Edition 6
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UniversalLight

COVER IMAGE

Hebei Grand Hotel,
Shijiazhuang, China.
Image by LWK + Partners

Universal*Light*

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Deutsches Haus, Ho Chi Minh
Image from Marcus Bredt of GMP Architects

With contributions by some of the industry's leading practitioners and renowned designers, Universal Light is an insight into the rising recognition of the importance of lighting in the built environment.

Contributors

Dr Thanh Tran

Role	**Co-Founder**
Company	**ASA Lighting Design Studio**
Location	**Ho Chí Minh, Vietnam**

Dr Thanh Tran is one of Vietnam's pioneer lighting designers and is recognised worldwide for his works that hold significant cultural and innovative values. As a lecturer at The University of Architecture in Ho Chi Minh City, he emphasises the impacts of lighting on well-being and sustainable development.

asastudios.com

Horatio Burton

Role	**Senior Lighting Designer**
Company	**Electrolight**
Location	**Melbourne, Australia**

Horatio believes that it is the lighting designer's role to guide collaboration between the Client, Architect, Interior Designer and Building Contractor to meet the project's fundamental design aspirations. Thanks to his background in industrial design and lighting design, custom-designed lighting solutions are significant to many of Horatio's projects.

electrolight.com

Damian de Wind

Role	**Project Lighting Manager**
Company	**Mondoluce**
Location	**Perth, Australia**

Damian is an expert at collaborating with project partners to deliver tailored lighting solutions to Perth-based commercial projects. With over ten years of experience working in the lighting industry, he goes above and beyond his role to research and offer the most suitable lighting solution for each project.

mondoluce.com.au

Martin Bevz

Role	**Illumination Engineer**
Company	**LVX Global**
Location	**Sydney, Australia**

Martin places a significant focus on understanding the subconscious intersection between the human experience, light and space. As an artist and engineer, Martin has a creative yet technical mindset which helps establish his footprint in the lighting world as a dynamic creator and Illumination Engineer.

lvxglobal.com

Rebecca Wong & Benjamin Chan

Company	**LWK + Partners**
Location	**Shenzhen, China**

As the Principal Lighting Designer of LWK + Partners, Rebecca believes that "lighting design has less to do with creating what one may see; rather, it is about letting light reveal how it wants to be seen." Benjamin is the Director of LWK + Partners in Shenzhen and a strong advocate for technology innovation and BIM technology.

lwkp.com

Ho Mong Long

Role	**Founder and Lead Architect**
Company	**HMLarchitecture**
Location	**Hanoi, Vietnam**

To Ho Mong Long, each project is a story, a way of adapting to the various context of life and environmental surroundings. Based on his principle of respecting nature and its progression, he aims to convey a strong sense of harmony between 3 elements 'the sky-earth-person' in his projects.

@HMLarchitecture

Anne Truong

Role	**Specialist Lighting Lead**
Company	**WRAP Engineering**
Location	**Melbourne, Australia**

Anne has developed a keen awareness of human psychology behind her designs, focusing on a blend of aesthetics and environmental consciousness. She is well-known for her active engagement in various lighting professionals' communities. She aims to enlighten everyone on the importance of artificial light and its impact on the world.

wrapengineering.com

Timo Pakkala

Role	**Founder**
Company	**Casambi**
Location	**Helsinki, Finland**

As the founder of Casambi, Timo is one of the key figures in the lighting industry. The company has grown to become a highly profitable global business boasting collaborations with leading industry partners and lighting professionals across the world.

casambi.com

Henry Luong

Role	**Head of Brand and Digital Products**
Company	**Unios**
Location	**Perth, Australia**

Henry is a part of the executive team at Unios, leading the Brand and Digital Products division. Throughout his career, Henry hopes to bring new digital outlooks and fresh perspectives on the customer experience in the lighting industry. His works have been recognised in several books internationally.

unios.com

From the Editors

From the beginning of time, light has been the enabler of life and a medium that helps us understand the environments in which we live, work, play and connect. In Edition 6, Universal Light had the opportunity to feature lighting industry professionals whose works have helped shape our understanding of the built environment.

From Celebrating Light, an article by Dr Thanh Tran, we learned to appreciate light as the fabric of our existence and its presence in our culture, art, and architecture. Then, through Martin Bevz's insights into visual wellness, we became familiarised with the eye-opening concept of 'light viewing' and came to acknowledge light as a medium that can help us regulate a sustainable lifestyle.

On sustainability, we're excited to feature our interview with Anne Truong, as she brought much-needed insights into how environmentally conscious lighting design can influence wildlife and cultural preservation. Also, about culture preservation, we welcomed an article contribution from Horatio Burton as he walked us through Electrolight's highly technical yet artistic approach to lighting Olderfleet, a heritage site on Collins Street. Taking a case study approach to the upcoming trend in retail lighting, Damian de Wind explained the process of lighting Karrinyup Shopping Centre.

From the cultural aspect, Rebecca Wong and Benjamin Chan perfectly captured the progression of façade lighting techniques from ancient to modern-day China. Similarly, the article from architect Ho Mong Long honoured Vietnamese traditions as he discussed lighting Vietnam Design Week 2021.

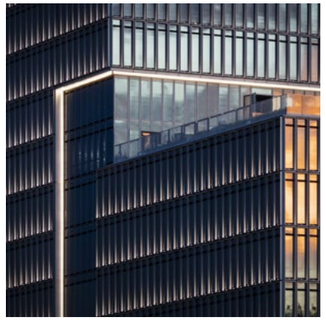
As with any other profession, the lighting industry could not move forward without the involvement of technology. If Timo Pakkala looked at the current innovation with Casambi's approaches and their recent backing of the Matter Standard, Henry Luong took a stance on the inevitable future of B2B businesses in the lighting industry.

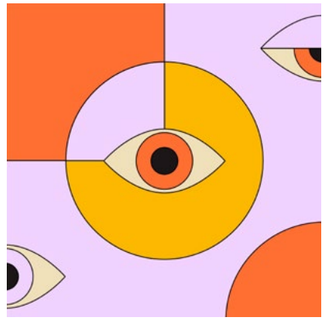
Inspiring, insightful and fun – we hope you'll find enjoyment in this issue as much as we loved putting it together. Happy 'light' reading!

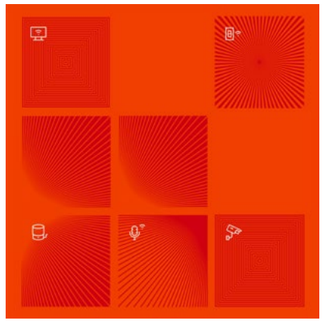
Thanh Hang Vu
Universal Light Editor

Uyen Hoang Kieu Le
Universal Light Editor

Contents







Deutsches Haus, Ho Chi Minh
Image from Marcus Bredt of GMP Architects

Celebrating Light

A contribution by
Dr Thanh Tran

As one of Vietnam's pioneer lighting designers, Dr Thanh Tran co-founded ASA Lighting Design Studio, an award-winning lighting design practice based in Ho Chi Minh City. His works are recognised worldwide, especially in South East Asia, for their cultural importance and innovative values. Additionally, Dr Thanh is currently a lecturer at The University of Architecture in Ho Chi Minh City.

“Light is everywhere. It is the sunlight reflecting on a rock, the moonlight casting leafy shadows under the trees, or the starry sky of Van Gogh sparkling above the towns and cities. Light is all around us; it is always there but not something we always notice.”

Light is not only known for its ability to bring brightness to a space; it influences our emotions and contributes to wellness quality, magnifies our cultures, and has always been a source of inspiration for art and architecture.

Hence, UNESCO has announced the 16th of May each year to be The International Day of Light “to celebrate the role light plays in science, culture and art, education, and sustainable development, and in fields as diverse as medicine, communications, and energy. The celebration will allow many different sectors of society worldwide to participate in activities that demonstrate how science, technology, art and culture can help achieve the goals of – building the foundation for peaceful societies.”

Berlin at Night, shot by Chris Hadfield
Authored by NASA/ESA

Light Celebrating Lives

“Light plays a central role in our lives. On the most fundamental level, through photosynthesis, light is at the origin of life itself”-UNESCO.

The Weather Project (2003), an impressive art installation by Olafur Eliasson, features an artificial “Sun” illuminated by 200 sodium lamps emitting very low monochromatic yellow light, rendering the space and visitors colourless. In the setting flooded by monochromatic yellow light, Olafur’s giant sun rises out of layers of fine mist within the Turbine Hall at Tate Modern in London, giving viewers an illusion of being very close to the sun.

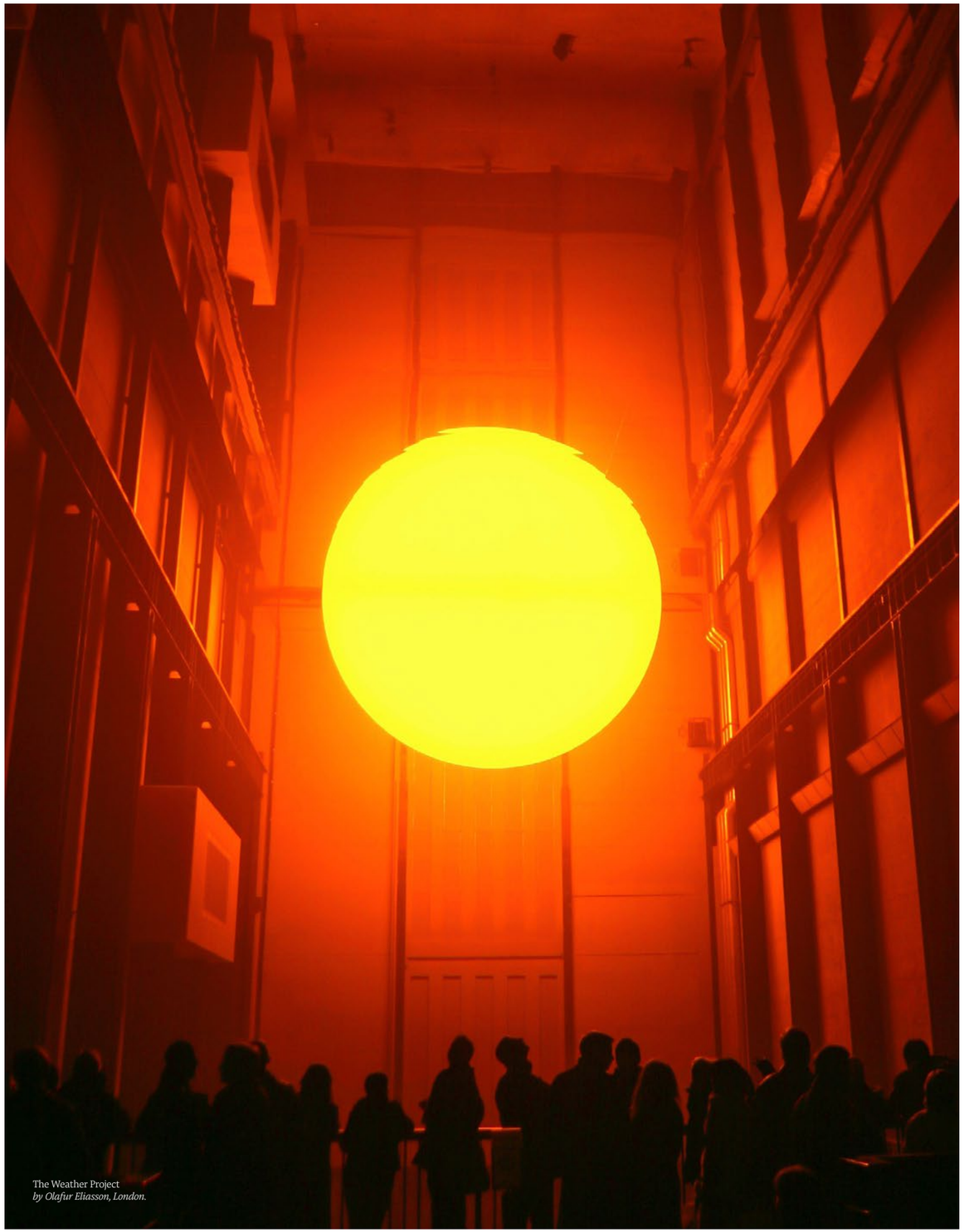
For some, the sight represents a bright and beautiful solar noon; for others, it is a snapshot of the end of the day, a sun dimming with its last energies. Perhaps, the point here is to say that life exists under the very “same” sun and exists as equal despite our differences.

Humanity has had a reliance on light from the very beginning. Since the invention of fire, the first artificial light source, humanity has strived to create new and improved mediums and technologies to satisfy the needs of each era. In some ways, each step in artificial lighting development reflects society’s movements, patterns, and preferences. Wherever there are people and human activities, there is light.

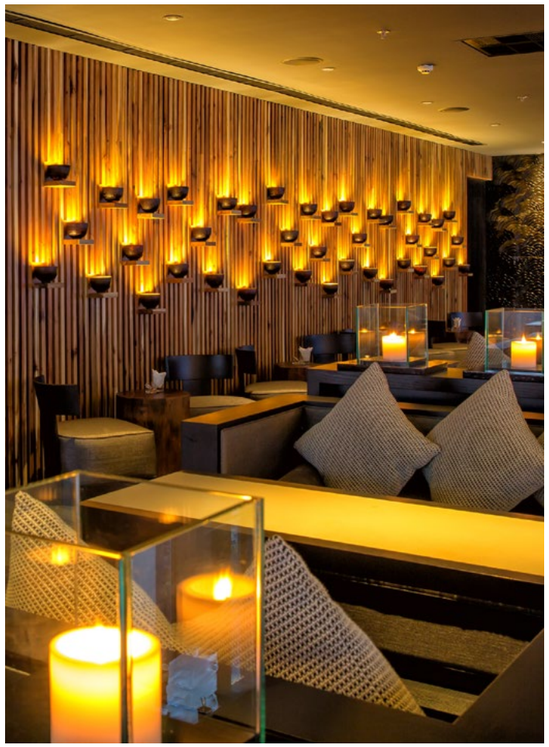
In the photo of Berlin in 2019 taken by NASA astronaut Chris Hadfield from space, it is not difficult to recognise the difference in lighting colours between East and West Berlin. Even though Berlin has been a unified city for 30 years, the division can still be seen illuminating on clear nights.

