

arc

LIGHTING IN ARCHITECTURE

Crown Jewel

Lighting Planners Associates illuminate
Singapore's stunning Jewel Changi Airport

Specialty Lighting have been making Lighting Designers' visions become reality since 1993.

Unsurpassed levels of product customization, configurability & functionality enable designers to express their individuality without compromising on performance.

INK is a technology platform consisting of Dynamic Beam Shaping, Tunable White, RGBW and BLE Wireless Control.

INK can be selected with any feature or all in one.

Be watching for INK TO SPREAD across many Specialty Fixtures.

light+building

Frankfurt am Main
8. – 13. 3. 2020

Launching Hall 4.2 | Stand D31

Leducation

Trade Show and Conference

New York Hilton Midtown
March 17-18, 2020

The Technology



Dynamic Beams



Tunable White



Saturated colour



Wireless Control

I ~~INK~~ therefore I am

INK

Available in



Recessed

Fixed | Adjustable | Wall Wash



Cylinder

Surface | Pendant



Spot

Mono-points | Track



specialty
lighting industries



express
your
individuality

 **specialty**
lighting industries

established in
USA 1993 | established in
Europe 2020

LED system bollards, protection class IP 65. Modular luminaires that can be supplemented with auxiliary components such as floodlights, light and motion sensors, emergency lighting batteries or certified drive-through protection. System bollards are available in various lighting versions.
BEGA Lighting UK Ltd · Suite 9 · Milton Heath House · Westcott Road
Dorking · Surrey · RH4 3NB · UK · Tel. No. +44 (0) 1306 882 098
info-uk@bega.com · www.bega.com

BEGA



Das gute Licht.
For a warmer welcome.

HALL 3.1
BOOTH B20
light+building

Frankfurt am Main
8.-13.3.2020

2020
product
release

formalighting

New Low Voltage Track System

formalighting

MOTOLUX

Motorized Architectural Lighting

Formalighting's new 48V low voltage system is a flawless and flexible solution for any environment. Its miniature dimension helps to maintain a minimalist aesthetic.

The system offers deep recessed, recessed, surface and pendant mounted solutions. Our most popular formalighting and MOTOLUX – architectural motorized lighting – luminaires are now compatible with the 48V LV system.

The light modules are easy to insert or to remove from the track and immediately ready to work.

Our comprehensive portfolio also offers different types of optics (lens spot, opal diffuser, wallwasher) and beam angles. Specific solutions, such as beam shaping function, super narrow beam and high CRI performance are also available in the 48V LV system, offering designers more flexibility than any other low voltage system on the market.

www.formalighting.com

A modern interior space featuring a series of Explora Star pendant lights hanging from the ceiling. The lights are arranged in a line, creating a rhythmic pattern. The ceiling is made of light-colored wood panels. In the foreground, there are several dark blue armchairs with light-colored cylindrical backrests. A small round wooden table with a potted plant on it is also visible. The floor is made of light-colored tiles. In the background, there are glass partitions and a reception desk.

Explora Star

The new Explora® Star Pendant, designed and manufactured in the UK by Hacer, presents an artistic and unique lighting statement. As part of the Explora® range, the Explora® Star showcases a translucent yet reflective design offering direct and indirect lighting. The stylish luminaire can be easily linked to create an array of imaginative configurations.

Complementary Wall Light and colour changing options complete the range, offering a diverse choice of architectural lighting.



40
Est. 1980

Hacel[®]
Fluent in Lighting

Architecturally inspired, class leading LED luminaires, superior performance.

www.hacel.co.uk



17-19 September 2020
The Old Truman Brewery • Shoreditch • London

www.darcroom.com

The New Compact FLC301 Projector



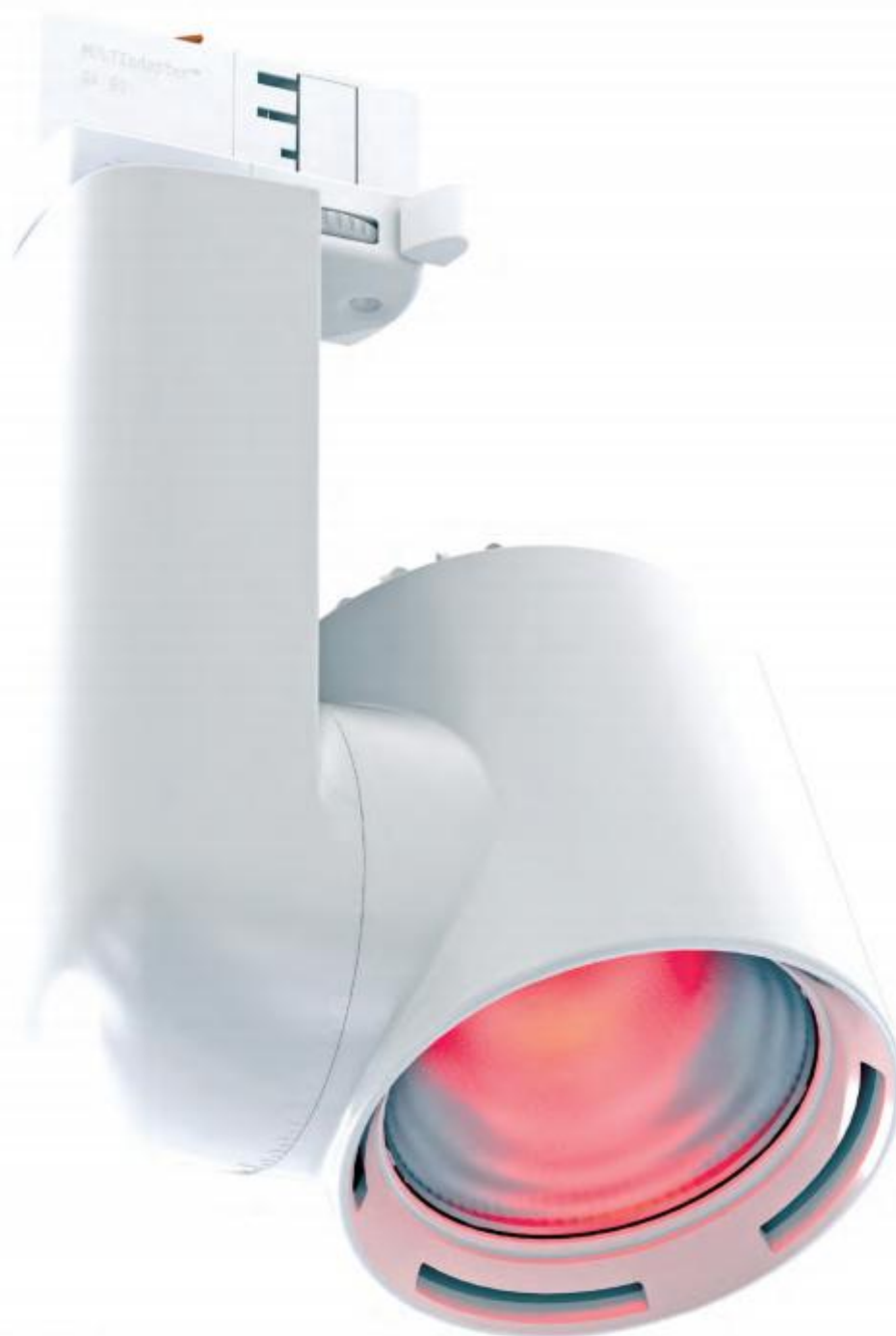
light+building 2020

■ WE-EF LEUCHEN Hall 3.0, Stand A61

70 YEARS

we-ef

www.we-ef.com



Jade series

The most extensive collection of rail fixtures in the world

Available in the following versions:

