging bars complemented with a soft wash to the backdrop. The ensuite repeats the ambient and accent approach from the bedroom for those calmer bathing moments.

In closing, I would like to say that the role of lighting designers is now more key than ever before. Our role still remains regarding the creative integration and the use of light within a space, but now with the changes and pace of technology (primarily LED and controls) and the ever increasing expectations of all parties, be it client or user, every project type needs the involvement of a good lighting design consultant. ■

Akiyama Seiko Co., Ltd.
Ishioka Factory

Ishioka City, Ibaraki Prefecture, Japan

Photo Credits: **Iwasaki Electric Co Ltd Japan**

A view of the exterior at daytime.

Sufficient brightness levels are achieved in the aisles, ensuring safety for handling incoming and outgoing products.

New Ishioka factory sets standard for power conservation efforts with solar power installation and latest LED lighting

Akiyama Seiko Co., Ltd. has more than 80 years of history in special steel manufacturing and machining. In February 2013, the company added a new building to its Ishioka site. The new factory has a size of roughly 4,500m^2, and what makes it special is the fact that it is designed to set the standard in power conservation and environmental consciousness. Solar panels have been installed on the roof, and an application has been submitted for the site to become an official power generation enterprise ("Akiyama Seiko Ishioka Solar Power Plant" is the proposed name). A highly economical, German-made compressor has also been installed.

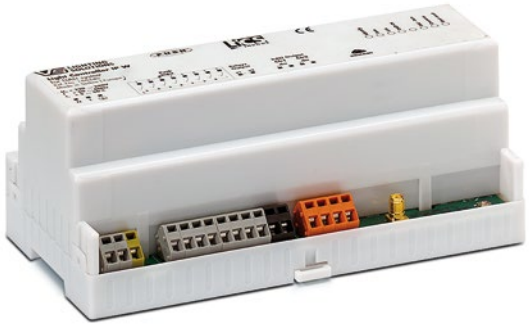
Meanwhile, LED lighting has been used for all of the ceiling's lighting. High levels of brightness and uniformity in light distribution were sought to the best extent possible. The selection of lighting fixtures took place after demonstrations at Iwasaki's "i-Labo" showroom and on-site lighting trials. LED high-ceiling lighting fixtures (LEDioc HIGH-BAY Λ) were eventually chosen with eighty 200W units being installed. Additional units were being considered if the luminance was not sufficient, but the factory managers are finding that the required light levels are being provided. The result has achieved both power savings and a safe and comfortable lighting environment. ■

The installed LED high-ceiling lighting fixtures (LEDioc HIGH-BAY Λ/ wide angle light dispersion). The uniform and high-brightness lighting has realized safety and a high-productivity work place environment.

The arrangement of the LED high ceiling lighting fixtures (LEDioc HIGH-BAY Λ/ wide-angle light dispersion) suppresses hot spots and shadows to comfortably light the factory.