On the right, East Berlin glows in yellow light. Meanwhile, West Berlin beams in bright white light. The contrast can be best explained through history as a legacy of the Cold War. Based on The Telegraph's article, the yellow light is the production of sodium-vapour lamps. On the other hand, the white light comes from the everyday use of fluorescent lamps. Additionally, through lighting density patterns, we are able to observe and identify the differences in the level of commercial movements and activities occurring in West Berlin versus East Berlin. (The Telegraph, 2013).

The photo captures the footprint of society or, as I call it, “lightprint.”



The Weather Project
by Olafur Eliasson, London.



"Culture sets the foundation of people's identities, and light is a part of it."

Light Celebrating Culture

Light is a vestige of many aspects of life, such as economy, politics, and culture. Culture sets the foundation of people's identities, and light is a part of it. In her message to celebrate the International Day of Light in 2020, Shamila Nair-Bedouelle, UNESCO Assistant Director-General for Natural Sciences, stated that "across cultures, light is a universal symbol of life, inclusion, and renewal."

Around the world, people gather to spectate fireworks on New Year's Eve night to welcome a new beginning. Light has biological and physical values, as well as great spiritual significance. Through light, people commemorate their differences as well as common interests.

In lighting design, light's cultural characteristic helps shape identities and moods. For example, with high-end Japanese restaurants like Sora Sushi and Sake Lounge, it is crucial to utilise minimalist and warm light to enhance the aesthetic arrangement while celebrating the formal Japanese dining customs and etiquette. In contrast, with San Fou Lou, a casual Chinese noodle bar, red lanterns are an excellent communication device that conveys the notion of "Eating as a way to attain happiness" in Chinese culture as described in I Ching.

↖
Sora Sushi and Sake Lounge, Ho Chi Minh City
Image from ASA Lighting Design Studio

↑
San Fu Lou, Ho Chi Minh City
Image from ASA Lighting Design Studio

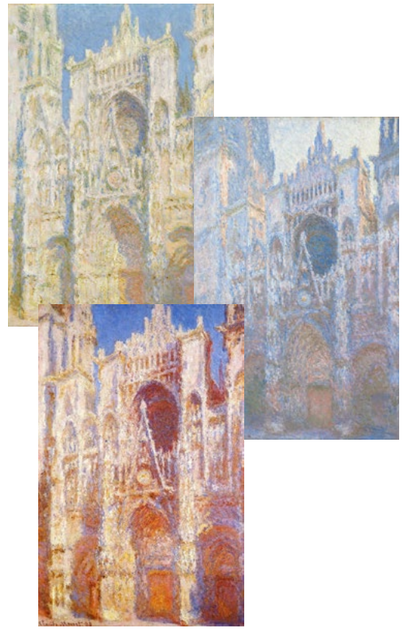
Lighting in Art and Architecture

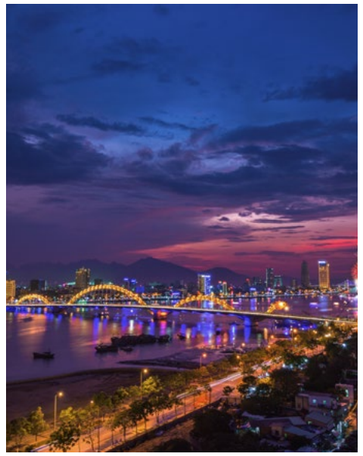
Not only does light bring life to earth, capture our footprint and enrich our culture but also, from a lighting designer's perspective, accentuates our arts and architecture.

Claude Monet is an artist obsessed with light. He created a series of paintings of the same scene many times to capture the changing of light and the passing of the seasons. Among the best-known examples are his series of Haystacks (1890–91), the Rouen Cathedral (1894), and the famous painting of water lilies in his garden in Giverny that occupied him continuously for the last 20 years of his life. Through these works, Monet attempted to illustrate the importance of light in our perception of a subject. In each painting, with different lighting, different emotions surface.

When it comes to portraying the power that light and atmosphere have on architecture, Monet's Rouen Cathedral paints the perfect example. Consisting of 31 canvases, the series depicts the historical site under different light and weather conditions. In each of Monet's paintings, the stony material of the Cathedral's façade appears to vary. These canvases ring true to LeCourbusier's ethos, "Architecture is the learnt game, correct and magnificent, of forms assembled in light." In this sense, light is an indispensable part of architecture.

As a lighting designer, it is my role to use light to honour and communicate the message of architecture. When working on the Deutsches Haus project with architects from GMP, the ASA Lighting Design Team envisions the building as equivalent to a sculpture. Through a compact double-skin façade, Deutsches Haus is rigid in its appearance, expressing the spirit of innovative and modern Germany. As a complement factor, the façade lighting works to embrace the architecture and imbues the design with a sense of high-class elegance. Simultaneously, the interior lighting was purposefully designed to enhance space through the assembly of form, shape, and materials in light.





Light Celebrating Dreams & Visions

As global cities navigate forward, people will continue leaving our footprint as light illuminating buildings and spaces. The PwC's "Cities of the future" study names the lighthouse strategy – development of an iconic cultural attraction, as one of the ways cities can attract dreamers and visionaries worldwide. For example, starting as a port city, Da Nang expanded its capabilities as a tourist destination after significantly investing in iconic infrastructure and architecture like the Dragon Bridge. The highlight of this cultural landmark is the remarkable display of pyrotechnics and rainbow-coloured light show that leave people in awe on every occasion. As a result, Dragon Bridge became not only a tourist attraction but also an iconic footprint that transformed the city and marked the rise of its potential.

Light is fascinating. As a lighting designer, my goal is to encourage everyone to understand light in different aspects. So let us all celebrate lighting and all it represents each year on 16th May – the International Day of Light.

↖
Dragon Bridge, Da Nang
Image by Robert Whithword

Shining a Light on Wellness

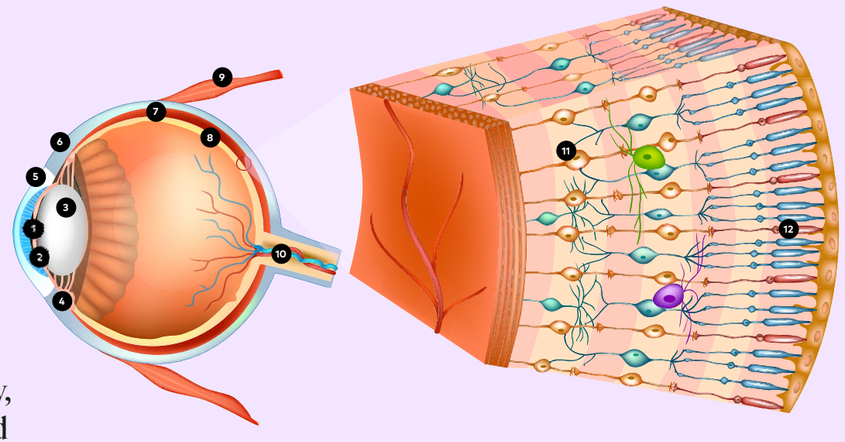
A contribution by
Martin Bevz

Martin Bevz is an Illumination Engineer at LVX Global, a next-generation global advisory to the public and private sector, delivering end-to-end engineered technology solutions. Martin is recognised as a lighting professional who has worked on various prominent projects and with renowned firms, including LVX Global, Mirvac, and 32 Hundred Lighting.

“We are multi-dimensional creatures that rely on many complex systems working in unison.”

It is an exciting time to be a lighting designer. We are witnessing a paradigm shift towards quality of light, led by a market with new and innovative technologies. But how are things tracking on a personal level? From a grand scale, it seems like our connected world and accessible technology enable forces to improve our quality of life. In reality, the attention economy disrupts our trajectory towards wellness. For many of us, it is common to feel the pressure of everyday lives eroding our mental and physical health. So, let’s hit pause, take a moment, and look at some methods to optimise our wellness and well-being, and how we can utilise light to improve our well-being.

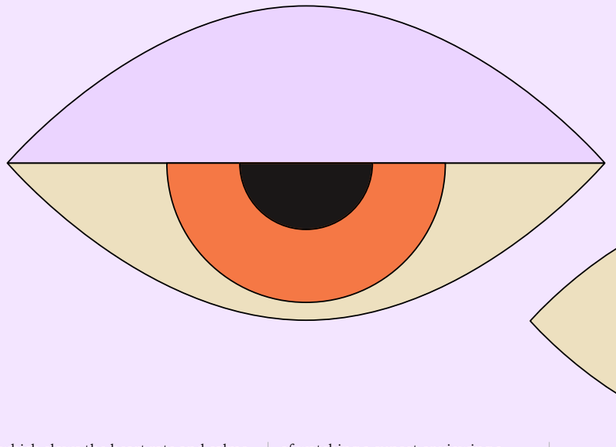
But what is wellness? The Global Wellness Institute defines it as the active pursuit of activities, choices and lifestyles that lead to a state of holistic health. It is a multidimensional, dynamic, subjective and personal concept consisting of our every behaviour, routines, habits and protocols. Wellness isn’t one-size-fits-all but highly individualised; therefore, it is essential to understand the foundational science and experiment to find what works for us.



Change the Body, Change the Mind

How does wellness relate to light? Hopefully, we can all recall high school textbook descriptions of the visual system consisting of the cones and rods living in the retina at the back of the eyes. Stimulated by light, this system is responsible for our photopic (day) and scotopic (night) vision.

In 2002, Samer Hattar, a chronobiologist and leader in the field of non-image-forming photoreception, and his colleagues made a significant contribution to our understanding of vision when they defined the role of melanopsin in the retinal ganglion cells (also known as ipRGCs or Intrinsically photosensitive retinal ganglion cells). These cells are found in the lower part of the retina, which corresponds to the upper portion of our visual field. Interestingly, the ipRGCs have a linear response to light, unlike the visual system (cones and rods), that continuously adapts to the environment. ipRGCs are most sensitive to short wavelengths, and are responsible for the constriction of pupils and the release of melatonin in response to light. Melatonin is essential as it’s the hormone responsible for regulating our sleep-wake cycle. The suppression of melatonin (by activation of the ipRGCs) encourages dopamine, serotonin, and cortisol production.

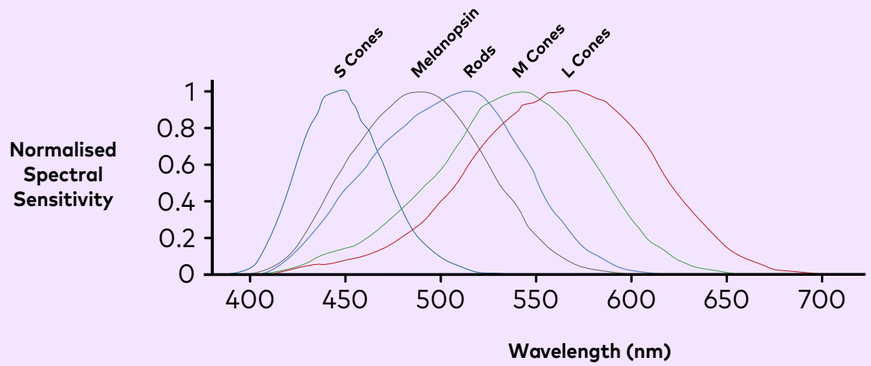


The link between vision and wellness

The duality of our visual system is similar to breathing in that it has a bidirectional effect on our nervous system. When we experience stress, our breathing becomes shallow. This starves our system of oxygen, triggering adrenaline that prepares our body for action. On the flipside, a known method for de-stressing is deliberately slowing our breathing, which slows the heart rate and calms the nervous system.

A similar mechanism applies to the visual system. When stressed or anxious, we often experience tunnel vision; a decreasing of our visual aperture, causing us to focus on specific thoughts or emotions. Alternatively, when we are relaxed, our vision becomes panoramic and we experience a wider field of view. Think of the calming effect of watching a sunset or viewing a beautiful vista.

We are multidimensional creatures that rely on many complex systems working in unison. Our body and mind constantly make subtle and dramatic changes responding to the environment at conscious and subconscious levels. The more we understand these systems and their dependencies, the more we can use them for our benefit.



Lighting Technology and Visual Wellness

It's only been 20 years since the start of our understanding of how light affects our sleep-wake cycle. Over the same amount of time, technology has dramatically impacted our lives. With the dot-com boom in the early 2000s, we've seen countless technological advances, from solid-state storage, battery technology, wireless communications (including Bluetooth), the internet, social media, and smartphones. And for the lighting industry, it is, of course, LED lighting.

We don't always get things right

The early adopters of LED lighting found themselves with expensive products providing moderate performance, but now we see high-quality LED everywhere. As a result, there is a vast ecosystem of mature products that would have never been possible with traditional lamp technologies. The downside, however, is the complexity and decision fatigue associated with this abundance.

> "Good frameworks and standards establish consistency and a collective purpose to improve lighting that supports wellness."