- > White LED sources from Citizen or Xicato, CRI up to 98°
- > RGBW, RGBA or Tunable White LED sources from CLS
- > Dim 2 Warm LED sources
- > Local Dim, DMX512, Wireless DMX, DALI, Casambi Bluetooth or Mains Dim
- > Rail mount or Surface mount versions
- > S version, Retail & Food version, Expo version, Zoom version (9-58°)

LED lighting solutions **designed & made** in The Netherlands since 2002

info@cls-led.com • www.cls-led.com





SEOUL SEMICONDUCTOR
SEOUL VIOSYS



Coming Soon

SunLike MTE

Powered by  TRI-R

Hall 8.0, D30+D40

www.seoulsemicon.com

Exhibition information:

Lighting and building fair in Frankfurt
Halle/Hall 10.1 C75 March. 8 -13 of 2020

XIXIDC

Honeycomb Series Lighting

poetic outside, pure inside

NINGBO XICHU LIGHTING CO.,LTD
WWW.XIXIDC.CN



SNAPPY

KNOW HOW. NO LIMITS.

single touch key to realize **dimming** and **CCT** function!

- 1. Snappy real **noise free** LED drivers, slim design, 30W and 50W, 12VDC & 24VDC.
- 2. Sensor & Switch, IR,PIR and touch dimmer, soft dimming and CCT change, for residential and bathroom applications.



LED POWER SUPPLY

NINGBO SNAPPY OPTOELECTRONICS CO.,LTD

E-mail:sales@snappy.cn

WWW.SNAPPY.CN



20 YEARS
AS COMPLETE LIGHTING SOLUTION PROVIDER
IN THE MENA REGION

Dubai

Abu Dhabi

Beirut

Doha

Amman

Jeddah

Riyadh

Kuwait

Cairo

Manama

hudalighting.com

360° Round Luminous Surface

Application to space and contour
lighting, free design

Pendant and surface mounted are achievable

SILICONE NEON STRIP NNR25

light+building 2020

Booth No. : C51B, Hall 10.2

Date: 8th-13th March, 2020

Any requirements please contact us , our regional sales will provide the best service

E-mail: colors@colorsled.com

www.colorsled.com



‘ Visit **Unilamp** ,
at new location



light+building

Frankfurt am Main
8. – 13. 3. 2020

HALL 4.0 | STAND E41

#LB2020 | #UNILAMPLB2020





www.encapsulite.co.uk

24V RD TWIN STICK

CEILING & SURFACE MOUNTED



For further information
Telephone: +44 (0)1525 376974
Email: reply@encapsulite.co.uk

PROLED®

Office



VISIT US
light+building

HALL 4.1 **STAND E48**

Hospitality



Outdoor



Retail

proled.com



the expertise you need



LED solutions for all applications.



Walk away with exactly what you want. Consider custom optics, heatsinks and even electronics - we'll design and manufacture the ideal solution for your application.

www.forge.co.uk
+44 (0)1229 580000

light+building

Visit us - Hall 4.2, Stand B90

VORSA DOT

MINIATURE | POWERFUL | ADAPTABLE



ACTUAL SIZE

JOHN CULLEN



JOHNCULLENLIGHTING.COM +44 (0) 20 7371 9000

DALI LED DRIVERS



ELED DALI Dimmable LED Drives

- Constant Voltage and Constant Current starting from 25 watts up to 360 watts
- Very smooth dimming from 1% to 100% with PUSH DIM available as standard
- Compatible with all DALI control systems
- DALI Dimmable LED Drivers available from stock for immediate delivery

ELED
Ecopac LED Dimmable Driver

LED Drivers

**MAINS
DIMMABLE**

DALI

0-10V

**PREMIUM
DIMMABLE**

Call our **EXPERT TEAM** today!

+44 (0) 1844 204420

or email us at info@ecopacpower.co.uk

Your partner in urban enhancement
French designer and manufacturer since 1971

Technilum®
urban lighting furniture



Canning Town, London
Lighting design: Light Follows Behaviour



Waterfront, Belgrad
Lighting design: Buro Happold Ltd



One Tower Bridge, London
Lighting design: DHA Design



Allée Jean Jaurès, Montrouge
Lighting design: Coup d'Éclat

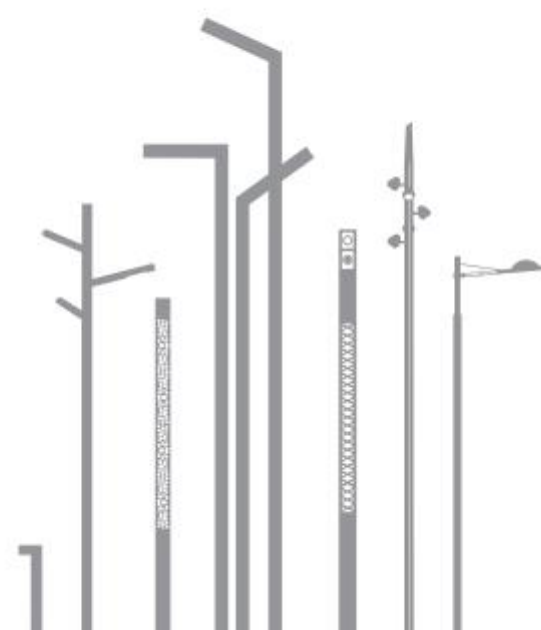
Creation . Innovation . Design

Technilum® designs and manufactures urban lighting furniture. From «ready-to-use» quality products to entirely custom-made solutions, Technilum® is considered as the specialist in responding to market needs with a strong focus on creation, innovation and design.