LiCS System Network for Building Solutions

By Vossloh-Schwabe Lighting Solutions
www.vossloh-schwabe.com



Light Controller IP/DALI
Image credit: Vossloh-Schwabe

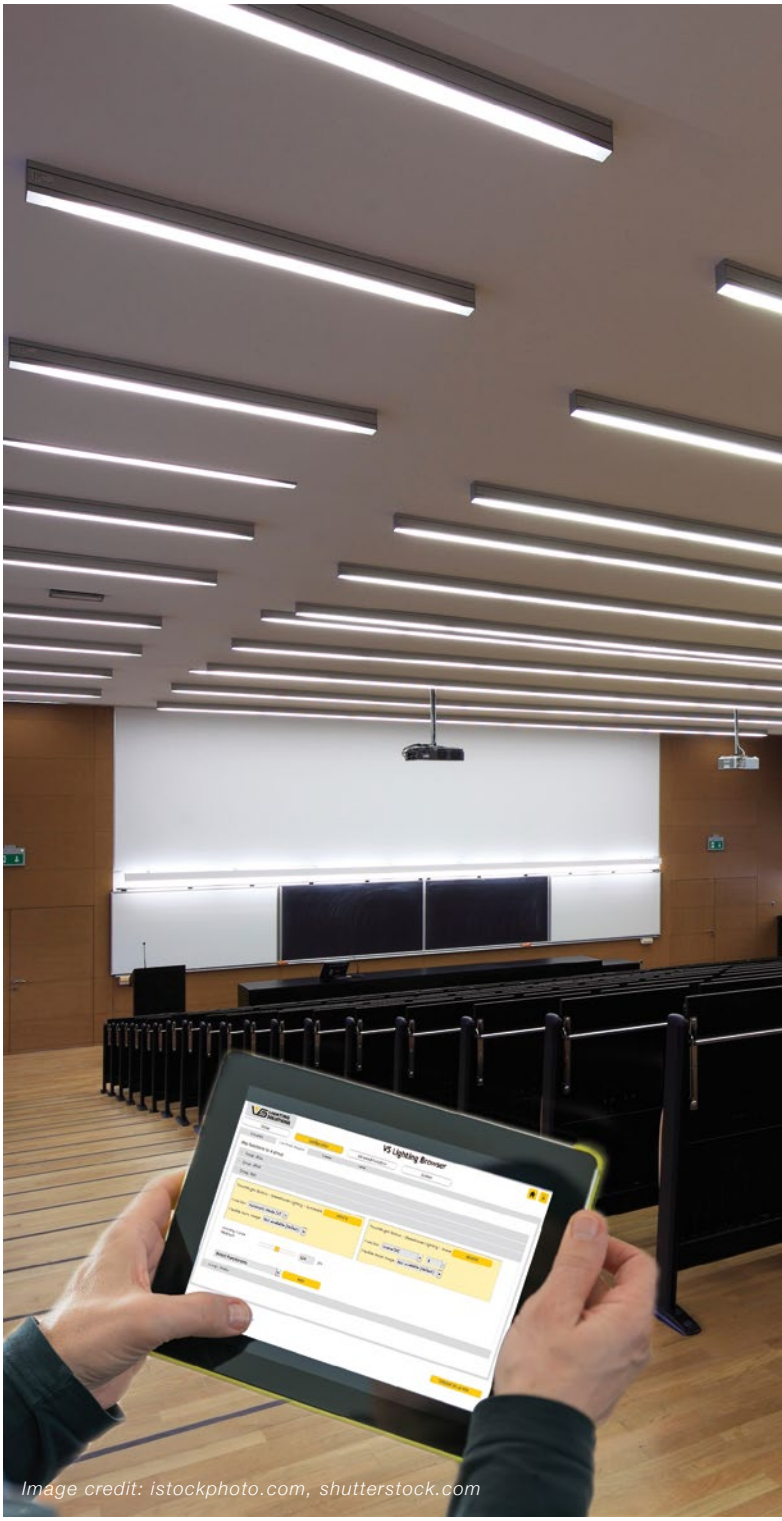


Image credit: istockphoto.com, shutterstock.com

THE NETWORKED LIGHT MANAGEMENT SYSTEM

The LiCS System network control devices are intended for large properties (building solutions) and have flexible features to enable a time-saving commissioning. A browser-based user interface is used both as a configuration interface and for controlling the system by means of “software push buttons”. The great advantage of the system lies in the almost unlimited integration of control devices. PCS, laptops, tablets or smartphones can be easily integrated to configure or control the luminaires.

Documentation, e-mail (reporting), energy monitoring are only some examples of the large number of new functions.

The Light Controllers of the LiCS System Network series were developed to link multiple Light Controllers together. They are networked via TCP/IP and centrally accessible by a server. Communication between the Light Controller and luminaires is based on the standardised DALI protocol. The Light Controllers comply with standard IEC 62386.2008.