Ironically, the marketing department is always the first to cut through the noise. I'm sure most lighting professionals can recall the early presentations on circadian lighting—this new technology aimed at boosting employee productivity enough to cover the cost of the new lighting system. I remember a pitch for tuning LEDs to 6000K at certain times of the day to provide an energy boost to the workers.

Science-led lighting technology

Fortunately, the literature has caught up to marketing; or perhaps the demand for science-based evidence has increased. In 2017, the lighting technology and solution partners Tridonic, iGuzzini, Fagerhult and Zumtobel teamed up with Aalborg University, Copenhagen, to develop and scientifically validate the concept of Double Dynamic Lighting (DDL). This concept utilises different colour temperatures for direct and indirect components to simulate the dynamic qualities of daylight. The study provided several design recommendations to implement DDL, including dynamic controls to emulate sky variations, combinations of direct and diffused lighting components, colour temperatures and light levels. In addition, this study shows the benefit of strategically applying the technology based on a deep understanding of the biological effects.

There are also new types of LEDs that are specifically tuned for the non-visual effects of lighting. These LEDs still achieve the benchmarks for visual lighting (e.g. high colour rendering) but are either blue-enriched or blue-depleted depending on the application. They are usually accompanied by additional metrics to measure the effectiveness of the activation of the ipRGCs. Clearly the trend is pointing towards a human-centric approach to lighting. But how do we make it all work?

Lighting control

In my 15+ years in the entertainment industry, two things were certain: if you want something to work, you run a cable to it, and if it's not working, it's usually the cable. However, the dominant market leaders in lighting controls are quickly challenged by new and emergent technologies, especially those that leverage open-source collaboration and wireless connectivity.

There is a demand for lighting control systems to be the backbone for other building services such as sensor networks, indoor location systems, and wireless data. Furthermore, our customers now want to analyse the data from these control systems to understand space utilisation, perform preventative maintenance, and capture all sorts of efficiencies. This challenge was seen as an opportunity for two ex-Nokia engineers who co-founded an open-source, wireless control system known as Casambi.

Lighting control parameters have evolved beyond on, off and dim. We now need to consider all sorts of dynamic parameters such as time of day, prevailing conditions, colour mix, specific user preferences, and more. We can't always predict how a space will be utilised, so our control systems need to be as responsive, adaptive and individualised as the people that use the spaces we design.

Existing Frameworks and Standards

Good frameworks and standards establish consistency and a collective purpose to improve lighting that supports wellness. For the lighting industry, it is the question of how do we standardise something that's so individualised?

Industry bodies and rating systems cover many layers of standards, such as Green Star, WELL, and LEED. I was fortunate enough to work on Australia's first WELLv2 rated residential building. However, we found some challenges while working through the rating system as it was primarily geared towards commercial buildings.

One of the main features of our solution was the use of low glare, dusk dimming luminaires. Dusk dimming follows a predetermined curve from warm white (3000K) to ultra-warm white (1800K), which emulates the behaviour of a traditional incandescent globe and only requires a single dimming channel. We felt this was the best outcome in a residential setting. It would prevent undesirable combinations and simplify controls and commissioning in a volume construction environment – as Tony Robbins says, "complexity is the enemy of execution."

The Cost of Wellness

Now that we have the complete ecosystem of science, technology, and controls, one issue remains – the cost. Currently, there is a high barrier to entry to implementing human-centric lighting schemes.

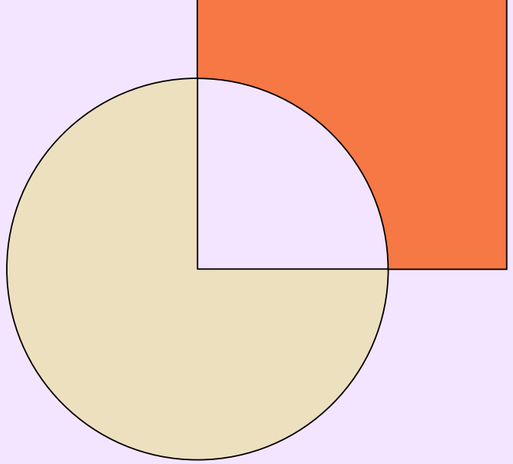
Value management. Option engineering – call it what you will, but it's usually the time when the finance team gets the red pen out, ready to make some cost savings. We may be able to make compromises and substitutions to reduce cost, but these will reappear as complexity costs or costs to the project's outcome. Despite the research, science, and cost-benefit, sometimes, human-centric lighting is just out of reach.

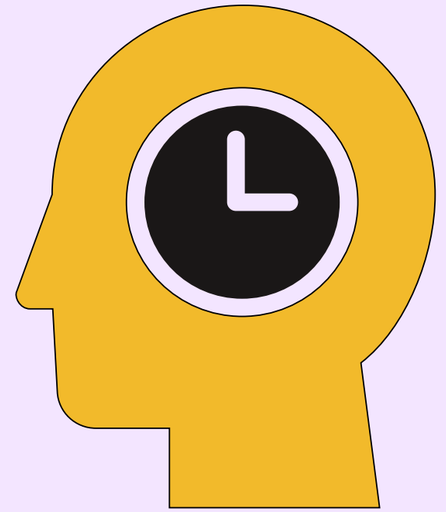
Zero and low-cost approach

What can we do today to improve our lives and benefit from the abundance of knowledge and technology?

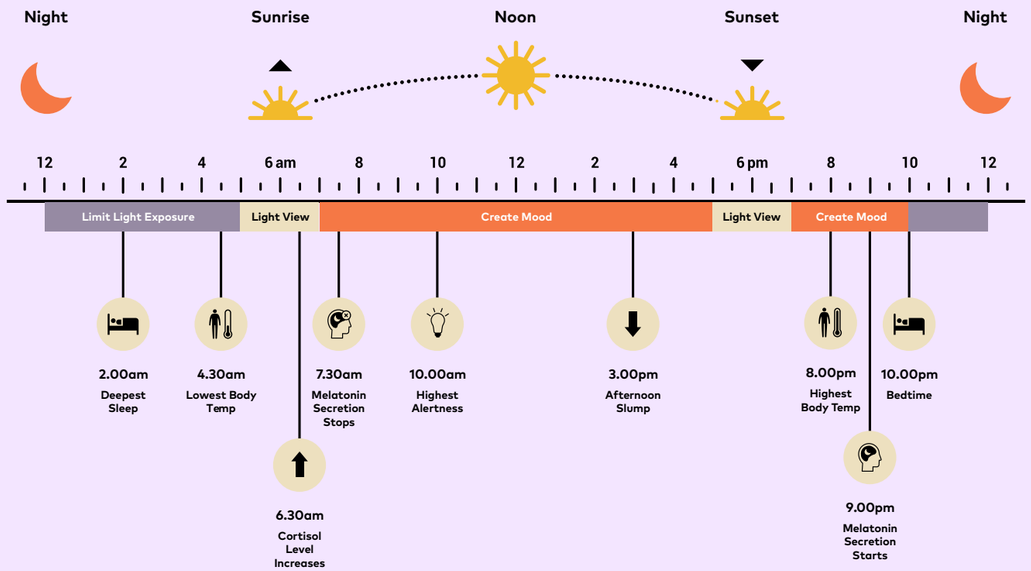
At this point, maybe we can tone down the analytical mindset and focus on the mood we're creating with our lighting systems. As lighting designers, we know how to evoke moods through light. We can create bright and energising spaces, dark and moody, and everything in between. Many people would be surprised to know how little light is needed at night, especially overnight. I have young children and an old dog, so I'm constantly moving around at night. I find it essential to maintain low light levels to help me get back to sleep. However, this is a challenge in and of itself because most consumer lighting products are too bright, the wrong colour, complicated, expensive, or poorly made.

The best solutions I have found so far include; a short length of smart LED strip set to a dim red/orange colour, battery-powered motion sensor nightlights that have been modified to reduce the brightness (and they're still a little bit too bright), and battery-powered fairy lights strategically draped over furniture. I encourage you to experiment and explore what works best for you. The main things to look for are very low brightness, low mounting height and warm/red/orange colour temperature.





"What can we do today to improve our lives and benefit from the abundance of knowledge and technology?"



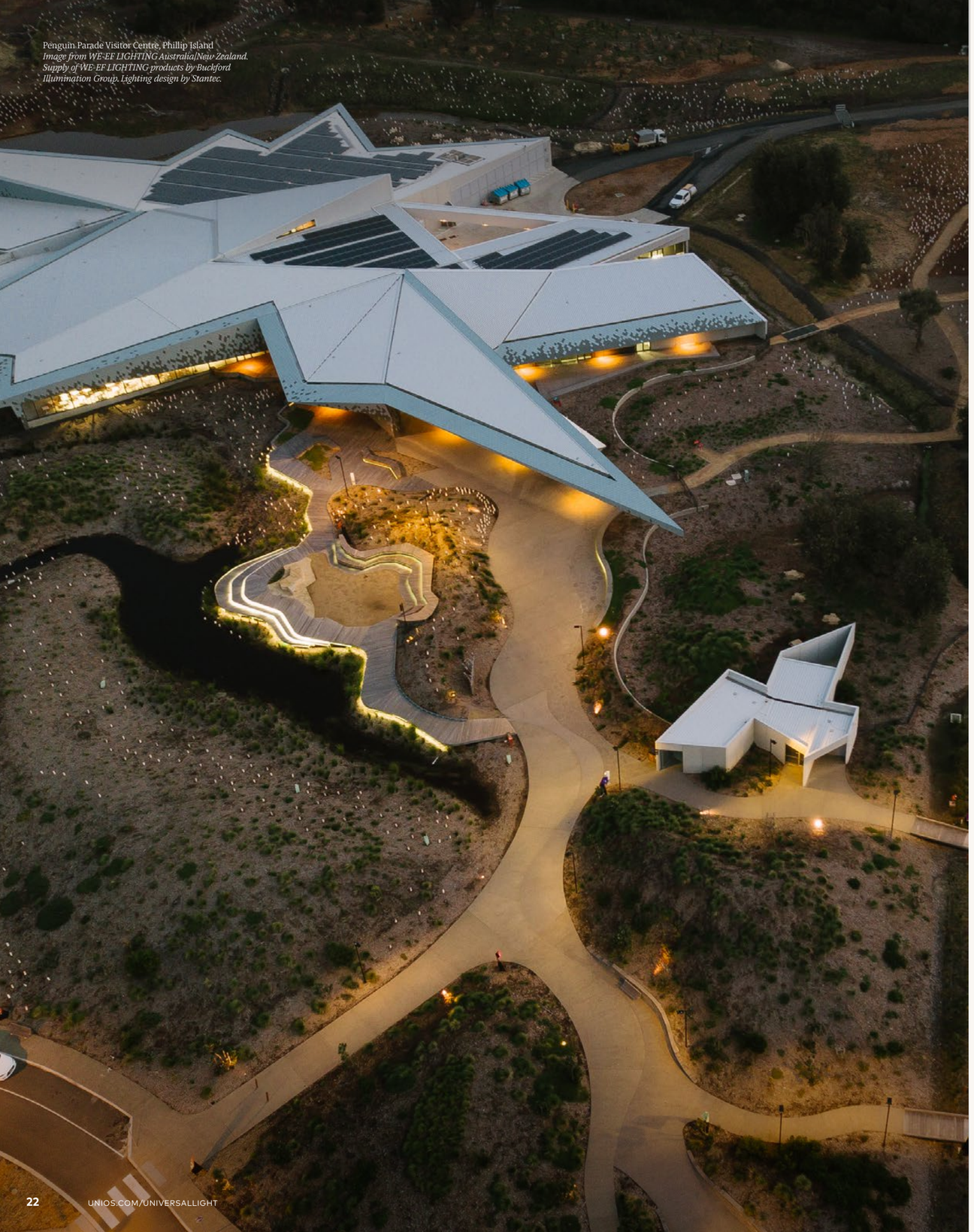
Personal Adjustment to Light – Light Viewing

Dr Andrew Huberman, a neurobiologist whose works focus on the visual system and light-mediated activation of the circadian system, encourages us to view natural light outdoors for 10-30 minutes every morning. He says it's the most important thing any of us can do for our mental health, promote metabolic well-being, and promote our hormone system's positive function.

Light viewing in the late afternoon also supports sleep. Though this seems counterintuitive, it's said to lower the retina's sensitivity in the late evening hours when we may be viewing devices, displays or other light sources.

We can make a conscious effort to avoid lighting environments, such as viewing or interacting with devices when we should be preparing our system for sleep. You may think that a quick check of the phone overnight doesn't hurt, but it has been shown that it can take as little as 20lx to disrupt your sleep cycle, and the effect on your retina can persist long after viewing light. Light viewing overnight (typically 10:00 pm-4:00 am) is highly disruptive to sleep and has been shown to negatively affect learning, memory, and the immune system.

I believe these creature comforts can be relatively straightforward and cost-effective. Viewing natural light is a zero-cost option that we can implement straight away. We can also take a conscious approach to our light viewing behaviour. We can audit our day and think about how our moods and energy levels might be linked to our environment. If we can't change our setting, there may be other ways to implement a personalised approach to lighting.



Penguin Parade Visitor Centre, Phillip Island
Image from WE-EF LIGHTING Australia|New Zealand. Supply of WE-EF LIGHTING products by Buckford Illumination Group. Lighting design by Stantec.

Lighting and Environmental Consciousness: A Dialogue

A contribution by
Anne Truong

Anne Truong is the Specialist Lighting Lead at WRAP Engineering. Her ethos in lighting design focuses on a blend of aesthetics and environmental consciousness. Through her projects, such as White Night and the Gertrude Street Projection Festival 2016, Anne intends to enlighten everyone, lighting professionals and lay people alike, on the importance of artificial light and its impact on the world around us.