www.technilum.com



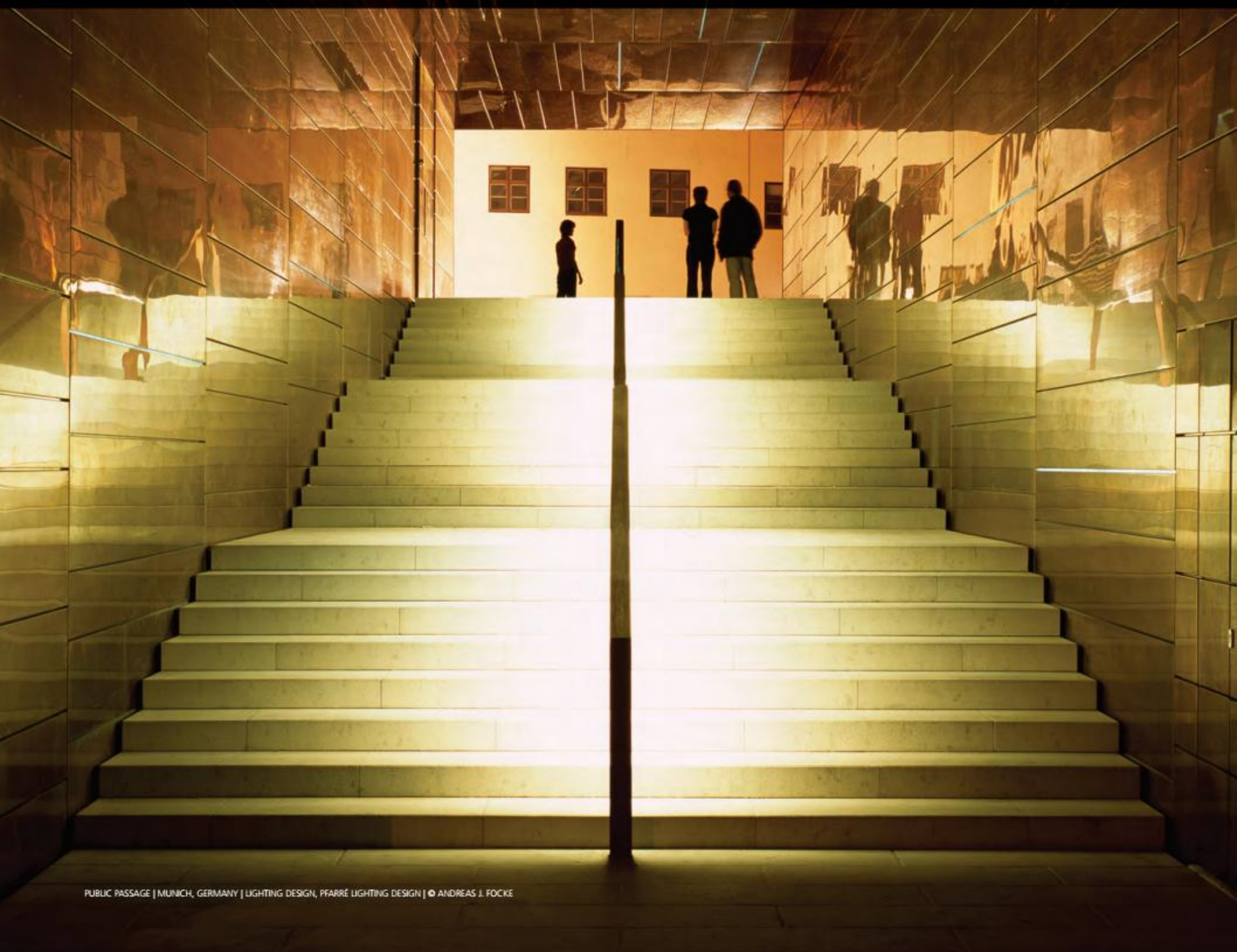
light+building
8. - 13.3.2020
HALL 4.0 STAND B71



ANOTHER PERSON'S DARK SPACE IS OUR BLANK CANVAS.

AN IALD PROFESSIONAL LIGHTING DESIGNER SEES
THE POSSIBILITIES IN EVERY ENVIRONMENT.

LEARN HOW AN IALD LIGHTING DESIGNER CAN TURN YOUR VISION INTO REALITY.
VISIT IALD.ORG AND CLICK ON "FIND A LIGHTING DESIGNER" TO REFINE YOUR SEARCH.



light+building

HALL 8.0 - C18

Frankfurt am Main



IT'S TIME FOR

DARK LIGHT



THE PERFECT SOLUTION TO HIDE YOUR LIGHT

LEDiL®



LEDFOCUS

Control light at will



Light distribution control: 1.5° to 30°

The photo is for illustrative purpose only.



Niagara Falls, North America



JAPONSMES 2018 Special Light-up
Eiffel Tower dressed in Japanese Lights
Lighting Design & Production: Motoko Ishii & Motoko Ishii Lighting Design Inc(Tokyo)
Akari Lisa Ishii & LCJ.N(Paris)
Stanley provided golden floodlighting fixtures and sponsored the event



Lichtkuppel Herz Jesu Kirche Düsseldorf /Germany Artist Klaus H.R.Gendrung/mo2
Photography A.Aengevelt dus-illuminated®

STANLEY STANLEY ELECTRIC CO., LTD.

<https://stanley-ledlighting.com>

■ Paris STANLEY-IDESS S.A.S. TEL:+33-1-47-81-85-85 ■ London Stanley Electric(U.K.) Co., Ltd. TEL:+44-1344-830-450 ■ Frankfurt Stanley Electric GmbH TEL:+49-6105-930530





illumination
Physics



Bluespace

BUILT-IN DESIGN

The journey from concept to completion for an integrated façade lighting project can be long and not without risk. The rapid development of integrated LED into the building envelope has brought a new level complication to the design, procurement and construction process.

illumination Physics understands the journey and the needs of every player very well. We develop the product, provide a practical solution for the installation methodology, and supervise the installation.

We understand what will work and what will not, we are all about a total solution.

- Product Design
- Manufacturing
- Installation
- Control
- Commissioning and Programming
- A circle of capability we call 'Built-In Design'

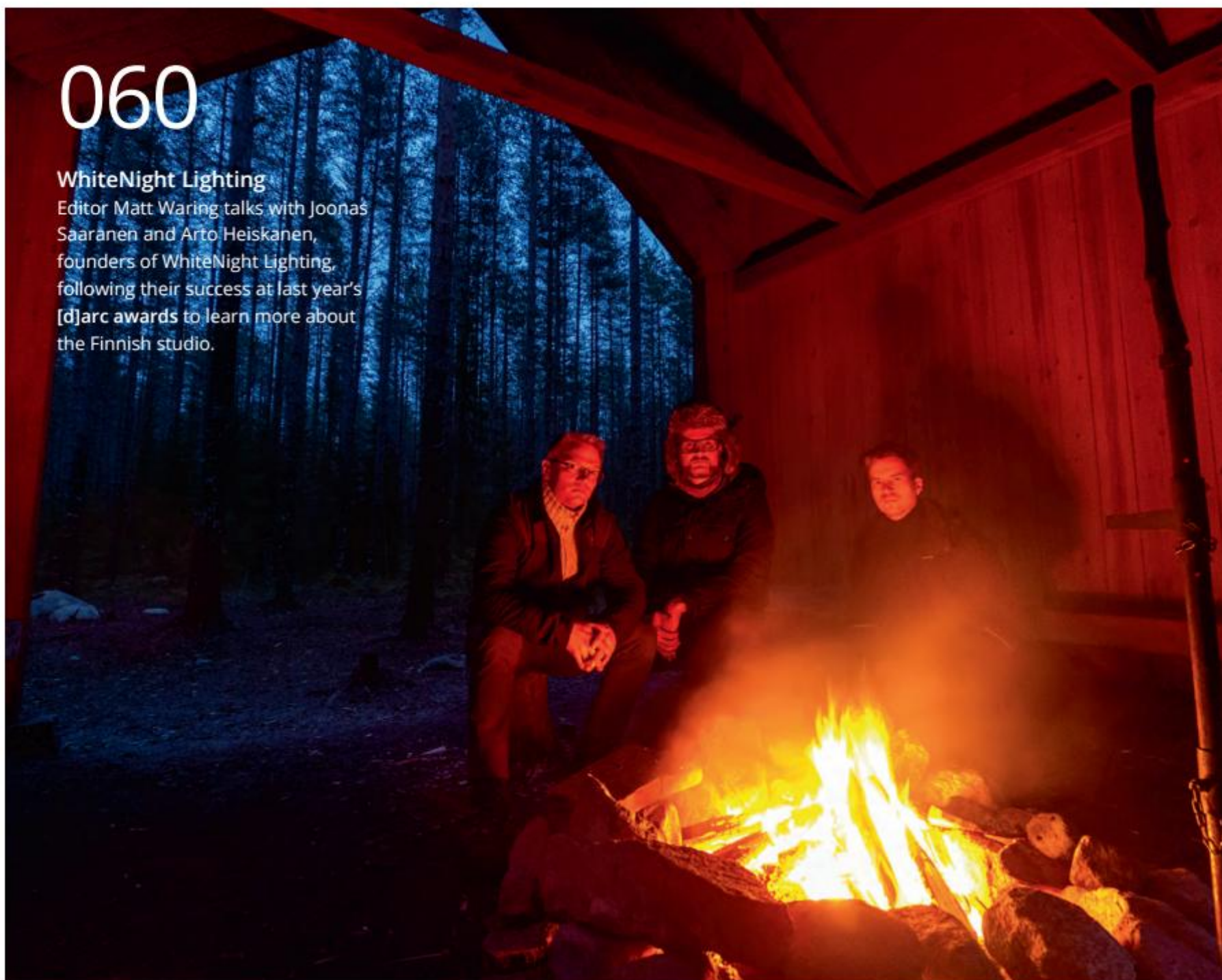
Specialists in customised lighting to suit your design.