- Easy plug-and-play, quick configuration
- Tablet + Smartphone access
- Touch4Light User Interface
- Bidirectional wireless communication (EnOcean)
- IP networking Light Controllers
- Reporting
- Documentation
- DALI

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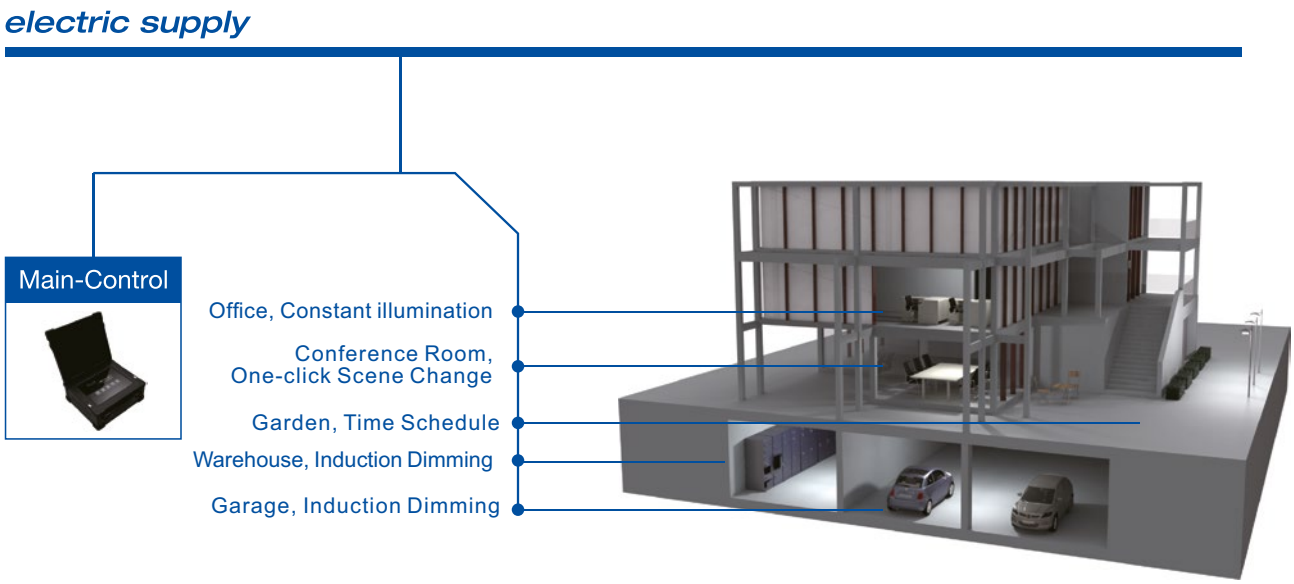
Janus Intelligent Light System with PLC technology

By YAHAM Optoelectronics Co., Ltd
www.yahamlighting.com



YAHAM's Janus LED lighting system is specially designed for small area LED lighting such as factories, warehouses, parking lots and other area applications. With PLC (Power Line Carrier) technology, Janus needs no extra signal wire (especially suitable for LED lighting retrofits) and the signal passes through the existing power line of the lamp, which can save more energy and improve management efficiency.

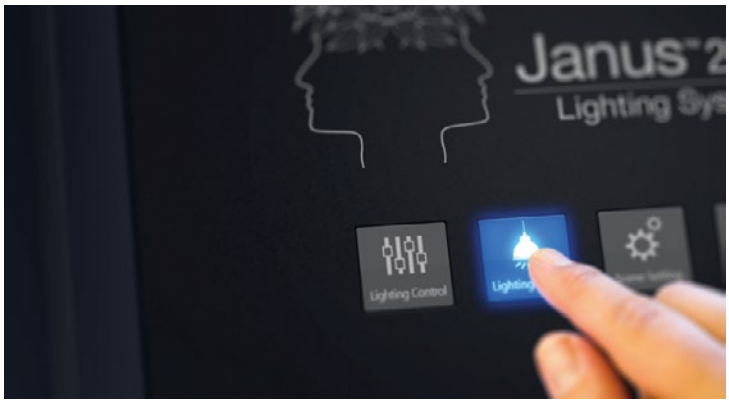
Janus LED lighting system provides the following functions:

Manual Control
Global dimming, group dimming, one-click scene change and various manual control methods make lighting management much more convenient and efficient.

Automatic Control
All lamps can automatically switch or dim according to the schedule set by the user. This smart automatic function greatly decreases the constant on-off switching of the power.