In this edition, Universal Light had the opportunity to sit down with Anne Truong, a lighting designer from WRAP Engineering. We discussed lighting, specifically the impact of lighting on habitat and how we can adopt environmentally conscious lighting techniques to preserve wildlife and culture.

Hi Anne, can you please tell us a little about your background and how you started your journey with lighting?

I was first introduced to the concept of lighting design by my mentor and previous manager, Dave Anderson. At that point, I had always known that I wanted to pursue something creative for my career, and seeing Dave's works naturally piqued my curiosity about the field.

It has been 7 or 8 years since I started working in the industry. However, in numbers, it does not seem that long, because I look up to many other professionals who have over 15 or 20 years of experience and produce incredible works.

Does that mean you started your career not knowing it would revolve around lighting?

Before meeting Dave, I had never done any lighting-related education, since my initial major was computer science. Though not to the extent of creating many abstract arts, I had always gravitated towards being artistic and creative within a structure. Thus, lighting design became such a natural fit, where I can be creative but within a set of parameters determined by the environments, technologies and the physics of how light travels.

In many ways, lighting design is fascinating. It is continuously evolving, which requires constant learning to improve my expertise. But that is why I love and have stayed in this profession for as long as I have!

What has been your experience and inspiration with lighting to have developed such a passion for it?

One of my first proper lighting works was for an installation called The Crucible, featured in the White Night event in 2015. For context, White Night is an event where, for 12 hours, from 7:00 PM until 7:00 AM, Melbourne CBD and the surrounding areas are lit with artworks using light as a medium.

The artwork I worked on was a sculpture in the shape of a dragon, made out of old car parts welded together. The installation combined special effects, like smoke, fire and lighting, to create a theatrical experience.

The sculpture used cool-toned lighting schemes to signify the dragon entering the resting phase. Every 15 minutes, the dragon warmed up with yellow, red and orange, then breathed out fire. It was truly exciting and inspiring to see the attendees' fascination and strong reactions to our work, especially the children. Those responses fueled my passion and made me want to do more in lighting design.

White Night Event

White Night is an annual light festival held in Melbourne, Australia. The festival illuminates the streets of the city featuring spectacular projections of art, awe-inspiring installations and unexpected immersive experiences.

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The Crucible from White Night 2015, Melbourne.
Image by Kirstine Wallis

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Penguin Parade Visitor Centre, Phillip Island
Image from WE-EF LIGHTING Australia|New Zealand. Supply of WE-EF LIGHTING products by Buckford Illumination Group. Lighting design by Stantec.

It is fascinating to see how we bring light wherever we go. But this also means that as we expand, we're invading and changing the living environment of other species. Do you think this is true?

We need to be more conscious about light, specifically artificial light. We are invading the natural space with something artificial, causing different forms of pollution. In addition, we are negatively affecting the natural habitat.

Inconsiderate lighting design equals increased use and wastage. Examples include flying insects that use light for navigation, baby turtles that use moonlight for navigation to the sea, penguins whose behaviours follow ambient light conditions on shore, and even coral that use moon rising for spawning (Salmon, 2003; Lin, Takahashi, Mulla & Nozawa, 2021; Shima, Osenberg, Alonzo, & Noonburg, 2022). Hence, our approach to lighting in urban and rural areas is disrupting the habitation patterns of these animals.

You mentioned that you worked on White Night, a cultural staple for Melburnians. But this event directly contradicts the notion of being conscious of other cultures and species.

As a lighting designer, where do you find that middle ground between "This is my job" and putting that conscious element into your design?

To be honest, there was this sense of guilt when I participated in White Night and similar events. I understand that the city has numerous contact zones where humans and animals are entangled and have competing interests, causing severe environmental consequences and vulnerabilities to the animals (Haraway, 2013).

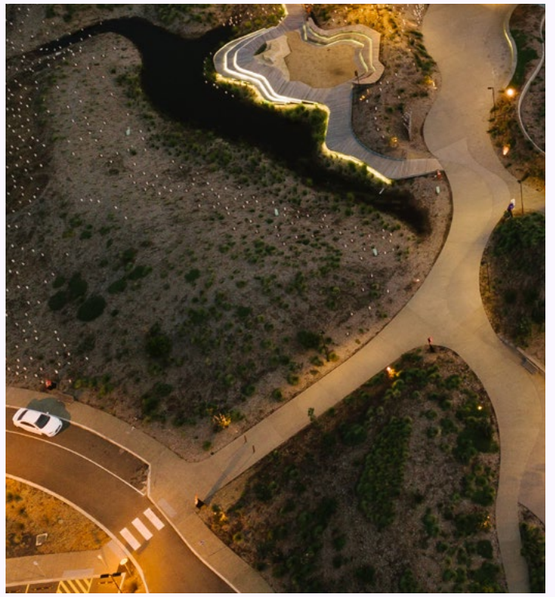
The ideal solution could be separating areas into human-centric and environmentally focused zones. Clear distinctions between human-centric and environmentally focused zones will prevent people from disrupting the animals' natural patterns or endangering them due to human activities and infrastructures. At the same time, humans will still have areas where they can function and celebrate culture without affecting other species.

A cohesive approach with mandates and compliant standards would give lighting designers the tools to communicate and advise our clients on the dos and don'ts of a project.

What's the current landscape of environmentally conscious lighting practices?

LEDs are becoming a lot cheaper and a lot more accessible for both indoor and outdoor use. However, comparing fluoro to LED, with the same wattage, the LED is much brighter and lasts longer, so the negative impacts are more extreme and long-term. In addition, the links between inconsiderate lighting and adverse environmental effects have been established in academic research. So, when designing lighting, we need to pay attention to the source and destination, especially with spotlights and their effect on the surrounding environment.

For example, when we leave our porch lights on at night, flying insects gravitate toward the light mistaking it for the moon, which affects their flying track and grouping, life cycle and reproduction (Owens & Lewis, 2018). For penguins, over-illumination can lead to them staying in the water a lot longer after sunset, because the lights are still on (Rodríguez, Holmberg, Dann, & Chiaradia, 2018). Further, a 2007 study (Levy et al.) found that since coral uses moonrise for spawning, too much artificial light can disturb their spawning process. Similarly, baby turtles can mistake streetlights for moonlight, which leads them to the streets instead



of the ocean (Salmon, 2003). Thus, we need to be extra careful when lighting those areas to ensure that the animals are adequately protected, and humans are provided just enough light for wayfinding.

Australia does have a national lighting guideline for wildlife, but it is not mandatory. In addition, most of the Australian standards are more human-centric than environmentally focused, which is a topic that needs more awareness, discussions and change.

Have you ever worked on a project that's a bit tricky to balance?

I had an experience working on a project during my time at Wood & Grieve Engineers (now Stantec) for the Penguin Parade Visitor Centre, a very environmentally sensitive area that's also trying to educate people on wildlife and human impacts on wildlife. For areas like this, we have to be more environmentally conscious and know how to balance the usage of lighting so that we protect these animals and ensure visitors' safety. Some ways of achieving this are to use luminaires with high-quality optics and light distribution, as well as specific colour temperatures with minimal blue

“Optics allow for light to fall where they are required, such as pedestrian pathways for safe movement. The reduction in blue light emissions is a step forward in reducing the negative impact on wildlife circadian rhythms.”

light emissions. Optics allow for light to fall where they are required, such as pedestrian pathways for safe movement. The reduction in blue light emissions is a step forward in reducing the negative impact on wildlife circadian rhythms.

It was a big juggling act of maintaining a good lighting level while preventing the negative impacts lighting has on the wildlife. Artificial light can extend the penguins’ time in the water; either as a result of perceived danger or otherwise, and, as a result, reduce their sleep time and delay their hatching and mating patterns (Rodríguez, Holmberg, Dann, & Chiaradia, 2018). It affects me on a moral level, seeing floodlights on the beach shining directly into the water only when the penguins come out. Bright lights or sudden flashes can frighten and disorient the penguins on their way to their nest, making them vulnerable. I understand the park’s purpose of educating the people by showing the penguins in their natural habitat.

Conversely, the latest design provided has actually resulted in an observed positive impact since the project’s completion. According to Phillip Island Research Scientist, Andre Chiaradia (2018), it has been observed that there is a significant increase in migratory shearwater bird reproductivity and population numbers. Also, since the introduction of amber light, particularly in the car park, we no longer see disoriented penguins entering these areas which may pose a threat to their safety.

I understand that it gets a little bit complicated. Of course, everyone who works on projects is well-meaning, but at the same time, factors like budget and the prioritisation of human needs are and always will be influential. But have you been able to experience a project that you consider ideal and should be set as the standard?

Unfortunately, no, which is quite disappointing. Factors like budget restraints often make us lighting designers question our position and responsibilities in a project and the meanings of our designs.

Having said that, I can see things that we could improve on. A good start would be looking at lighting designers from other countries and their ingenious solutions. In an IALD webinar I attended, one tactic was to involve contractors, whose primary focus is budget, in the project as early as possible. This way, they can gain early insights into the project and prevent parts of the design from being replaced, which can preserve the project’s aesthetics, quality, and consideration. It’s important to understand that lighting design is about creating a whole artificial ecosystem, so everything else can be disrupted when one element is removed.

The reality is that, because of budget restraints, we tend to end up with sub-quality developments that will not last as long as they should. In addition, when the design intent is not carried through, we can end up with outcomes that are overlit or are not evenly distributed.

Why red light?

We advocate for the usage of red lights at low-level intensity as animals have limited colour vision and cannot see the colour red. Therefore, low intensity red light can give enough illumination for them to navigate and inhabit while not interfering with their biological cycles and natural patterns.

In an ideal world, if you have no budget restraints and are in complete control of a project, what would be your approach to sustainable and environmentally conscious lighting?

I would love to advocate for the usage of red lights at low-level intensity. Red light may not create a welcoming space for humans, and it might be a bit disconcerting to visually perceive our surroundings in black and red. Nonetheless, in my opinion, these spaces are not meant to be welcoming. We are intruding on the environment of other species, so having their comfort is far more important than our own. Plus, humans are capable of adjusting our vision ability to see in a low-lit environment so it wouldn’t cause us any harm. This way, we can explore and experience wildlife and see animals behave in their natural habitats.

As animals have limited colour vision and cannot see the colour red, red light can give enough illumination for them to navigate and inhabit while not interfering with their biological cycles and natural patterns.

Realistically, being environmentally conscious isn’t impossible. It can simply be done with more education and correct actions from the state, federal and local governments.

European countries (i.e., The Decree of 27 December 2018, France) and cities like San Francisco (i.e., Building Energy Efficiency Standards – Title 24) are focusing on maintaining dark skies by enforcing mandates that do not have any uplights in certain areas.

Education is the key. However, it can be intimidating getting to know about lighting. So, for an ordinary person, what would you tell them to make lighting less daunting of a concept?

It is crucial to link the lighting setup to the space and describe how lighting creates the space. For instance, a fancy restaurant can feel cosy and intimate with candlelight, despite having a big dining hall. My purpose here is to change their perspective and notice the influence of light on their experience.

Then, I extend the topic to environmentally conscious lighting, beginning with fun facts about flora and fauna, and hopefully trigger their interest in the topic and have them participate in the discussion.

Image Authored by Hillebrand Steve, U.S. Fish and Wildlife Service

Olderfleet, Melbourne
Image from Electrolight

Bringing New Light to Olderfleet on Collins

A contribution by
Horatio Burton

Horatio Burton is a Senior Lighting Designer at Electrolight — a multi-award winning, international lighting design consultancy firm. With over 14 years of experience as a designer running large projects across a wide range of sectors, including hotel, F&B and public realm developments, Horatio brings strong conceptual lighting design knowledge and bespoke lighting skills to every project.

“One of the key benefits of lighting heritage buildings is that it can strengthen interest in an old landmark and make the community interact with the architecture differently. As such, successful lighting design is an important element of placemaking, alongside architecture, signage and wayfinding.”

The 477 Collins Street site is an amalgamation of three older buildings known as the Record Chambers (1887), the New Zealand Chambers (1887-8) and Olderfleet (1890). Constructed at the height of the building ‘boom’ in the 1880’s Marvellous Melbourne era and designed by a number of architects, the buildings encompass varying Gothic and Romanesque Victorian architecture and continue to retain their rich history and heritage.

The redevelopment of Olderfleet

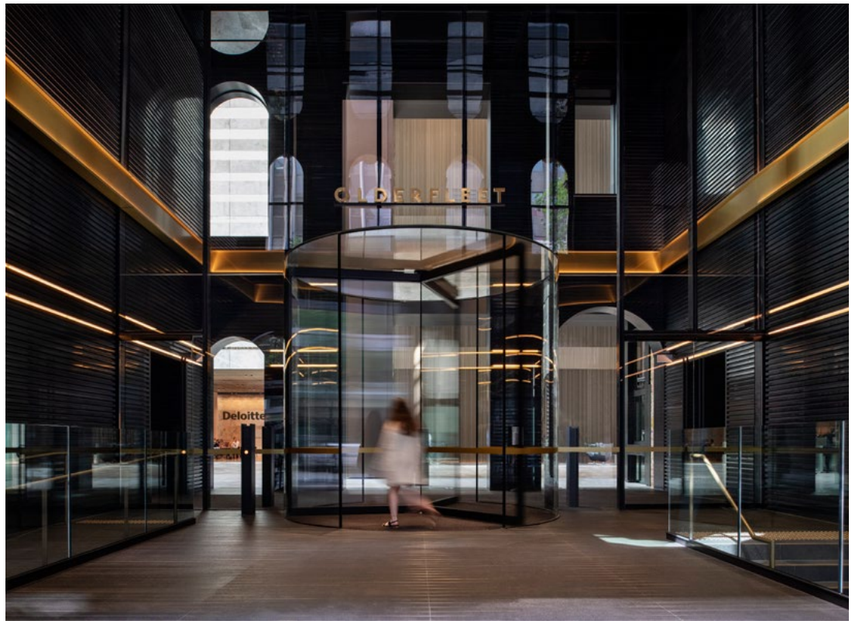
Extensive redevelopment works began in 2017. Grimshaw Architects and Mirvac Development were presented with the challenge to seamlessly integrate a modern commercial tower with one of Melbourne’s most important pieces of heritage architecture. Grimshaw’s winning design connected the two buildings with one of the largest lobbies in Melbourne, creating a 25-metre-high glass atrium. The beautiful heritage buildings remained intact with the extensive refurbishment and modernisation of the interiors to create boutique office and retail space. Olderfleet sets a new precedent for adaptive heritage and workplace integration in Australia.