illuminationphysics.com

060

WhiteNight Lighting

Editor Matt Waring talks with Joonas Saaranen and Arto Heiskanen, founders of WhiteNight Lighting, following their success at last year's [d]arc awards to learn more about the Finnish studio.



Contents

FEB/MAR 2020

- 030 Editorial Comment
- 032 Headlines
- 034 Eye Opener
- 036 Drawing Board
- 040 Spotlight
- 056 Briefing
- 058 Snapshot
- 076 IALD Column
- 138 Dark Source
- 188 David Morgan Product Review
- 190 Manufacturer Case Studies
- 216 Event Diary
- 218 Bucket List

070 Women in Lighting

Sarah Cullen caught up with Nathalie Rozot to find out more about think tank PhoScope, and how it is helping communities fight light poverty.

078 Grimshaw

As Grimshaw celebrates its 40th anniversary, **arc** speaks with Chairman Andrew Whalley about the firm's past, present, and future.

141 Welcome to the Luminous '20s

Brad Koerner, lighting expert and founder of Koerner Design, predicts six disruptive trends in architectural lighting for the next decade.

146 Festivals of Light Round-up

We take a look back at some of the remarkable festivals of light that have been brightening up the winter months.

169 Light Symposium: Connecting health research with lighting practice

Asst. Prof. Dr. Karolina M. Zielinska-Dabkowska looks at the interdisciplinary initiative Light Symposium Wismar 2020, and the event's historical development.

173 Light+Building Preview

Get ready for this year's Light+Building with our extensive preview of what you can find in Frankfurt this March.

OMNIA

OMNIA

OMNIA V



OMNIA



OMNIA V



OMNIA 3

Housing
Controcassa



OMNIA V 3



OMNIA 9



OMNIA V 9



OMNIA UN



OMNIA V UN

NEXOLUCE

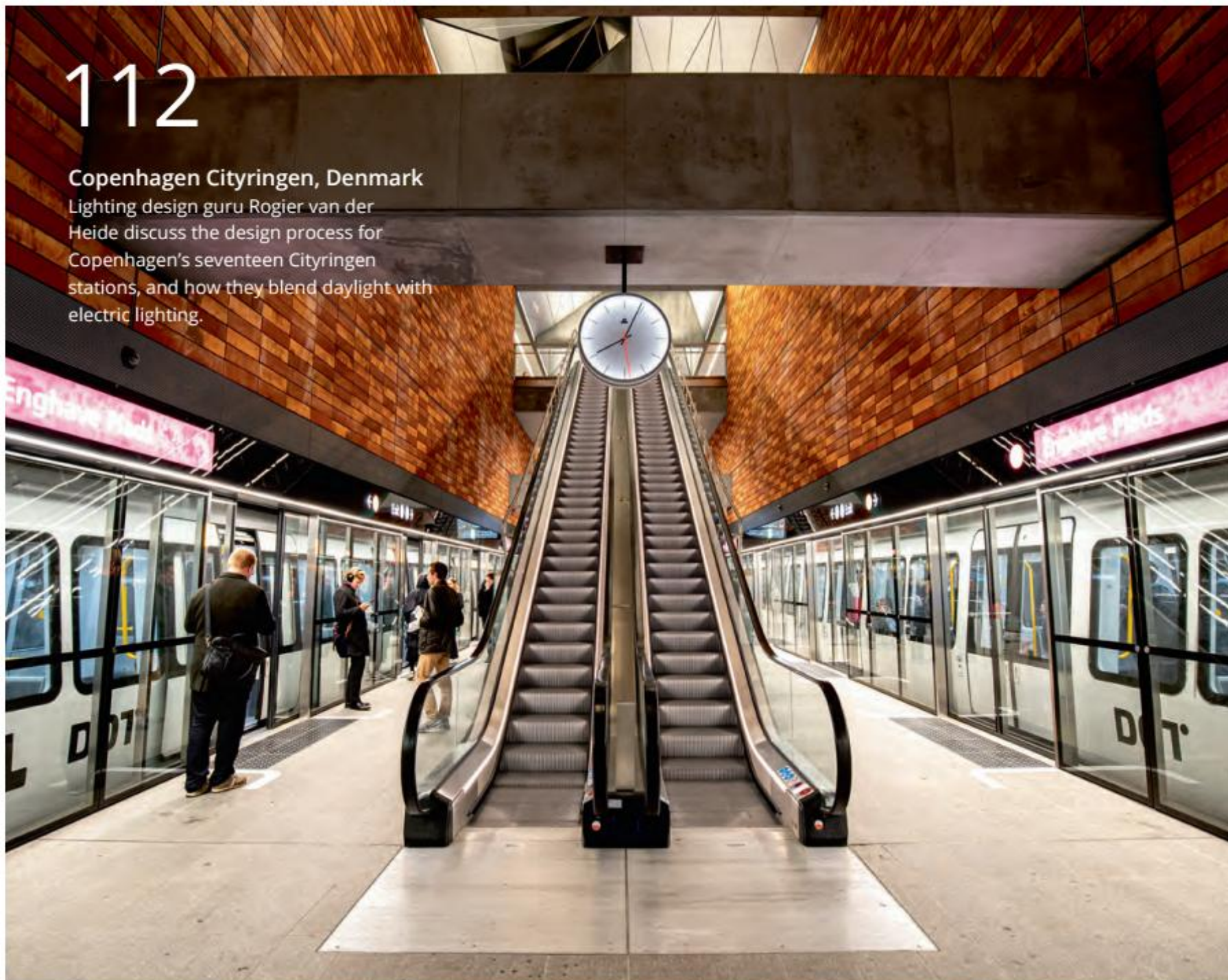
nexoluce.com

contact@nexoluce.com

112

Copenhagen Cityringen, Denmark

Lighting design guru Rogier van der Heide discuss the design process for Copenhagen's seventeen Cityringen stations, and how they blend daylight with electric lighting.



Projects FEB/MAR 2020

090 Jewel Changi Airport, Singapore

Lighting Planners Associates illuminated the Jewel Changi Airport, an iconic new location that combines retail spaces with interior gardens and a stunning, 130ft tall indoor waterfall.

102 London Bridge Station, UK

London's oldest rail station has been brought firmly into the 21st century, thanks to a major, full-scale renovation, featuring lighting design from WSP.