Lighting Status Inquiry
System shows the status of all lamps in real time, so the user can easily recognize the failure of lamps.

Energy Consumption Statistics
Janus LED lighting system can record the energy consumption of all lamps and provide the user a report of the energy consumption during each period.

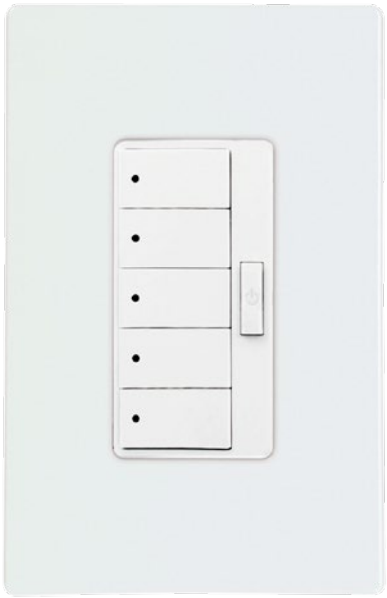


Intelligent Control Solutions

- Motion Sensing: For areas where occupancy is sporadic (such as in warehouses, corridors or restrooms), motion sensing control can save a great deal of energy.
- Photosensitive Switch: For some outdoor lighting, Janus provides a reliable photo-sensitive switch that can sense the illumination value of the environment and accordingly switch on the LED lamp at night and switch off during daytime hours.
- Constant Illumination Control: For some indoor areas that get partial natural light, a constant illumination control solution can automatically dim the lamp according to the change in natural light levels. This can save lots of energy, and also keep the illumination of the area at a stable level.

The Vivido Wall Mount Five-scene Keypad

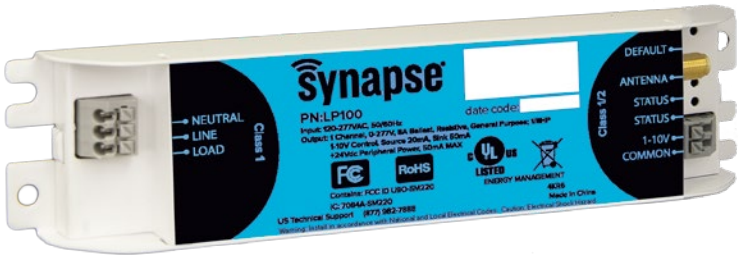
By URC
www.universalremote.com



The Vivido® Wall Mount Five-scene Keypad from URC mounts in a standard single-gang electrical box and is powered by normal household line voltage (120V/AC 60Hz). When used as part of a URC Total Control® automation system, it activates up to five (5) preset scenes by manually pushing one of the five buttons on the keypad. Scenes are a group of devices set to customized levels or states. The keypad has five buttons for turning individual scenes both ON and OFF. A blue LED on each button provides scene status notification and LEDs also dim when a scene has been deactivated. Each scene can be brightened or dimmed by pressing and holding any active (ON) scene's button. The button located on the side of the device transmits an All-OFF command to only devices associated with that scene controller. Is also compatible with any Z-Wave system.

DIM10 Lighting Controllers

By Synapse Wireless
www.synapse-wireless.com



The DIM10 family of lighting controllers act as an intelligent wireless controls solution providing remote control and monitoring of connected, smart node devices via wireless mesh network. Synapse lighting controls are flexible enough for retrofit or new installation, and provide dimming controls and true on/off functionality with an onboard relay — not to mention optional power monitoring functions.

Designed to be sensor agnostic, the DIM10 family of controls enhance traditional functionality and make it faster and easier to install and commission your indoor or outdoor lighting system, whether its for individual or banks of lights.

Moonring Luminaire

By Architectural Lighting Works

www.alwusa.com/moonring

Architectural Lighting Works (ALW) — an international manufacturer of high-performance, commercial luminaires designed for use in office, retail, hospitality, civic and academic environments — announces the release of Moonring.

Available in suspended and surface mount models, Moonring is a simple, decorative luminaire that emits a soft, mystical gleam from a flexible LED source woven within a narrow, 1inch curved housing.