Electrolight was commissioned to design specialist lighting for the ‘Olderfleet’ development including building entrances, lift lobbies, circulation, the impressive Atrium void and the iconic Collins Street Heritage façade.

The lighting approach needed to consider not only the visual aims of the project but also to avoid damage to the original heritage architecture. The outcome celebrates the impressive architectural façades and uses carefully positioned light fittings and varying intensities to create a balanced and sophisticated night-time composition that enhances the prestige of the buildings.

The project’s initial focus was the new-build interior areas within the Tower and Lobby. However, as the design progressed, the client and stakeholders expressed a desire to extend the scope of the project and highlight the façade at night as part of the overall upgrades to the precinct. For us, this meant working closely with heritage architects from Lovell Chen to gain a detailed appreciation of the unique elements of the heritage façades and how we would best approach lighting them.

Olderfleet, Melbourne
Image by Nicole England



←↑ Olderfleet, Melbourne
Images by Nicole England

The three heritage-listed buildings are some of the most unique architectural façades along Collins Street and within central Melbourne built during the post-gold-rush boom. These façades recall the height of architectural fashion in the late 19th century, and little expense was spared in their construction. The heritage architects briefed us on many of the unique cornices, parapets and balconies that make up the façade. This assisted our understanding of what lighting locations and mounting strategies were acceptable and which were off-limits.

The lighting design journey

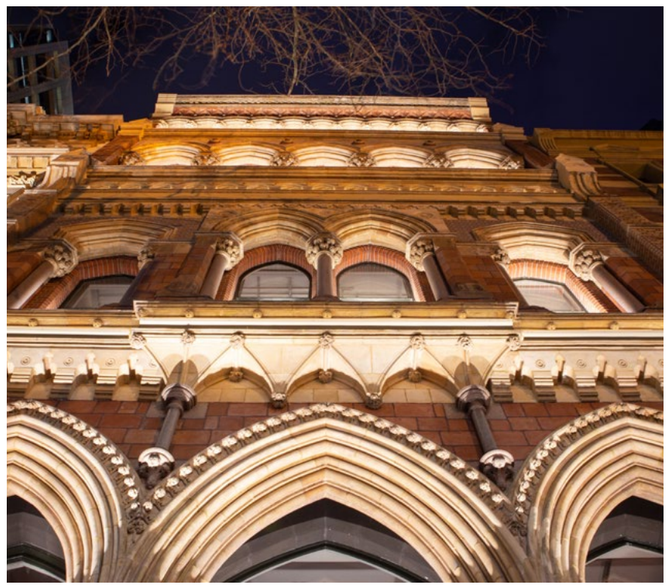
When developing our lighting concepts, an important consideration was how we wanted the façades to reveal themselves in the evening and how best we should light such a unique, intricate building?

One of the key benefits of lighting heritage buildings is that it can strengthen interest in an old landmark and make the community interact with the architecture differently. As such, successful lighting design is an important element of placemaking, alongside architecture, signage, and wayfinding. This was a key aspiration for the project.

A common discussion point when considering lighting heritage buildings is how will modern lighting technology and controls overlay with architecture from the past? There can be a misconception that lighting heritage buildings in a modern way will clash and result in a confusing outcome of time periods. However, provided the lighting interventions are undertaken in a considered and sensitive manner, this is generally not an issue. Indeed, modern lighting technology can result in a more discreet outcome with less visible clutter and better quality and controlled lighting.

The façades provide a necessary arrival experience to the Olderfleet development for visitors entering Collins Street, so the lighting design needed to support a sense of arrival and occasion. Also noteworthy was the consideration of how the lighting concept created a cohesive visual journey from outside to inside.

Olderfleet, Melbourne
Image by Nicole England



↖ ↑ Olderfleet, Melbourne
Images by Electrolight

Through developing our lighting concept, we carefully reviewed each of the many architectural elements in detail to create a composition of lighting highlights that felt balanced across the three façades while also celebrating the unique identities of each. In addition, our concept relied on utilising lighting controls to provide a high level of individual control over selected elements so that intensities could be balanced and features could be highlighted where intended.

Once we had developed our conceptual ideas, we needed to validate that the concepts were feasible. Because the façades have such a high level of complexity in their three-dimensional form, it was not sufficient to simply document lighting locations on a 2D elevation.

Fortunately, as part of the site survey, a detailed 3D scanned model was available for review, which proved invaluable in testing and validating each lighting condition in lighting software. It meant we could quickly confirm how the projection of light would hit the complex surfaces and mouldings and how it would render the form of the building.

The second part of this validation process was that we could attend the site during the construction phase and undertake a number of lighting prototypes and mockups. Due to the significant renovations, we were fortunate that the entire façade was accessible via scaffolding, enabling us to test lighting locations and optics in-situ.

The combination of 3D modelling and physical site-visits provided us with a high level of confidence in how the final lighting installation would appear.

Selecting the right instruments

Once lighting locations had been finalised, we developed a sensitive installation approach to the lighting infrastructure and conduits to reduce the impact on the heritage-listed buildings. Existing cable building penetrations were identified and utilised where possible. All remote drivers were concealed from view and located within the interior spaces of the building.

It was important that the light fixtures themselves were discreet in form and of matching finish to blend into the surrounding stonework. We spent considerable time researching lighting manufacturers that offered a palette of luminaries that would satisfy the performance and aesthetic requirements of the project. The chosen lighting manufacturer was specified as they were among the few manufacturers that could provide all the required lighting types, optics and wattages from a single brand. Even with modern LED technologies and increasingly better colour consistency, it is always wise to limit the number of different brands on a lighting installation to reduce the likelihood of noticeable differences in lighting appearance. In this instance, any variation in the stonework's colour appearance would not be acceptable.

For a lighting designer, the desired colour temperature is a criterion that is absolutely critical to the success of the project and typically has much thought. We identified that it was essential to bring out the warmth of the heritage sandstone and finishes and create a welcoming feel and sense of arrival to the development. At the same time, we needed to consider the neighbouring site conditions of Collins Street and the surrounding civic lighting and street lighting, which was typically a mix of warm and cool light sources.

In the end, we selected 3000K warm white fixed colour temperature for all the façade lighting as it offered a good balance between warmth and not being too warm that it looked disjointed with the rest of the Collins Street precinct.

Once construction was completed, the final step was to undertake commissioning with the design team and programmer. The project was completed in mid-2020 at the height of Covid lockdowns, but fortunately, construction was deemed an essential industry, and on-site commissioning was able to occur. One of the key commissioning aims was to balance the Olderfleet building, which has a lighter finish than the other two façades. This meant we needed to reduce the intensity of the Olderfleet building's lighting. This is where modern lighting technology proved invaluable, as we were able to fine-tune the lighting intensity via dimming of separate lighting channels until we reached a happy balance.

One of the underrated aspects of this project was the requirement to meet ESD Green Star credits for upward waste light to the night sky and obtrusive light to neighbouring properties. To achieve Green Star credits for external lighting that uses only uplighting approaches is a challenge, to say the least. In order to comply, a Green Star lighting impact study was undertaken to validate each lighting detail and aiming strategy to ensure no direct upward waste light was emitted to the night sky.

This required many lighting accessories to be used, including spotlight snoots, exact angle adjustments, and custom lighting baffles for the linear fixtures. In the end, we demonstrated for each unique lighting condition that all the lighting was directed towards the façade entirely, which was a great outcome given the complexity and upward light nature of the project.

Hebei Grand Hotel,
Shijiazhuang, China.
Image by LWK + Partners

A Look into the Past, Present and Future of Façade Lighting in China

A contribution by
Rebecca Wong and
Benjamin Chan

Rebecca Wong is the Principal Lighting Designer and Associate Director of LWK + Partners with a diverse academic background and 15 years of experience in interior, façade and landscape lighting design. Benjamin Chan is the Director of LWK + Partners in Shenzhen, China. He is an award-winning architect with 22 years of experience working on high-rise landmarks and hospitality projects.

“One of the earliest façade lighting methods in Chinese history would be the tradition of using lanterns that started about 2000 years ago in the Hans Dynasty.”

For this article, Universal Light had the opportunity to sit down and discuss the past, present and future of façade lighting in China with Rebecca and Benjamin as they bring wonderful insights into the importance of lighting in Chinese architecture.

What would you say is the very first façade lighting method in China?

Benjamin: One of the earliest façade lighting methods in Chinese history would be the tradition of using lanterns that started about 2000 years ago in the Hans Dynasty. Lanterns are used for various purposes, but it has less to do with lighting up spaces and more with creating a particular atmosphere. For example, red lanterns paint the streets on the last day of Chinese New Year, which is called the Lantern Festival. They symbolise letting go of the past year and welcoming new hopes for the year that is to come. Similarly, in ancient times, parents would often give their children a lantern with the hope that it would bring good fortune. There are also lanterns used explicitly for funerals, which are usually white and round, on which they write the name of the deceased.

Rebecca: In terms of configuration, the composition of the lantern mimics Chinese architectural elements, which consist of a roof, layering of framework and imagery. Most lanterns from ancient

times are made from paper or fabric. They’re not everlasting and are only meant for a particular two or three days of festivities. One of the most distinctive features of lanterns is the paintings that remind us of the story and meaning behind that specific event. The illustrations and colours also bring us warmth and a sense of collective sentiment, making every occasion a bit more special.

To this day, the use of lanterns persists and remains relevant to interior design and architecture. For hospitality projects, specifically hotel projects that wish to recreate the atmosphere of ancient China. Lanterns are often featured in the interior, architecture or landscape design to bring about that reminiscence appeal, celebrating the classical beauty of the past.

Stepping away from ancient times, how did façade lighting trends progress in China?

Benjamin: To understand past lighting trends in China, we’d have to go back to 10-15 years ago, when lighting design was about making grandeur and eye-catching statements.

Shanghai was probably the region that somewhat pioneered the trend for façade lighting in China at the time. Compared to a city like Beijing, which tended to remain quite conservative with strict control on illumination, Shanghai embraced a more vibrant lighting element with various colour tones.

At the time, façade lighting design was somewhat of a competition for attention. In order to be the most noticeable and brightest architecture in the city, buildings would often have lighting covering the entire external structure, from which, at nighttime, the façade became a screen covered with pictures, advertisements or moving texts. Due to this trend, there was a significant disconnect between architecture and lighting design, as the lighting, more often than not, would try to overpower and thus become irrelevant and inconsiderate of the architectural design.

Rebecca: This approach was mainly developed about 20-25 years ago when façade lighting started to become popular in China. At the time, we wouldn’t have had LED façade light fixtures yet, so neon tubes were used for covering building surfaces and generating different kinds of colour-changing effects, which was just beyond fascinating for the period. The developers of these projects would invest considerable amounts into façade lighting, which they target to have advertising influence and utilise the façade surface to make the project an iconic destination of the city.

Chinese Lantern Festival

The Chinese Lantern Festival is a traditional Chinese festival celebrated on the fifteenth of the first month of the Chinese lunar calendar. Paper lanterns are often used in this event. Their colourful and artful designs represent joy, harmony, good fortune and more.

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Hebei Grand Hotel, Shijiazhuang City, China.
Image by LWK + Partners

Benjamin: A great example would be one of my earliest façade design projects in Beijing, China. As a part of the design, I created complicated 3D forms of hexagonal patterns that wrapped around and made a visually inviting architectural skin. However, the lighting designers later did a separate design consisting of altering lighting patterns. So, sometimes, it was a star, other times, it would be moving texts, like Happy New Year, etc. To the public, this was a fascinating effect. The destination became an attraction and photo hotspot for young people and tourists. Though this seems like a great outcome for a project, it is quite a depressing dilemma for me as an architect and designer. In my design, I often aim for a sense of coherence and harmonic balance between lighting and architectural design; however, this lighting design method simply took away the architecture's essence. So that's what I think has been happening in China for the past 20, 25 years.

From the outside, the buildings can be considered quite extravagant, did this sense of extravagance carry to the interior lighting design as well?

Rebecca: Interior lighting design is quite different from façade illumination. While façade lighting can be utilised for advertising purposes, interior design prioritises functionality. Thus, the lighting scheme often remains consistent with the design intent, subtle and minimal, aiming to create a gentle, comfortable ambience suitable for the function of the space.

It is a rule of thumb that the façade lighting aims to attract people to the building, and interior lighting makes people want to stay and enjoy the experience.

In your opinion, which building is a great example of good façade lighting design in China?

Benjamin: I think the Beijing National Aquatics Centre was the swimming pool for the Beijing Olympics 2009 and Winter Olympics last year. Generally, the façade powerfully attracts the general public, with a lighting scheme similar to those of the past in its brightness and colour-changing effects.