122 Arlanda VIP Services, Sweden

As part of the ongoing expansion of Stockholm's Arlanda International Airport, Tengbom created a piece of Scandinavian luxury for high-profile travellers.

128 Dawn, Saudi Arabia

Light-art sculptures by M+R greet passengers coming through the departures hall at the new KAIA International Airport in Jeddah, Saudi Arabia.

132 TWA Hotel, USA

One Lux Studio has transformed Eero Saarinen's iconic TWA Flight Centre at New York's JFK Airport into a glamorous hotel lobby, with updated fixtures from Spectrum Lighting.

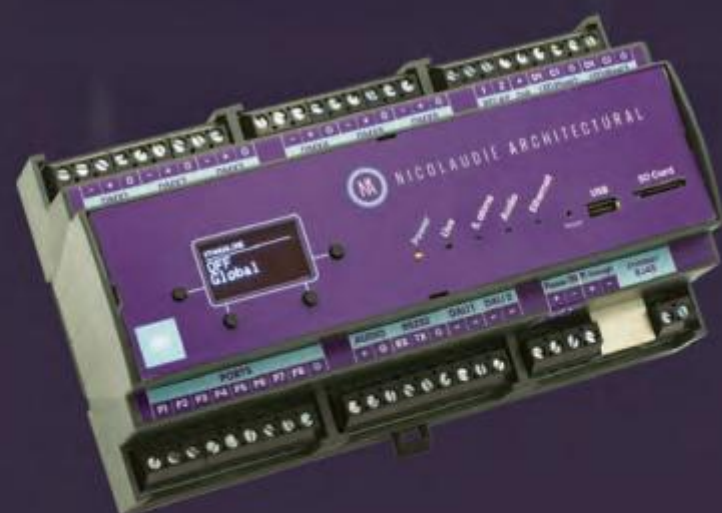


DMX LIGHTING CONTROL SOLUTIONS



Swan Street Bridge, Melbourne, Australia - Illuminated by Coolon LED Lighting
Lighting Design: Relume Consulting - Architect: BKK Architects

Attractive projects deserve powerful lighting control



www.nicolaudie.com

Come see us at Light + Building - Stand 8.0 A92



Front cover: Jewel Changi Airport, Singapore
Pic: Lighting Planners Associates

Editorial

Editor
Matt Waring
m.waring@mondiale.co.uk

Assistant Editor
Sarah Cullen
s.cullen@mondiale.co.uk

Editorial Interns
Simeon Mitchell
Imogen Holland

Commercial

Managing Director
Paul James
p.james@mondiale.co.uk

Managing Editor
Helen Ankers
h.ankers@mondiale.co.uk

Head of Business Development
Jason Pennington
j.pennington@mondiale.co.uk

Media Sales Manager
Andrew Bousfield
a.bousfield@mondiale.co.uk

Media Sales Executive
Isaac Lorenzo
i.lorenzo@mondiale.co.uk

Subscriptions / Marketing Manager
Moses Naeem
m.naeem@mondiale.co.uk

Design

Design Manager
David Bell
d.bell@mondiale.co.uk

Production
Mel Robinson
m.robinson@mondiale.co.uk

Corporate

Chairman
Damian Walsh
d.walsh@mondiale.co.uk

Finance Director
Amanda Giles
a.giles@mondiale.co.uk

Credit Control
Lynette Levi
l.levi@mondiale.co.uk

[d]arc media
Strawberry Studios, Watson Square
Stockport SK1 3AZ, United Kingdom
T: +44 (0)161 476 8350
www.arc-magazine.com
arc@mondiale.co.uk

Printed by Buxton Press

To subscribe visit www.arc-magazine.com
or call +44 (0)161 476 5580

arc, ISSN 17535875, is published
bi-monthly by Mondiale Publishing,
Strawberry Studios, Watson Square,
Stockport, Cheshire, SK1 3AZ.

Subscription records are maintained
at Strawberry Studios, Watson Square,
Stockport, Cheshire, SK1 3AZ.

Spatial Ltd is acting as our mailing agent.

It's that time again... We're all set for another foray to Frankfurt...



It's hard to believe that it's been two years since we were last on our way to the Messe Frankfurt for the behemoth that is Light+Building. A lot has changed in that time, both internally (I was a wet-behind-the-ears Assistant Editor back then) and in the wider world too (you can stop asking us about Brexit now, it's happened. We're all very sorry!), and I'm personally really looking forward to jetting off to Frankfurt to find out more about the latest trends and innovations that are set to rock the lighting industry.

The arc team will, of course, be there for the duration of the show, alongside our pals from darc, so be sure to stop by our stand (FOY12, just outside Hall 4.1) to say hello, or buy us a drink in the Irish bar! In this issue you can find out more about just a small smattering of the new products that will be on show in our extensive Light+Building preview. Make sure you keep an eye out for our review in issue 115, looking back on all the highlights from the event.

Stepping away from Light+Building for a moment, we're very fortunate at arc to be able to travel to a variety of trade shows, conferences and light festivals around the world. Because of this we've seen more than our fair share of airports and train stations - some nicer than others!

With that in mind, arc 114 features a special Transport focus, looking at a number of very cool transport-centric projects from around the world. Coolest amongst these is our cover feature on the amazing Jewel Changi in Singapore. You've no doubt already seen images of the amazing building, featuring the world's largest indoor waterfall, and in this issue we talk with Lighting Planners Associates about what went into illuminating such a remarkable building.

I was also lucky enough to sit down with Andrew Whalley, Chairman and Partner at Grimshaw, to discuss the architecture firm's impressive portfolio, and it's approach to light (he had high praise indeed for the work of lighting designers!). The firm has worked on some amazing sites, including a number of high-profile transport projects around the world, so it's well worth checking out.

This packed out issue also features Part 1 of our Festivals of Light round-up, featuring Lumiere Durham, Copenhagen Light Festival, the [d]arc award-winning Winter Lights, and many more.

Enjoy! ■

Matt Waring
Editor





OZ

The wonderful system of OZ,
we hear it is more whiz than
a Wiz, if ever a Wiz there was.
The system of Oz is one, because
of the wonderful things it does.

Freely inspired by the movie
The Wonderful Wizard of Oz
by Victor Fleming, 1939

light+building

Frankfurt am Main
8. – 13. 3. 2020

Hall 3.1 stand D60

TARGETTI

Headlines

Arup launches Luminaire Broker

UK - The service simplifies specification process for lighting designers.

Arup has unveiled Luminaire Broker, a new online service aimed at connecting manufacturers and lighting designers to streamline the specification process.

The service, which is free to use, allows a specifier to search for the most appropriate lighting product for their live projects, and for suppliers to match their products directly to specifiers' requirements, facilitating the search for luminaires and providing a direct link to broker the optimal product for each specification.

"Like every business, we often think about what the future looks like, what services we need to develop as a business," said Arfon Davies, Director and UK Lighting Design Leader at Arup. "We are always considering how we develop and transform the services that we offer clients, as well as how we can transform the way that we work. We thought that the process of specification was something that was quite time consuming, and a task that could potentially be applied to automation of some description, creating more efficiency and giving our designers more time to work with our clients and architects doing what they do best and enjoy: designing and being creative. "We pride ourselves on being an independent design practice, and we wanted a way to be more transparent and open to our clients, and also our collaborators and suppliers, both about knowing what is in the market, but also making sure that the market is aware of what we're doing."