Moonring circles (4-, 5-, 6- and 8foot diameters) are formed from four joined arc segments. These same arc segments can also be specified as individual luminaires or joined together to form a wide variety of S-shape and curvilinear configurations including squiggly lines, looping weaves, rounded radials and asymmetric spirals. When paired with ALW's compatible Lightplane 1 luminaire, Moonring arcs can also be configured to form stadium ovals, rounded rectangles and switchbacking lines of light.

"ALW is empowering specifiers to throw their ceilings and walls a curve. We know the circular Moonring shapes will be popular, but what we believe will really excite designers and architects is the ability to snake, swirl and

spin refined illumination throughout their projects," said CEO Shira Steinbeck. "To paraphrase Peter Falk in The InLaws: 'Serpentine Specifiers. Serpentine!'"

The competitively priced Moonring is available in 3000K, 3500K and 4000K CCT and is powered by a remote 0-10V, DALI, DMX or Lutron® HiLume dimmable driver. Finish options are aluminum, black, white or any RAL color.

"As Moonring gains traction in the marketplace, we will look at expanding the product's options," added Steinbeck. "Arcs with tighter radii, a recessed model and additional lumen packages are possible line extensions we will evaluate."

About ALW

Since its founding in 2006, Architectural Lighting Works (ALW) has been an innovator in architectural lighting by delivering highly modifiable and configurable luminaires built with quality craftsmanship at competitive prices.

Luminaires are designed with elegant, balanced shapes and strong, understated lines. By combining high-performing precision reflectors with the most energy efficient lamp sources, ALW's designs are tailor-made to exact project requirements in Hayward, California. Additional factories in Great Britain, China, Mexico and India serve the international market.

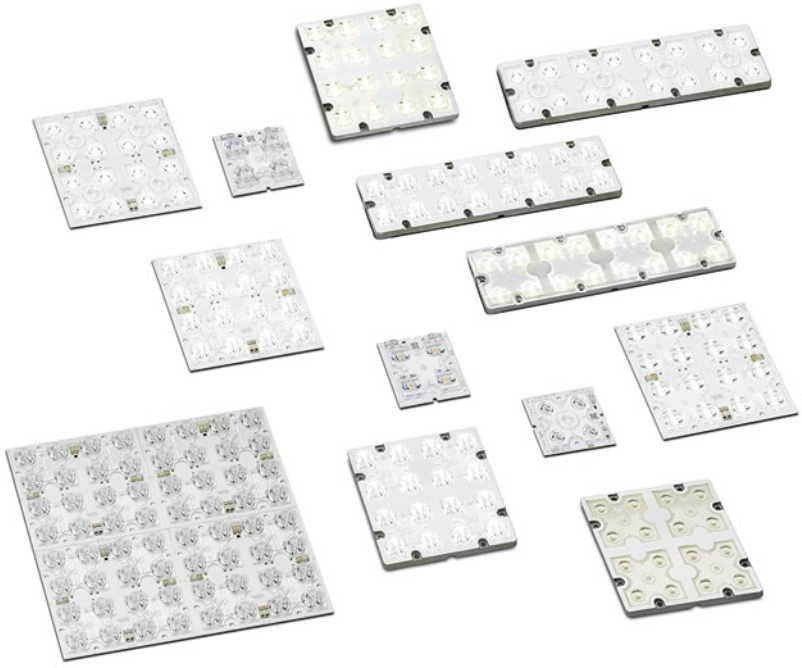
ALW's luminaires are utilized in commercial applications across the globe and the company has provided high-profile installations for such notable enterprises as Microsoft, Volkswagen, Tesla, Verizon, TGI Fridays, Lord & Taylor and Whole Foods.

Street Lighting with VS LED Technology

By Vossloh-Schwabe

www.vossloh-schwabe.com

Photos: Vossloh-Schwabe and shutterstock.com



Vossloh-Schwabe provides a comprehensive range of LED modules for standard-compliant street lighting.

By combining a variable number of LED modules within a luminaire, this reliable, compact and modular system makes it possible to meet the provisions specified by various standards for nearly all lighting classes.