However, the lighting design was done in a considerate way that blends in effectively with the façade structure, expressing the architectural intent without overcasting the building itself.

The façade used ETFE materials in multiple layers to create the unique "bubble" or "balloon" effect. Instead of simply directing light outward, the lighting designer put gas inside to help light travel through the material and light the bubbles. This technique created a gentle glow that radiated from each of the bubbles, adding a unique 3-dimensional appeal and depth to the external structure. Additionally, this lighting design was outstanding because it not only preserved the original architectural intent of the "bubble" structure but perfectly enhanced it by adding that 3-dimensional element through illumination.

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Beijing National Aquatic Centre, Beijing, China.

Eventually, the reason why this project is an excellent example of lighting design done right is that I think lighting should help the structure express itself but not disguise it.

Please elaborate on what you mean by "help the building express itself at night but not disguise it"?

Rebecca: When we talk about past trends, it's almost like taking a realistic approach to painting. What I mean is that if lighting designers are painters, then the building is a canvas, and design is about covering and concealing that surface with light fixtures to create imagery or graphics for visual excitement.

As the industry moves forward, we now see a shift toward a more abstract approach where the canvas becomes the work of art itself. In this sense, lighting design evolves to focus on its effects on spectators and is a bit more subtle to preserve the architecture. In addition, it aims to outline and highlight critical elements to create an atmosphere that expresses the building's architectural syntax.

Benjamin: Having said that, it's not always easy to persuade developers to implement this lighting design

method. There is a solid pre-existing mindset: "I spent million dollars on this project; I don't want my project to be subtle." In the past, we have had experiences where we were responsible for the architecture, and the client would employ different lighting consultants. The consultants would do their design, report to the client, and sometimes bypass us, the architect.

We've learnt through these experiences that, at the concept stage, it is crucial to render a night view of the project, from the façade material and fixture placements to how bright we envision the lighting effect. Therefore, we aim to work with lighting consultants as early as possible and ideally have them onboard from the architectural design stage. The lighting professionals and architects can work together to fulfil the client's needs for advertisements while presenting a coherent solution that will appreciate the architecture.

Do you have an example of a project you two have worked on that embodies this modern idea of "abstract" lighting design?

Benjamin: One of our past projects, called the Hebei Grand Hotel, located in Shijiazhuang, one of the northern cities of China, is the perfect case study for this article.

The project site is adjacent to a historical site, so we tried to incorporate certain cultural characters into the architecture to honour and represent the project's setting and background. In general, we worked on the architecture, design, and landscape architecture for Hebei Grand Hotel. The cornerstone principle of this project was creating a cohesive and connected experience of the inside and outside.

Rebecca: As Benjamin explained, with a hospitality and resort-like project such as Hebei Grand Hotel, we needed to take a minimal approach to lighting design, predominantly using lighting to highlight the architecture.

One of the lighting design's primary features was creating a unique yet sophisticated roofscape. There are many low-rise villas with various building structures within the establishment. As a way to highlight the architecture, we used linear lighting to outline the roof shape of each building.

Hebei Grand Hotel, Shijiazhuang, China.
Image by LWK + Partners

Hebei Grand Hotel,
Shijiazhuang, China.
Image by LWK + Partners

Subtly running across the architectural lines, the luminaires accentuate the structure beautifully while remaining minimal and subtle, creating a peaceful atmosphere.

For the two main high-rise towers, we use a simple light to reflect the symmetrical arrangement of the two towers. We want to achieve an elegant feeling; at night, it is just a soft touch of the building for the people to enjoy the space inside. We also use uplight fixtures to highlight the planters and, simultaneously, wallwash the brick wall detail to create focal interest for the landscape.

Were there any challenges working on this project?

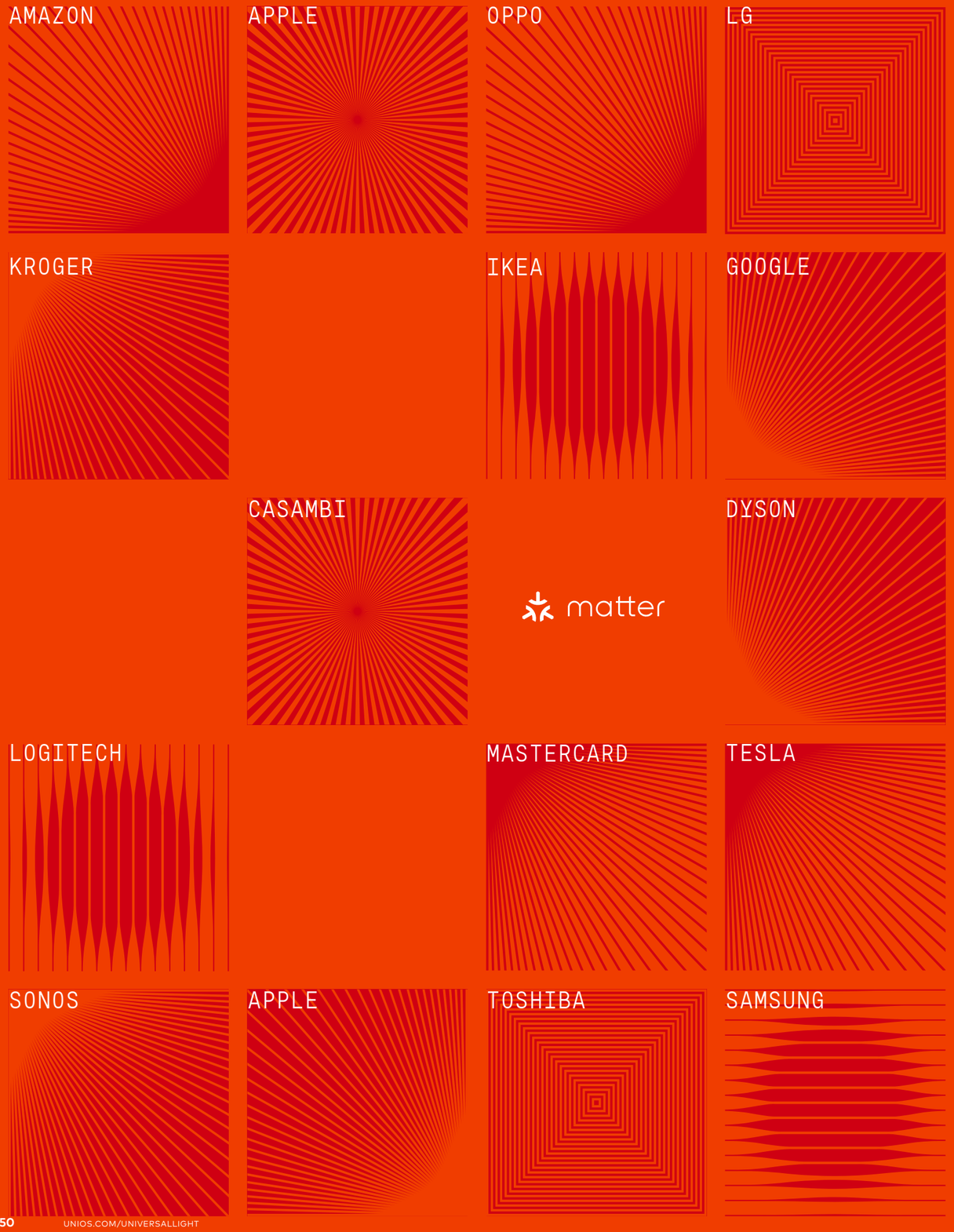
Benjamin: When we presented our solution to the clients at the early stage, they thought there was not enough brightness to the design. We were still met with the same reaction even when the project was completed. Finally, however, we realised that this issue was due to the lack of urban development in the surrounding areas and not something specific to the project.

Recently, as I revisited the project as surrounding projects came into operation, the whole area became more vibrant with a lot of light to counterbalance. The result seems excellent since sustainable design and architecture aren't just about the project but also about balancing nature and the surroundings and being considerate of the project's future for years and years to come. And it's important to understand that a project is multi-dimensional and shaped by a sequence of design decisions, from the landscape and architecture to the interior.

We have received much success for the project, receiving many awards for the architecture. At the same time, the project outcome worked out great with our clients and Hebei Grand Hotel's visitors.

Final remarks

In the past, façade lighting was perceived as an additional layer that was merely used to captivate the public's attention. However, the perception is changing as architects and lighting designers are putting effort into harmonising the façade lighting, the architecture, the interior design and the atmosphere. The future of the lighting industry will focus not only on the aesthetic of the design and the complement to the surroundings but also on environmental friendliness and energy conservation thanks to the innovation of technology. Sustainability is not a trend, it is becoming a principle of the industry.



Software-driven Approach to Standardisation Matter of Necessity

A contribution by
Timo Pakkala

Timo Pakkala is a Finnish technologist and entrepreneur. As the founder of Casambi, the leading producer of Bluetooth-based wireless lighting control systems, he is considered an influential industry figure.

Standardising the Bluetooth Audio application layer was relatively simple. There was an assumption that the same game-changing move could be achieved for LED lighting control. This hasn't been the case. Casambi Founder, Timo Pakkala, gives his view on wireless standards.

When the smartphone became the most powerful user interface in the world, standardising communication between this ubiquitous device and external speakers was a natural evolution for music. It made sense. After all, music is inherently communal. It's woven into the fabric of society.

Indeed, the most successful of the application-layer standards are the Bluetooth Audio standards, through which you can connect nearly any mobile phone to nearby audio devices to play music. It was the product of collaboration between silicon players, stack developers, component, and end-product companies and enabled global multi-vendor interoperability to achieve the desired functionality: the ability to play and stop a song – on top of which richer, proprietary user applications with bespoke functionality now sit, such as Spotify and Apple Music.

Bluetooth is by far the most recognised wireless standard for audio streaming, with an estimated 1.1 billion devices shipped in 2020. Bluetooth Low Energy Audio is boosting this number, with wireless earbuds as the main contributor. In fact, growth forecasts predict that more than six billion Bluetooth-enabled devices will ship annually by 2025. Furthermore, Bluetooth Low Energy (BLE) is projected to have a decisive impact on the market with 96% of all Bluetooth-enabled devices forecast to include Low Energy by the same year.

While you can standardise the medium, you can't ever standardise what kind of music people will make and how loud their listeners might wish to play it. Because that's about taste. The same can be said of lighting control.

We're undergoing a comparatively slower LED revolution. But a revolution it is, nonetheless. The transition from legacy light sources to digitised LED versions is still underway. According to Statista, the LED penetration rate of the worldwide lighting market currently sits somewhere just above the 50% mark. And the advent of pervasive wireless protocols such as BLE is liberating lighting systems from the physical constraints of wiring. This is opening the doors to networked lighting for bespoke, personalised, and highly flexible light-level management.

You want to be able to tune LEDs as you can tune music volume. Sticking with on/off lighting is such a wasted opportunity. But standardising the music player application layer was relatively simple and I think there was an assumption that the same could be achieved for LED lighting control. This hasn't been the case.

Connectivity Standards Alliance

The Connectivity Standards Alliance (CSA) is a standards-setting organisation for the Internet of Things (IoT) industry. The purpose is to solve the compatibility issues by creating a new connectivity standard, called "Matter", for smart home devices.

A Religious Stance on Standards

Actors in the wireless game hold passionate and sometimes polarised views on standardisation. There are a lot of people who think standards are good and proprietary is bad. These concerns incorporate the fear that if something's not adhering to a standard, one is at risk of single vendor lock-in or falling prey to premature obsolescence.

In the lighting field, the reason is related to worry that products won't work together. On the communication layer, standards are extremely helpful. They enable interoperability. But when you start delving into and standardising the more complex areas like in the application layers, you start restricting innovation.

In a standard-based lighting ecosystem, the chips that go inside the devices deployed in a network generally come from multiple vendors. Although they may run on a standardised protocol that is intended to enable the same communication, all the chips are different. They likely operate on different runtime resources. They likely have different limitations. When working with multiple vendors, it is important to be aware of the pitfall of having multiple versions of the firmware within a network. The whole system will be limited by the capabilities of the weakest/oldest device in use within the ecosystem. Conversely, in a proprietary system, everything comes from one single vendor, so all resources are the same. However, in this scenario, a lighting designer may feel extremely limited when it comes to picking the luminaires, the drivers, sensors, or switches from one single vendor to make sure everything works seamlessly together.

Openness – as a characteristic – is proven to enhance innovation and accelerate transformation for the benefit of all. At Casambi, our strategy is predicated on this notion. We bring together the best of both these two worlds. And successfully so. The vast array of Casambi Ready products available on the market brings scale and choice to lighting projects in a way that proprietary solutions from a single vendor cannot. And they work together much better than standardised ones because we've taken a software-driven approach to standardisation. I strongly believe this is the way to go.

A software-driven approach to standardisation

When it comes to hardware products, Casambi holds a very strong market position. There are essentially two stages to adding Casambi functionality to luminaires. Select a Casambi Ready luminaire from ecosystem partners, which ensures out-of-the-box interoperability in terms of connectivity and performance. Or choose luminaires with integral drivers, decorative fixtures with LED lamps, or other devices and give them Casambi connectivity using Casambi's CBU devices (white modules). Through this approach, Casambi has achieved a critical mass: Today, the Casambi Ecosystem contains thousands of Casambi Ready products and the company cooperates with over 200 luminaire manufacturers around the world.