Once signed up to Luminaire Broker, manufacturers and suppliers are able to see requests from designers for luminaires, each with a given set of requirements for their application. They can then submit specific products to match these specifications for the designer to assess whether they meet their particular needs. It is not an online catalogue or database – suppliers have to actively offer matching product from their current range. It is intended to be a live-updating service that allows for more transparency, and can help to introduce designers to products and manufacturers they may have otherwise not been aware of.

"What we know comes from the manufacturers who are best at speaking to us, to some degree," added Jeff Shaw, Associate Director at Arup. "We rely on the information that we've been given in an analogue way, whereas the idea with Luminaire Broker was that for each project, we could look at every luminaire in the world and see what was right for the job."



Although the service has only been live for a matter of weeks, Davies said that the reaction has been "extremely positive".

"I've had a couple of interesting comments on my LinkedIn feed, and plenty of comments from suppliers, but also from other designers," he said. "I think it's clear that what we're trying to do is something very different and very transformative.

"We have been having many discussions with suppliers and representatives to better understand what this proposed new way of working means. What became clear from this is that the intent of Luminaire Broker is not to remove the need for strong relationships between designers and suppliers – in fact it should give us more time to build relationships with each other.

"Luminaire Broker is a mechanism for us to communicate what the project needs are, but as part of the selection process, we're not going to select something based just on what we see on a screen. We still need the relationships, we still need to test and see samples, we still need that trust. The aim of Luminaire Broker is to give suppliers more time to do these things, and to spend less time responding to calls and emails that are quicker to deal with via Luminaire Broker."

"It improves the quality of the work that we achieve together. It also improves the manufacturers' ability to reach us, in the sense that their time could be spent in more judicious ways, because they know that requests for

specifications will come through," Shaw added. Currently only available to Arup's UK team, Davies and Shaw hope to roll Luminaire Broker out across Arup worldwide by the end of the year, but they added that there are plans in place to introduce it to the lighting industry as a whole.

"I think the value to us as a lighting design practice are things like automation, efficiency, saving time and releasing our designers to do things that really impact projects and clients – design work," explained Davies. "I see that being of value to anyone in the creative or design industry.

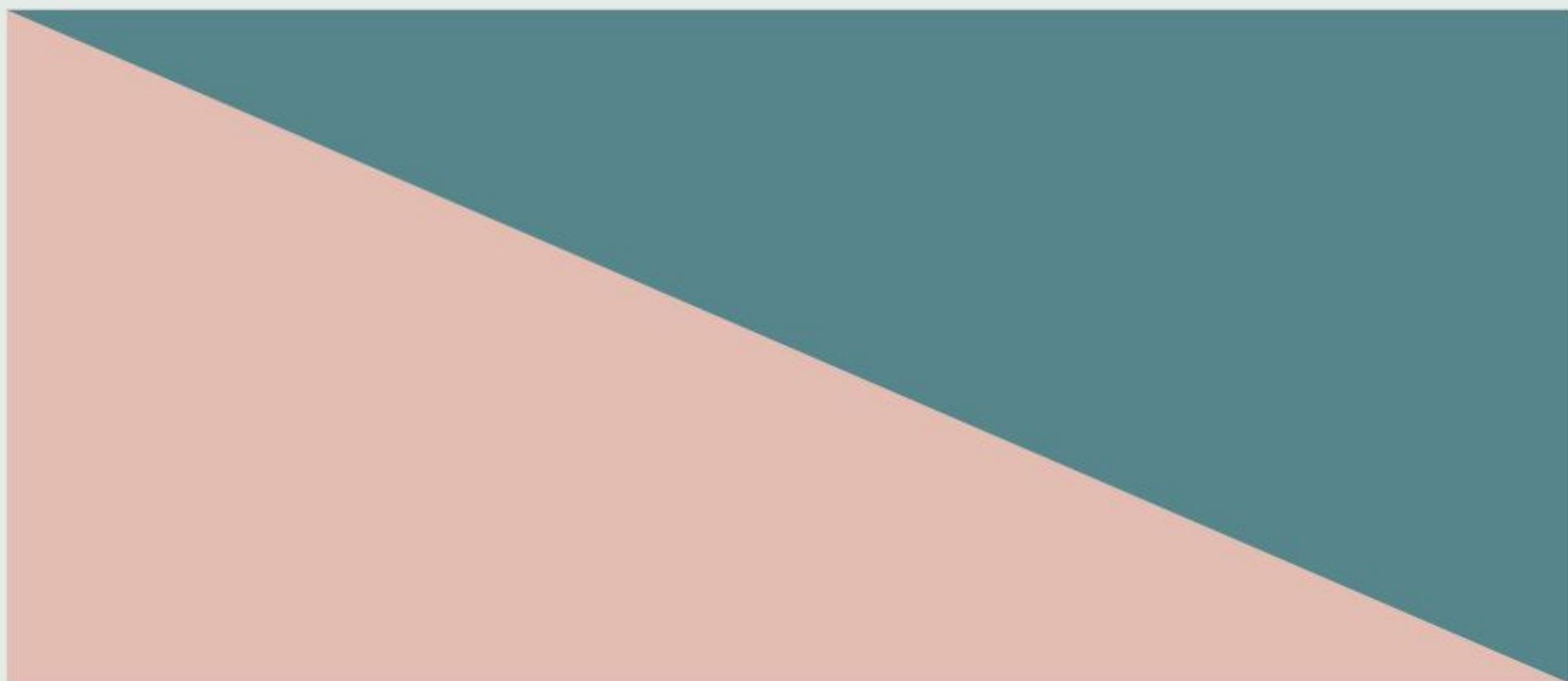
"Our values and beliefs are very much about openness and transparency. We want to be open to the market, we want people to know what we're doing, but we also want to know what the industry are offering, beyond what we already know. In terms of efficiency gains and allowing designers to do what they do best, I think that this would apply to anyone."

"We want to make it a good product, and we've got enough people in Arup to help build the network from our side, and then build up that network of manufacturers, while at the same time improving the software as we go," Shaw added. "So I think by the time we're ready to think about launching beyond Arup it will be a very compelling product indeed."

Luminaire Broker is free for manufacturers to sign up to.

www.luminairebroker.com

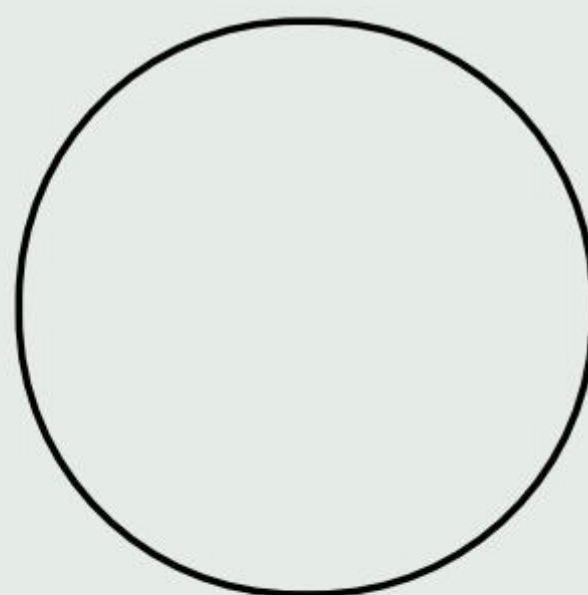
Abstractions



An exhibition celebrating
form, light and our latest
product innovations

Light + Building
8-13 March 2020
Stand E81 Hall 3.0

Reggiani



Limitless, Bond University Gold Coast, Australia

As part of Bond University's 30th anniversary celebrations, several artists were approached to submit their vision for a permanent sculpture to mark the event.