Large Range of LED Modules

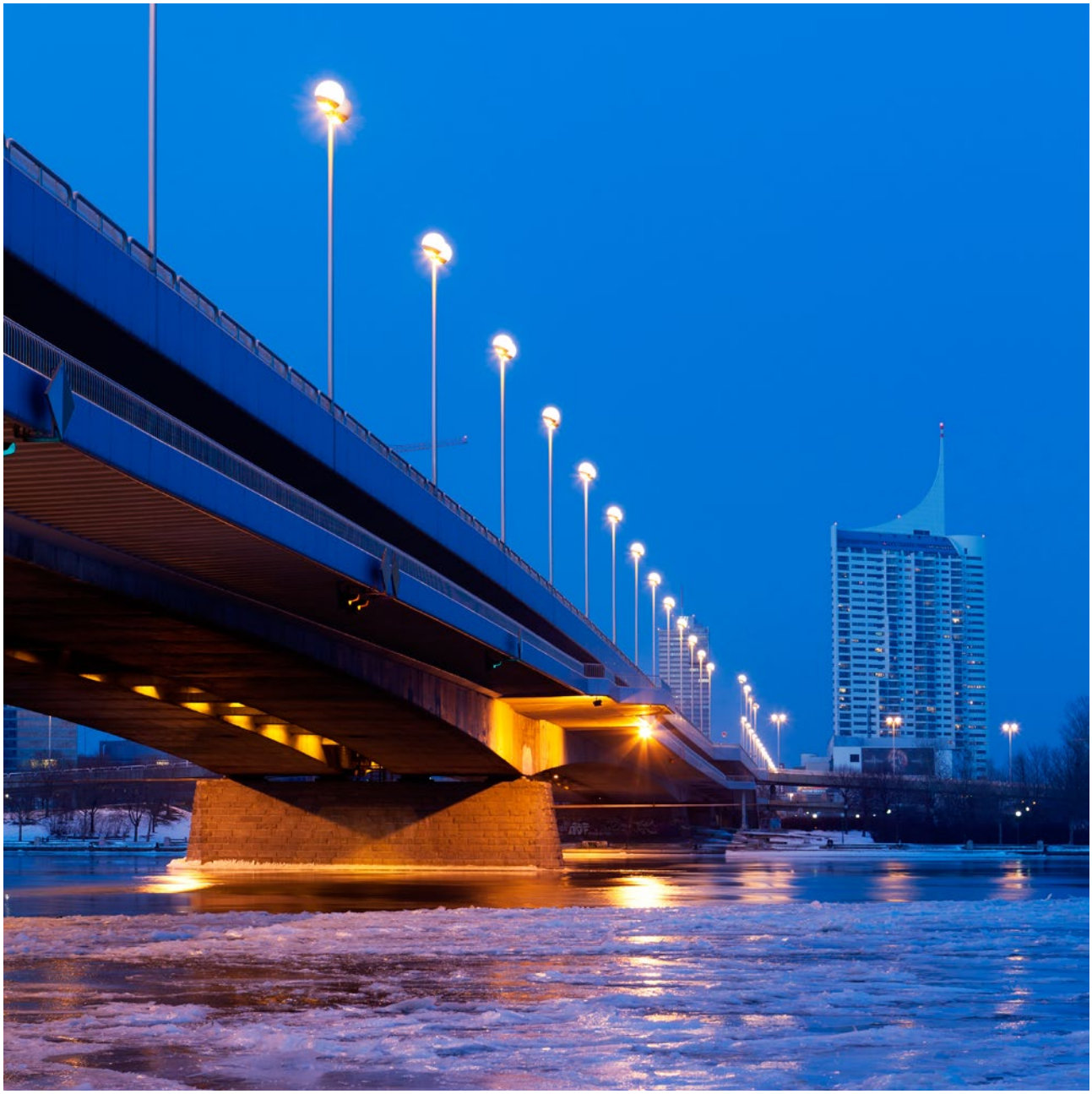
- IP20 degree of protection for luminaires that already feature a high degree of protection.
- IP66/IP67 degree of protection on a robust aluminium base for an open luminaire concept without additional covers that reduce light output.
- Highly compact modules with 4 LEDs right up to large modules with 64 LEDs.
- Humidity-resistant 32-LED light engine, incl. optimised heat sink.
- Various light colours (CCTs) between 3,000 K and 5,000 K. Various CRIs: > 65, > 70, > 80 (CRI > 90 on request).
- Resistant against voltages of up to 4 kV.