Casambi has standardised the brains of the ecosystem around state-of-the-art BLE chips from market leader, Nordic Semiconductor, and the firmware comes from a single vendor – Casambi. This guarantees that the physical infrastructure inside all control devices, regardless of brand, is the same. A specifier has the freedom to choose their control devices from an extensive list of vendors. Casambi remotely and safely updates devices in the field with the latest software and firmware. Over-the-Air programming allows us to push new software features and additional functionality out to the entire fleet of installed devices at once.

Casambi is sometimes perceived as somehow against standards. But this is not the case at all. We're fully compliant with Bluetooth 5.3. And we're fully committed to supporting key industry standards such as DALI, DALI2, the D4i data standard, and EnOcean's energy harvesting switches. We offer industry-leading wireless DALI support. Our DALI gateway enables wired installations to be easily expanded wirelessly. In this scenario, one can enjoy all the benefits and flexibility conferred by wireless Casambi networks and keep all the DALI functions and controls in use. We recently joined the Matter alliance as a participant member too.

We decided to use only the communication layer of the Bluetooth stack. Our technology forms a mesh network ('Casambi Mesh'), which enables encrypted device-to-device communication inside a lighting network. BLE is used for communication between a mobile phone (or the control device) and the Casambi platform.

Casambi is proprietary in the very loosest sense of the word. Because of the critical mass achieved, by proxy, it's becoming the de facto 'standard'. I attribute a great proportion of this success to having taken the software-driven approach.

Why?

Because both life and markets evolve.

The key point with software is that you can constantly change it, improve it, and enhance it. Casambi can dynamically update the system in the field. This means that we can keep enhancing the system and keep all units interoperable. We can be sure that all the units in the network have the latest and best version of the firmware. It's this software-driven mechanism that allows for constant and fast evolution, reacting to real market needs.

In this sense, I feel that standards-based solutions do not currently take full advantage of the modern capabilities of software. The traditional approach involves painful negotiation toward a finalised standard, with multiple parties agreeing to the lowest common denominator. This often results in a standard that is not overly advantageous to anybody.

Implementing complex software-based systems is extremely difficult, let alone standardising them. It's difficult to get just one party's solution to work well and be relatively bug-free. If you have many companies all trying to interpret a standard and then hoping that their products will work together.... It's a slow, painful, risky, and arduous journey based on wishful thinking.

This software-driven approach is the biggest reason why you do not see so many successful standards in the application layer. You don't see people standardising on Android or iOS. There's one company who is driving those and there is one implementation that the others use as well. That's why it is a fundamentally better, more efficient process to evolve a system based on real market needs.

Because life and markets evolve, a software-driven approach is the way to go. People can and should be able to innovate on different layers of the Bluetooth stack. Pick the parts of the standard that they need and innovate on the others.

Casambi Joins Matter

Earlier this year, Casambi announced its membership in the Connectivity Standards Alliance, officially backing the new Matter Standard. Matter is a global IoT connectivity standard in development that will build on top of existing IP connectivity protocols (namely wi-fi, and Thread, and will use Bluetooth for commissioning) to enable cross-platform IoT communication. Its objective is to deliver reliable and secure connections across smart home devices, platforms, and ecosystems.

Anticipated to become the most significant standard for the Smart Home market, Matter is supported by many big names in the field including Amazon, Apple, Comcast, and Google – who have all decided to unify. Because they all have their own Smart Home systems, there's a lot of collective experience behind the alliance. The standard is also being crafted in the most practical and software-driven way.

Matter is not a standard in the traditional sense. It's an open-source, royalty-free standard. Typically, a standard is a written document, and you pray that people interpret it in the way it was intended. But in the case of Matter, each of the participating companies is bringing its own code to the table, and co-developing open-source implementation for various platforms, from Linux to Windows, to Android. It is anticipated to become so significant in the Smart Home space that in a couple of years it will be impossible to sell any products that aren't Matter supported.

As a standard, Matter will boost the whole Smart Home concept – for which, interoperability has been suboptimal. In many respects, Casambi is the furthest along in having a modern wireless smart lighting control system. We have an excellent solution not only for bulbs but also for integrated LED fixtures. We can support any fixture out there. And with Matter, we will co-exist nicely with our 'competitors'.

Our joining the CSA to back Matter will greatly impact our partners: If they have a Casambi-enabled fixture, it will also become a Matter-capable fixture. They don't need to do anything ... we unlock the doors for our partners and through Matter will bring a lot more benefits to the Casambi Ecosystem. When Matter launches, we'd like to be one of the first to leverage it, advancing Smart Lighting Control for the benefit of all Casambi partners and the industry at large.

The future will see an increasing focus on software, user interfaces, and deeper integration with third-party systems. Matter will provide a shared foundation on which to build an application for connecting devices but will also afford developers the freedom to innovate on the user application level above. As someone who believes in the software-driven approach to standardisation, this, indeed, is music to my ears.

Karrinyup Shopping Centre, Perth
Image by Andrew Purvis

A Consumer-centred Approach to Retail Lighting

A contribution by
Damian de Wind

Joined Mondoluce in 2011, Damian de Wind started his career in a warehouse position, then progressed to client liaison, setting up the foundation for his progression into business development. As the Project Lighting Manager of Mondoluce, he exceeds clients' expectations delivering tailored lighting solutions to numerous Perth-based commercial projects, such as Karrinyup Shopping Centre, Mandurah Forum and Westfield Whitford City.

Forrest Chase, Perth
Image by Ron Tan

What is Retail Lighting?

In simple terms, retail lighting is a practice of designing and specifying lighting fixtures and placements to make retail space visible and highlight products or areas of the store. Thoughtful lighting design is crucial to the success of any retail complex as it needs to provide adequate lighting for wayfinding while creating an inviting environment for customers. However, one of the most common mistakes we often observe in retail lighting is the overemphasis on brightness and brightness only. With this approach, the retail environment can easily fall into the trap of "brightness competition", as every store competes to be the brightest and most exaggerated in their overall lighting scheme. As a result, numerous elements, such as visual, emotional and experience, can be neglected in retail lighting.

As remarked by Aaron Rose, an American film director and artist, "In the right light, at the right time, everything is extraordinary."

With the lighting industry shifting to the human-centric lighting concept, we also see a transformation in retail lighting approaches as shopping centres adopt customer-centric lighting method that concentrates on people, their needs and their holistic experience. According to Zaltman (2003), 95% of purchasing decisions are subconscious, and emotion drives purchasing behaviours and decision-making. Therefore, to create a memorable customer journey, it is essential to take a holistic approach to shape the retail experience to be more stimulating to the five senses.

One of the most critical elements that greatly determines the visual aspect of an environment is lighting. Central to merchandising strategies, lighting shapes a store or complex's appearance and the consumers' perception of them. When it comes to lighting shopping centres, it is crucial to have a holistic understanding of the retail journey, which starts from the entrance to customers' in-between rest stops in foodcourts and restrooms and ends when they exit through parking lots or valet areas. Lighting, in this context, can aid customers in navigating their journey and creating a comfortable yet exciting atmosphere for a wholesome experience.

Understanding the Purpose

Nowadays, shopping complexes aim for a homelike and inviting feeling, and lighting is vital in making shoppers feel comfortable and at home. Understanding the purpose of retail lighting design helps us filter out the best kind of lighting needed for retail projects.

When we worked on Karrinyup Shopping Centre, one of Perth's leading multi-complexes, the initial step was to follow and respect the objective and design intent. Electrolight designed Karrinyup's lighting scheme to infuse the shopping environment with a familiar sense of homely comfort.

The centre primarily utilised soft lighting and fittings with high colour rendering capabilities and warm colour temperature. As a result, the perfect and most welcoming lightscape was created for the project to create a seamless experience from the interior to the exterior and vice versa.

Building a journey

Shopping malls nowadays are not only destinations for shopping but are also becoming all-rounder entertainment precincts that encompass multiple attractions, from cinemas, arcades, and bars to outdoor dining.

Instead of a quick in-and-out transactional experience, visitors now can and do spend more time in malls as they have more options for entertainment. Because of this variousness in possibilities, mall visitors are able to personalise their customer journey to suit the purpose of each visit, which means no two customer journeys are ever the same. Therefore, it is crucial to deliver a lighting solution that is comfortable and unobtrusive to cater to longer visits. At the same time, a good lighting scheme also supports placemaking. It acts as visual cues for wayfinding while subconsciously creating seamless transitions between different areas, from moments of entry to exit and all the in-betweens.

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Karrinyup Shopping Centre, Perth
Image by Andrew Purvis

From entry to exit

With Karrinyup, the interior space uses a combination of downlights and linear, wall, and ceiling lights to accentuate merchandise accurately and generate feelings of enjoyment and positivity. In the Eastern Precinct, one of the primary architectural features is the grand open void with a high ceiling that connects the ground level to the one above. To highlight the arch ceiling feature, we utilised track lights that run horizontally to the ceiling as they render a softer light compared to the conventional approach of large commercial downlights with big reflectors and high output. At the same time, the lighting design of Karrinyup features a lot of indirect illumination through the use of linear light, which adds depth and brings out the vertical of the space.

Another key indoor area of Karrinyup is the food court. Again, with the same aim of creating a comfortable atmosphere, the design utilised a lot of dark lighters with a warm colour temperature. Compared to the standard approach, where food courts are often overwhelmed with illumination, this lighting decision is successful in that it is gentle and pleasant, perfect for a dining space, yet is dynamic enough to support the hustling vibe of a heavy foot-traffic area.

Customers' experience also associates with the use of space, especially for the open outdoor area. Therefore, choosing the right fixtures and installation method is of utmost importance. In the case of Karrinyup, it was a concern for Electrolight that poles or bollard lights would overwhelm the outdoor space. Thus, we ended up with a catenary installation that would make the most of the landscape. Simultaneously, we had uplights and spotlights featured throughout the space, along with linear lights highlighting the water feature to create a sense of safety for wayfinding while maintaining an enchanting atmosphere for all occupants.

Upon their exit, customers are to wait for their transportation service in the valet area. Illuminated by darklighters with low glare and subtle light sources, the space exudes comfort to create a great lasting impression that hopefully attracts return visitors.

All the in-betweens

When lighting a retail complex, it is crucial to create a pleasant and feel-good atmosphere for customers for the duration of their experience. An inconsistent lighting scheme with varying light quality can disrupt their mood and negatively influence their attitudes and behaviours. Therefore, the best lighting plan should be considerate of the project as a whole and not just key areas.

Compared to the key areas, such as the entrance, storefront or food courts, the in-between facilities, such as restrooms, vanities or changing stations, are often inadequately capitalised in retail stores since they are not commercialised spaces (Piha &Räikkönen, 2017). In recent years, however, we have seen a shift towards a more rounded approach to these spaces.

With Karrinyup, every detail was well-thought-out. Upon entrance to the restroom area, visitors are led through a corridor brightly lit with indirect lighting and wall-mounted fixtures. Supporting safe movements, the design eliminates feelings of uncertainty or unsafe. Inside, the restrooms utilise a combination of indirect light tracking the ceiling periphery and downlights for ambience. To add a sense of luxurious indulgence, linear lights are installed around vanity mirrors. By minimising the use of downlights, shadows are limited, which makes the people and the space look and feel much more appealing.

In the subtlest ways, retail lighting influences consumer attitudes and behaviours. Therefore, when lighting a retail project, it is crucial to maintain a sense of consistency in light quality and theme in every project section.

Embracing a Wholesome Experience

Shopping centres are turning into little hubs within suburbs that draw people in to spend more time and money. It is an informal understanding that the absence of an inviting ambience and an enjoyable overall experience will negatively impact shoppers' decisions to purchase and return. Suitable lighting will set the right atmosphere and mood, direct shoppers to the store's key areas, and offer them the overall background for a perfect shopping experience.

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Karrinyup Shopping Centre, Perth
Image by Andrew Purvis

Vietnam Design Week 2021 Exhibition, Hanoi
Image by Valor Studio

Lighting Vietnam Design Week - Awakening Traditions

A contribution by
Ho Mong Long

Architect Ho Mong Long is the founder and lead architect of HMLarchitecture. His design's principle centres around respecting nature and natural progression. In 2019, along with members of the design team of HMLarchitecture, Ho Mong Long celebrated receiving the Architect of the Year and Interior of the Year awards at the annual Ashui Awards. It is Long's belief that mindful architecture can bring cultural and practical value to project beneficiaries, investors and the community.

Lighting Vietnam Design Week – Awakening Traditions

About The Temple of Literature – Cultural significance

Temple of Literature, also known as Van Mieu Quoc Tu Giam, is one of the top historical attractions in Hanoi – the capital of Vietnam. It was built about 1000 years ago to be dedicated to Confucius, sages, and scholars and is also considered the first university in Vietnam. The temple represents ancient Vietnamese architecture and the nation's dedication to education.

With the central theme of Awakening Traditions, VNDW was hosted within the Thai Hoc Hall of the Temple of Literature. This place is the perfect venue to house VNDW because of its cultural significance and relevance to Vietnamese history. When we hear the word "traditions", we often think of things that belong to the past. While there are some truths to this, we also have to remember that tradition isn't a fixed time or place; it is continuous, adaptable and interconnected with the people participating and experiencing said traditions. With this mindset, our goal, as the architect, was to design a space that can convey the evolving nature of identity, diversity, and all the environments that influence how we define the role of traditions in contemporary society.

Hosted by the Vietnam National Institute of Culture and Arts in collaboration with organisations in Vietnam's three major cities, Hanoi, Hue and Ho Chi Minh City, Vietnam Design Week (VNDW) is a program created to honour excellent Vietnamese products and designers. Starting in 2020, VNDW focuses on showcasing a myriad of social and cultural concepts in Communication Design, Living Design, Decor & Object Design, Clothing Design and Public Design.