Local artist Ian Haggerty was the eventual winner, with a six-metre-tall piece entitled *Limitless*, comprising a central sphere, representing the Earth, and four towering wings, upon which the names of all the students that have graduated from 1989-2019 are etched onto a highly polished, stainless-steel surface.

Etched onto the highly polished stainless-steel globe surface are the land masses of the world.

The piece, weighing 1.5-tonnes, was placed into a central water feature located directly under the university's Arch Building.

Lighting for the sculpture was designed by Firefly Point of View (FPOV) who, after being briefed by the artist and Bond University Management, developed a general approach that included lighting the piece from below and from above – the latter being a Phos-lensed downlighter produced by Derksen Lichttetnik, recessed into the ceiling, thirteen-metres above the central point of the globe.

The 85W lensed projector, complete with a stainless steel gobo insert, focused a precise circular beam of sufficient intensity to 'pop' the top of the globe, and was referred to by the client as the "Star of Bethlehem".

One of the main requirements for the lighting brief was that the names etched into the vertical face of each of the wings had to be able to be read from the circular platform surrounding the sculpture, day and night.

The lighting system from below comprises two groups of underwater lights, all provided by Wibre; eight wide-beam fixtures are located on the underside of the sphere, providing a pool of light for the globe to sit in; while eight medium beam spots, one for each side of the four wings, to highlight the 26,727 alumni, the form and structure of the sculpture, and as a bonus side effect, create a totally unpredictable direct and inter-reflected patterning on the underside of the Arch.

Part of the original brief was the requirement of colour - not a dynamic colour change but rather a static colour palette representative of the university's colours of blue and gold. To achieve this, FPOV chose to use an RGBW LED light source controlled via a customised Creative Lighting 'Control Freak' DMX-controlled arrangement. This allowed the designers to accurately select the colour saturation and intensity balance between the three systems, as it was important for the uplighting not to diminish the effect of the downlighter from the ceiling.

www.f-pov.com





Drawing Board



Manchester Town Hall UK

Manchester Town Hall is at the very heart of the people of Manchester. Designed by Alfred Waterhouse and constructed from 1867 to 1877, the Grade I listed building is regarded as one of the finest examples of neo-gothic architecture in the world.

However, the building had begun to show its age, and since 2017, has been closed for restoration works to the internal spaces, external fabric, and the adjacent Albert Square.

Due for completion in 2024, Arup is involved in developing the new lighting scheme for all spaces, including the refurbishment of heritage gasoliers, the replication of original luminaires, and a brand new façade lighting scheme.

Manchester Town Hall exudes architectural detailing, statues, carvings and patterns across its exterior that are lost with the existing façade lighting scheme. Before creating the lighting concept, Arup carried out

a baseline survey to establish the baseline luminance levels, the ambience of the building setting, and the lighting quality needed to characterise the existing lighting scenario.

While there was an existing functioning installation on the Albert Square elevation, the other three façades all had a large number of redundant luminaires that were no longer operational.

Arup then explored the visual prominence of the architectural elements of each elevation from key viewpoints and approaches to decide which elements are most prominent, and where light should be applied.

The lighting concept therefore focuses on exploring four themes: showcasing the neo-gothic detailing of the building by positioning luminaires to highlight the selected decorative elements; unifying the four façades by lighting the same features on all elevations to provide a connection across all sides

of the building; revival of the three façades that are lost during the hours of darkness; and creating a means of interaction with the public, through the colour-changing ability of luminaires on the Albert Square façade.

Arup's proposal for the new façade lighting comprises a number of methods to reveal the Town Hall's striking architecture: using light intensity, a play with shade and light and experimentation with different colour temperatures, while showcasing the intricate detailing and height of the main clock tower.

By locating luminaires on the upper levels, grazes of light and more focal accents of lights will be introduced, which will be visible when the Town Hall is viewed from above as an increasing number of high rise offices and residences now enjoy a view over the Town Hall.

On the clock tower, a number of ledges and window reveals will provide ease of access for future maintenance, meaning that lights located in these areas can be accessed safely and readily. The roof guttering also requires maintenance access for cleaning, so luminaires are to be positioned within these locations, so that additional access methods are not necessary for the lighting.

The busy surrounding streets, which all experience high volumes of traffic from buses, trams and pedestrians, mean that illuminating the remaining three sides of the building, on Cooper Street, Princess Street and Lloyd Street, is more complicated. However, by highlighting key details on each façade, the building will be able to shine on all four sides.

The intention from Arup is for the façade to predominantly comprise a timeless white lighting scheme. However, the lighting will incorporate

the capability to change colour for annual events, one-off events, quick response events, and a weekly light show.

Each luminaire will be individually controllable to create optimum flexibility of white, coloured, static and dynamic light displays across the façade.

The Albert Square façade will be the only one with RGBW luminaires – all other façades will be illuminated with white light. This is because the Albert Square façade has the greatest prominence, and is the most significant of the whole building. It forms the backdrop to the square, which is and will continue to be the scene for large public gatherings. As such, Arup felt that it was the only appropriate façade to receive white or colour treatment.

Providing a layered lighting treatment, with light emanating from many discreet sources, allows the façade lighting effects to be deconstructed to match the architectural features of the building. The new lighting scheme will subdivide the façade into a matrix of lighting cells, which will enable dynamic colours and fade effects to be created that can be distributed across the façade in a dynamic and meaningful way. The façade lighting control system will use a standard theatrical DMX protocol to enable extensive functionality.

Before specifying the products, a mock-up of each element of the façade lighting scheme was completed. This helped to decide on the most suitable optic, colour temperature and mounting position.

The scheme is currently going through the planning application process as part of the wider Manchester Town Hall restoration project.

www.arup.com





Serpentine Pavilion UK

Johannesburg-based practice Counterspace, directed by the all-female team of Sumayya Vally, Sarah de Villiers and Amina Kaskar, has been selected to design the Serpentine Pavilion 2020, located in London's Kensington Gardens. All three women were born in 1990, making them the youngest ever architects to be commissioned for the internationally-renowned architecture programme, now in its 20th year. Using both innovative and traditional building techniques, Counterspace's design will be based on gathering spaces and community places around the city. The shapes of the Pavilion are created from a process of addition, superimposition, subtraction and splicing of architectural forms, directly transcribed from existing spaces with particular relevance to migrant and other peripheral communities in London.

The Pavilion will include moveable small parts that will be displaced to neighbourhoods across London. Following community events at these locations, the parts will be returned to the structure, completing it over the summer.

Using a mixture of low and high-tech approaches to sustainability, this year's Pavilion will be constructed from a variety of materials, including custom K-Briq-modules and cork provided by Amorim. K-Briqs are made from 90% recycled construction and demolition waste, and are manufactured without firing, with a tenth of the carbon emissions of normal bricks.

Lead architect of the project, Sumayya Vally, said: "The Pavilion itself is conceived as an event – the coming together of a variety of forms from

across London over the course of the Pavilion's sojourn. These forms are imprints of some of the places, spaces and artefacts that have made care and sustenance part of London's identity.

"The breaks, gradients and distinctions in colour and texture between different parts of the Pavilion make this reconstruction and piecing together legible at a glance. As an object experienced through movement, it has continuity and consistency, but difference and variation are embedded into the essential gesture at every turn.