Top Quality Optics

VS LED modules are fitted with PMMA or silicone optics, which ensure optimum light guidance, the greatest possible optical efficiency and reduced glare.

No less than five different optics are available for various fields of application: street, outdoor and industry.

- 2 optics with an asymmetrical, broad light beam (primarily for M-class and S-class street lighting).
- 3 optics with symmetrical light beams (Area, SYM I, SYM II), particularly suitable for illuminating squares, public parks, industrial production facilities, warehouses and petrol stations.



Highly Flexible and Reliable VS LED Drivers

The system is completed by matching VS LED drivers that are ideal for use in street lighting. Our product range contains numerous options for energy efficient lighting.

This expansion of our already existing product range offers you even more flexibility, convenient connection options and an outstanding degree of reliability:

- Slim-line designs
- A high degree of efficiency within a broad temperature range
- Protection against overvoltage and humidity
- Low maintenance costs due to excellent reliability and a long service life
- Integration into light management systems

EYE LEDioc STREET 40VA

By Iwasaki Electric Co., Ltd. Japan
www.eye.co.jp

The LEDioc Street 40VA is an energy saving streetlight for security purposes featuring the unparalleled optic control allowing greater pole spacing together with long life and reduced maintenance requirements. The compact and lightweight design allows for hassle-free installations.

- 28W system wattage
- Up to 70m pole spacing with reduced glare
- Highly uniform light distribution
- 60,000 hour long life (L90)
- Compact and lightweight
- Integrated photo sensor
- Wall mount and pole mount types are available
- IP65

LUMENBEAM LBX

By Lumenpulse Lighting Inc
www.lumenpulse.com

The Lumenbeam LBX is a high-performance, 140W or 200W luminaire for lighting multi-story facades and tall structures. Noted for its slim form factor and long L70 lifetime, the luminaire can be configured with numerous options including two outputs RO (140W) and HO (200W); optics for flood or accent lighting; a choice of color temperatures and colors; various mounting options, accessories and spread lenses; and dimming control via DMX/RDM, DALI or 0-10 volt.

NOKERO N233 SOLAR POWERED LIGHT

By Nokero
www.nokero.com

The innovative N233 is an affordable, clean and safe light source that can replace dirty and dangerous kerosene or candles. It is also perfect for camping, emergency use, or anywhere you might use a lantern or torch. The Nokero, which stands for “no kerosene,” N233 provides an incredible 15 hours of light after a day’s charge in the sun. The N233 is small enough to fit in your pocket, but bright enough to light a room. The N233 is highly versatile and can be held as a torch, easily hung by its clip, or used with its included tabletop stand. Its rechargeable battery lasts up to five years.

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ULTRA LOW-GLARE D700+ DOWNLIGHT

By Brightgreen

www.brightgreen.com

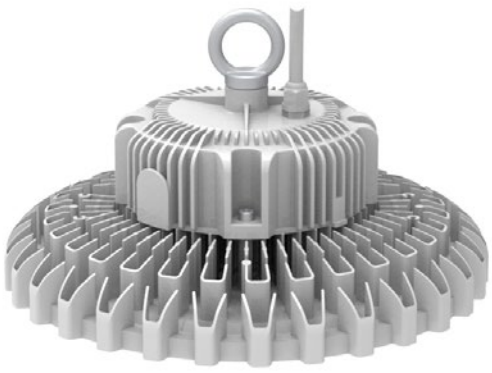
The new D700+ downlight from Brightgreen is a low-energy and low-glare LED luminare with universal gimbaling and an interchangeable fascia and filter system. Designed to combat the occurrence of light spill, or glare, recent research proved that the D700+ creates more inviting environments with lower Unified Glare Ratings than standard downlights on the market. With a patented low-glare lens and a deep-recessed design that shields the light source from the viewer's direct line of sight, the D700+ projects an unimposing beam to silently champion interior architecture and design—instead of dazzling viewers with unwanted light spill.