Every year, VNDW takes on a unique theme as a focus for its participants. In 2020, VNDW introduced the theme "Rebirth", where participants were required to make the most of available resources and limit the wasting of materials and supplies. The theme for VNDW 2021, "Awakening Tradition", was also a form of rebirth from a cultural perspective. It required the incorporation of traditional elements into contemporary products with high applicability.

It would be fair to say that Vietnam's creative industry is still in the early stages of development. We are still seeing conflicts surrounding the issues of adapting to foreign learning and the preservation of traditional values. Therefore, VNDW came to be a platform for public discourse. It is a common playground for designers of various disciplines and a point of interaction where we explore the balance between the public and private and the old versus the new.

In 2021, HMLArchitecture was the lead architect and designer for the VNDW exhibition housed inside the prestigious Temple of Literature, a cultural and historical symbol of Vietnam. With this one-of-a-kind architectural space, it was a challenge yet an exciting opportunity as HMLArchitecture was tasked with creating a contemporary exhibition space for our audience while preserving the current confinements of the heritage structure.

→
Temple of Literature, Hanoi

Turning Thai Hoc Hall Into an Exhibition Space

Viet Nam Design Week 2022

Vietnam Design Week is a series of events honouring and showcasing Vietnamese designers, sponsored by Vietnam Design Group and co-organized by the Vietnam National Institute of Culture and Arts (VICAS) (Ministry of Culture, Sports and Tourism). Vietnam Design Week 2021, titled Awakening Traditions, aims to spotlight Vietnamese culture and traditional values through sustainable design.

One of the highlights of VNDW is the Designed by Vietnam competition, where designers create innovative works and practical products inspired by cultural traditions and folk knowledge. Our founding belief is that when future generations use products with traditional elements, the tradition is continued and maintained. That is the way to the sustainable development of culture.

During VNDW 2021, Designed by Vietnam contest winners' works were presented to the public through an exhibition space in the Thai Hoc Hall.

With multi-tiered roofs, beautifully designed archways, and large wooden columns, the structure of Thai Hoc Hall is perpetual of Confucian architecture. With natural materials like wood, stone and red tiles, every colour and textile within this space are curated to convey the balance between the five elements, Metal, Wood, Water, Fire and Earth. The hall is flooded with natural light during the daytime, thanks to its large gate structure. At dawn and into the night, lamps in the shapes of lanterns come to light, completing the archaic and relic surrounding.

During the construction of the VNDW exhibition, it was a mission for HMLArchitecture to preserve as much of the original structure as possible, which means creating an installation that's entirely independent of the existing wooden columns and trusses. They came up with a plan to display the competition-winning works and their design thesis by printing the artworks on transparent plexiglass panels. Each panel would be perfectly tailored to the work and is suspended from the ceiling by a steel structure entirely separated from the trusses.

In Asian artistry, the spirit of artworks or designs is shaped by the interaction between the audience and the artist's intent. Under that premise, art no longer has boundaries between high and low, good and bad, as it simply reflects a never-ending dialogue between the people/things involved. From their brief, HMLArchitecture decided that the approach with plexiglass would be ideal as its transparent nature represents a juncture between the contemporary and the traditional. As the audience explored artworks designed by young artists, they could also see through the panels reflecting the historical interior setting of Thai Hoc Hall.

Lighting a National Heritage

After figuring out the basis of the design, the remaining challenge is figuring out the lighting solution. As they try to tread away from the lantern-shaped lighting scheme, HMLArchitecture wanted to add an element of modernity into the exhibition. It was a matter of finding a suitable illumination method that did not compete with the natural light source during the day. Yet, at night, it should perfectly illuminate the exhibition without the need to install fixed light fixtures and impact the original historical structure.

As a result, they mounted LED linear lights onto the edge of each plexiglass panel. The linear lights were mounted vertically or horizontally along the panels depending on the artwork. The light sources from linear lights were soft and gentle as they created an even wash of light that travels through the glass, perfectly bringing attention to the works.

As a final touch, the designers used sandpaper to texturise and create circular patterns on the glass surface on every partition. From afar and without the lights, these patterns were barely noticeable. However, as the panels lit up, they became more apparent, creating a dynamic and intriguing visual effect. The exhibition space was not routed and guided; therefore, each visitor would have the opportunity to find the work that resonated with their idea of tradition.

Through a significant event like VNDW, designers and creators had the opportunity to explore what traditions mean to them and what it takes to maintain and enhance traditions through design. A thorough understanding of culture will create a solid foundation for young creators, helping them distinguish between misleading cultural appropriation and proper practices that enrich and enhance tradition. As Vietnam's design industry progresses, we hope that young designers will continue to create works inspired by our culture and hold a sense of respect and responsibility to continue our long-standing values.

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VNDW 2021 Exhibition, Hanoi
Image by Valor Studio

Lighting and the Always-on Customer Experience

A contribution by
Henry Luong

Henry has worked in the design thinking, strategy and marketing worlds for 14+ years. His passion is to bring about new digital outlooks and fresh perspectives on the customer experience in the lighting industry. Currently, Henry is a part of the leadership team at Unios, heading up the Brand and Digital Products divisions.

“The hallmarks of our experiences in B2C are rapidly permeating the construction sector, including the lighting industry.”

The way we do business and choose our products in a B2B world has forever changed in the last two years. Suppliers are racing towards embracing a digital-first approach. Those who operate in the B2B space are increasingly expecting more of the immediacy and convenience of the B2C world offered in their personal lives. The hallmarks of our experiences in B2C are rapidly permeating the construction sector, including the lighting industry.

The C-word

In a McKinsey report from mid-2020, two-thirds of respondents believed that COVID-19 would accelerate the construction industry’s digital transformation. This shift can allude to everything from future construction methodologies to digital disruptions. Since the onset of COVID, many of the traditional channels of establishing B2B relationships has waned — from printed spec sheets and catalogues to in-person product demonstrations and phone calls from sales reps. In many ways, the hands of every B2B company have been forced.

This force rings true as many of us have settled into a new normal of spending more time working from home. At this point, the line between professional and personal lives starts to fade. The line between our expectations of ordering food delivered to our door and configuring lighting for an office building is beginning to fade. As customers, we want more information at our fingertips without picking up the phone or sending an email. In true B2C fashion, most B2B clients now want to be able to conduct their research and narrow down product choices online before finalising with a supplier. Therefore, as B2B companies, we need to continue adapting and engaging with customers, not just in new ways but also in customers’ preferred ways.

At a glance, the cornerstone of every positive B2C experience includes — a seamless user interface, availability and pricing transparency, and real-time customer service.

In the context of the lighting industry, this means having a strong foundation of up-to-date online data, including specifications, BIM objects, IES files and CAD drawings. In addition, allowing customers to discover, search and narrow down their selections via tools such as product configurators is becoming the price of admission to help save time and simplify selection.

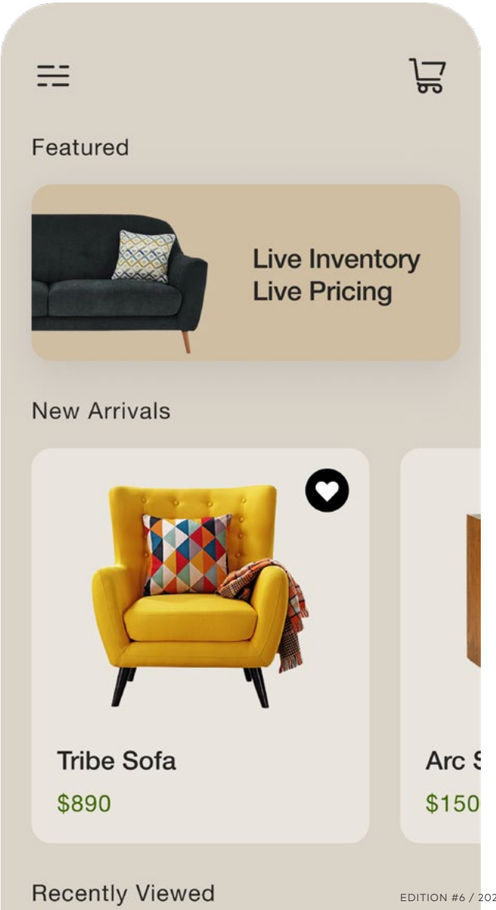
The expectations of the B2C world and the conventional B2B standards

The distinction between B2C and B2B customer experiences has always been clear. Where B2B has conventionally relied on traditional channels, B2C has prioritised a customer-first approach that is frictionless and on-demand. Similarly, where B2C is delivering exceptional online experiences, B2B has functioned based on websites more akin to static billboards with limited product information and insight.

This is not to criticise the ways B2B industries function since we operate this way for a reason. It is historically known that B2B industries, specifically the lighting industry, are incredibly complex, with project cycles ranging from months to years. In addition, there are often many stakeholders involved in the decision-making process of lighting selection — architects, lighting designers, consulting engineers, builders, developers, and more. This is not new information to most; however, maintaining the status quo is no longer an option since the customer expectations and user experience that connects an entire project are rapidly changing. Therefore, the criteria and battleground for B2B businesses have been set — it’s up to customers to demand more from their suppliers and suppliers to evolve to a new way of connecting with customers.

Deloitte.

“The expectations in B2B commerce are increasingly informed by developments and experiences in B2C. Common expectations in B2C, such as transparency, a rich, tailored user experience, communities and social connections, are rapidly permeating B2B.” (Deloitte, 2016).



The Building Pressure

Professionals within the construction industry are busier and increasingly time-poor. Delivering value to a project in a timely manner is crucial, including the selection and buying process for products and building materials. With thousands of options in every product category — lighting, carpets, doors, glasses — narrowing your options and evaluating fast is essential. The B2B companies able to provide a seamless experience in delivering product recommendations and comparisons are going to be looked at more favourably during the process.

Many industries are in the midst of a rapid digital transformation as new entrants in the market bring fresh perspectives and an ability to adapt nimbly. The furniture industry sits at the forefront of change with companies such as Koala disrupting, initially, the mattress market and, consequently, other furniture categories.

As a furniture supplier, Koala is disrupting the norms by existing primarily in the vast space of the Internet, without expensive showrooms or pricing mark-ups. True to the brand's promise, Koala's offerings include quality products with a transparent and supported customer experience, where all products are "easy to buy, easy to try, and easy to return". For residential and commercial customers, companies like Koala are tackling long-accepted pain points of lengthy delivery times, inflated costs and antiquated traditional buying processes.

koala

Koala Mattresses & Furniture

Founded in 2015, Koala is an Australian mattress and furniture company that is recognised for its sustainable and ethical approach. Its products are highly certified as non-toxic and eco-friendly, as well as designed with the customers' lifestyles in mind.

Survey Says

In a survey conducted by Unios across 2021, a range of lighting specifiers was asked — "how is your customer's world changing?" The common threads across the survey results ranged from supply chain constraints to pricing and availability transparency. In addition, the impacts of component shortages, stop-start construction schedules and the decline of face-to-face meetings are being felt across the entire value chain.

"Due to the ongoing impacts of COVID, everything has been affected — pricing, budgets, availability, lead times, stock, materials, specification values, holding specification, design considerations...and so on." — Survey Participant.

What the Future Holds

Always-on. It's the fundamental shift in how B2B industries will operate. The new frontier and state-of-play involve B2B companies becoming experts at delivering highly personalised and on-demand platforms and tools. The tradition of picking up the phone to find out more information will be replaced by on-demand product details available around the clock. Often complex procedures of receiving indicative pricing for budgeting will become more transparent. Product recommendations based on previous selections and criteria will be accurate and useful. Similarly, while the goal of B2B sales teams remains the same, their approach to engaging with customers is changing to a digital-first environment.

A balancing act

While the push for a more seamless customer experience is an apparent one, it is not an easy one to capture and get right. Companies need to invest in digital – that much is certain. However, where should those investments go? First, where digital is most valued by customers – online tools for customer service or offering real-time pricing with product configurators. Second, where digital can enable humans to do a better job of interacting with customers when the human touch is required.

In many ways, the digital transformation of B2B businesses isn't just about meeting customer demands. It is also about empowering them through clarity and self-efficacy for better and more informed decision-making, which potentially lessens the mental load of any cognitive dissonance.

The future isn't a dystopian world where machines replace all humans in B2B industries. Instead, it will have to find the right balance between when a human touch is required and when on-demand digital tools are needed. Both will need to work hand-in-hand to deliver speed, transparency and expertise.

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Launched in September 2018, Universal Light is an annual magazine with contributions by lighting experts for the lighting specifier community.

With contributions from leading international practitioners and renowned experts, Universal Light provides insight into the growing recognition and importance of lighting in architecture.

Published by Unios, Universal Light comes together in collaboration with leading voices in lighting and design. More than a collection of case studies and products, the magazine moves the conversation towards advancing technologies, the changing nature of specifications and the maturation of digital innovations.

Distributed in Australasia and Asia, Universal Light seeks to spread a unified passion for light for all environments.

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About the Publisher

We are an Australian lighting brand that takes the complexity out of lighting by creating products and digital tools to deliver better project outcomes. Our meticulously developed products combined with simple configuration tools and information access allow you to focus on what is most important and deliver a purposeful and well-planned project.

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Interested in contributing?

We are looking for contributors.

If you are an architect, engineer, consultant or lighting designer interested in contributing to the Universal Light magazine, get in touch with the Unios team. Universal Light covers a variety of topics ranging from new technologies in lighting to groundbreaking designs for the built environment.

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Everyone needs lighting. It doesn't matter who you are, where you live, your upbringing or your background. In order to provide optimal solutions for the communities where we live and work, we need an industry that is representative of everyone.