YAHAM COMPACT II SERIES LED HIGH BAY LIGHT

By YAHAM Optoelectronics Co., Ltd

www.yahamlighting.com

YAHAM's Compact II Series LED high bay lights offer ultra-high light efficiency with 130lm/W. The luminaire is extremely light and small – only 1.2/1.8kg with E39/40 joints and comes in 100W, 120W, 150W and 180W options with a microwave induction system. With an IP65 rating and various beam angles available (60, 90, 120), this luminaire can suit many lighting applications such as workshops, warehouses, gymnasiums, gas stations, malls, garages, etc.



PATERA PENDANT

By Øivind Slaatto

www.louispoulsen.com

The Patera pendant is a glowing sphere built up of small diamond-shaped cells. Each cell is carefully designed to capture light and to shield the light source from the viewing angles above 45 degrees. Each cell glows. Below 45 degrees, the fields are open to direct light downwards. A small amount of light is also sent upwards to illuminate the ceiling. The pleasant light emitted by Patera suits a variety of contexts: everything from dining table settings, halls and entrances, to reception areas and meeting rooms. Patera illuminates people around it in a credible, natural light without generating inappropriate shadows on their faces. Stylistically, the light is simultaneously simple and refined, which means that it blends seamlessly into most interior design set-ups, modern and classical alike.

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METALUX™ SWLED SURFACE AND WALL LED LUMINAIRE

By Eaton

www.eaton.com

The Metalux™ SWLED Surface and Wall light-emitting diode (LED) luminaire provides a versatile, high-performing and energy-efficient lighting solution for a broad range of commercial and industrial application needs. Featuring Eaton's advanced LED technology, the luminaire is offered in multiple lumen packages, lensing and control options, making it an excellent replacement for general-purpose lighting applications of linear fluorescent products including low-bay industrials, wraparounds and striplights. The SWLED luminaire can provide energy savings of up to 50 percent when compared to traditional fluorescent alternative products.

STRONGLED DMX/RDM SYSTEM

By StrongLED

www.strongled.com

The StrongLED RDM-SF-2CH is a field proven DMX/RDM decoder/PWM driver developed specifically for LED luminaires. It is PLASA ANSI E1.20-2010 compliant, has two programmable output channels each capable of >10A and 256 or 2048 greyscale levels for stable, is flicker-free and has smooth DMX color changing effects as well as RDM detection and feedback functions for ID, temperature, voltage, current on each channel. It also provides over-current and over-voltage protection on each channel and is opto-coupled on all ports to prevent static and RF interferences. The drive also has an automatic addressing function, can be password protected by the user and can be integrated into BMS.

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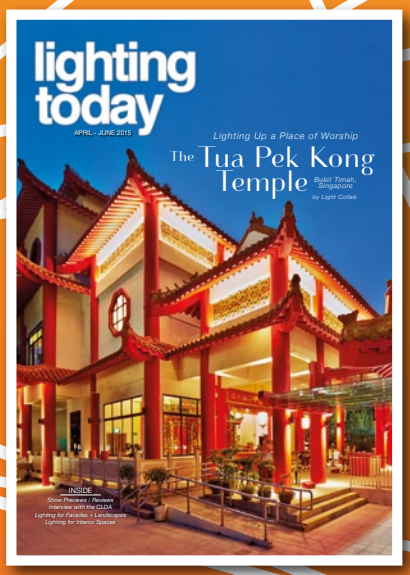

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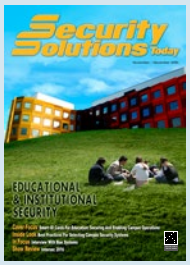

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March

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www.strategiesinlight.com

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MEGABUILD INDONESIA, March 17 – 20
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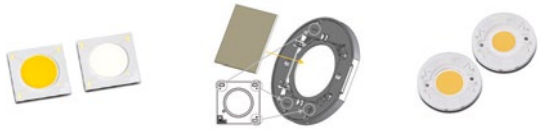

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