"Places of memory and care in Brixton, Hoxton, Hackney, Whitechapel, Edgware Road, Peckham, Ealing, North Kensington and beyond are transferred onto the Serpentine lawn. Where they intersect, they produce spaces to be together."

Hans Ulrich Obrist, Serpentine Galleries Artistic Director, added: "We are thrilled to be working with Counterspace on our 20th Pavilion. The idea of working with different communities is very important to us and Counterspace's proposal does this in a remarkable way; we were totally convinced by the social dimension of their practice.

"They bring an African perspective, an international perspective, but they are working with locations and communities right here in London, and their Pavilion design is inspired by that work.

"In everything the Serpentine does, we want to make those connections between artists, architects and communities wherever they are."

www.serpentinegalleries.org

www.counterspace-studio.com



ERCO

Eclipse

The art of illuminating art



Magical Darklight lens for highest visual comfort



XS to XL – 5 sizes from 32mm diameter



6 light spectra and tunable white and RGBW



Wireless Connectivity via Casambi Bluetooth and Zigbee as well as DALI



11 interchangeable light distributions

48V

For ERCO track and 48V Minirail track



Combinable photometric accessories

www.erco.com/eclipse

Spotlight



Pics: Parallax Photography - David MacArthur

Transurban Australia

The Transurban workspace in Collins Square's Tower 5 at Melbourne Docklands, represents a new environment for the business. The level 31 area provides the main client-facing spaces, with a suite of meeting rooms, a boardroom, lounge, concierge and dining environments. The area was specifically designed by Hassell Studio, with lighting design from NDYLight, to create a dramatic visual experience, with unique architectural finishes, contrasting geometry, internal trees, dramatic AV systems and video conferencing throughout. The visual experience to the level 31 space at Transurban is based around two contrasting environments: the open areas and the enclosed meeting spaces. On exiting the lift, visitors first experience the solidity of the bluestone wall panels, with a subtle halo line of light washing down, mirroring in the aluminium plank ceiling above. Leading from here into the main floor, the mirrored plank ceiling opens out into the reception and waiting area. The ceiling in this space was a particular challenge for NDYLight, that needed carefully coordinated service slots to bisect the ceiling and carry all necessary services. In this space, light is kept as subtle and discreet as possible,

allowing for the key features of the space to stand out.

Each of these unique elements complements each other to create a holistic environment. The largest of these is the circular illuminated, colour-controlled Barrisol ceiling 'lid' atop the level eight tenancy stair. Alongside this is a large, full-height, curved AV screen depicting an underwater scene, while in front of this is a series of in-floor and suspended plants and trees, which have their own specific lighting systems custom-designed to suit.

The solid, rectilinear approach to these open areas is contrasted sharply against the meeting rooms that frame the space. Wrapped in curved glazing, these sweep around the perimeter of the floor in three separate 'pods'. The approach to lighting these areas was based around the visual experience and functional requirements of each space to deliver a vibrant, bright location, that was video conferencing-compliant, while offsetting the muted tones of the walls. In addition to this interior experience, the external appearance of the rooms as part of the overall environment was also critical.

Lighting for the meeting rooms and

boardroom was therefore based on the use of large disc luminaires, as these deliver both the ambient light to the room from a functional point of view, but also provide high levels of vertical illumination for video conferencing, and good lighting to the muted wall finishes.

To the curved end of each room, a linear LED provides a wash down the semi-transparent privacy curtain which, when multiple rooms are in use, wraps around the perimeter of each pod.

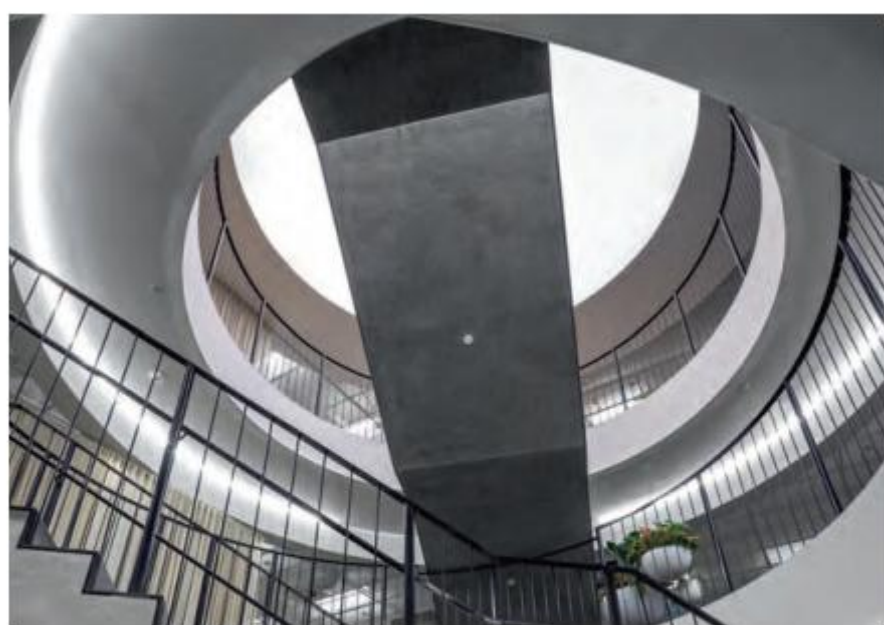
Structural limitations of the ceiling fabrication also became a problem further into the project. The lighting solution to the level 31 space is based on several simple elements adapted to suit the different conditions. The biggest challenge for NDYLight came when developing a solution for the highly unique ceiling. This ceiling – a folded 1mm clip-on aluminium plan system – is not designed to have anything penetrate it, so NDYLight led the design and coordination of a system of services slots to enable the lighting and services to be located where required and prevent, as much

as possible, any penetrations.

Pairs of semi-recessed downlights on a simple grid array illuminate the waiting lounge and reception area. Only where required are iGuzzini's Laser Blade downlights cut into the planks to illuminate functional areas.

To the core and lift lobby areas either side of the large AV screen, a discreet, warm halo line of light washes down the bluestone clad walls, which then reflects in the mirrored ceiling above. Like the core halo effect, the illuminated copse of trees, inground plants and suspended plants in the waiting area, also reflect in the ceiling. Because of the lack of natural sunlight, the lighting was designed using customised luminaires in order to meet the colour spectrum and required lighting levels – as advised by a horticulturalist. Large, wide-beam LED luminaires were specially designed to cut into the mirrored planks, while at lower levels, small uplights provide a wash of light through the leaves.

www.ndylight.com





Pics: Andy Stagg

Davidson House UK

Built by Argent in 2003, Davidson House is one of Reading's most prominent office buildings. In 2011 the building was purchased by Schroder, who, in 2018, approached dn-a architects with a brief to transform the exterior entrance and ground floor reception and atrium spaces.

As part of this transformation, dn-a asked Light Bureau to develop a striking lighting scheme that would complement the new additions. Working closely with dn-a, Light Bureau focused on the new key elements that the architects introduced to the scheme, in particular the extended glass portal, clad in timber slats. These slats continue into the exterior walkway through to the rear of the building and echo the material used in the reception space on the desk and soffits, creating a strong sense of connection between the building's exterior and interior. These timber slats are uplit by acdc's Blade Pro recessed fixtures, while Ecosense's Rise spotlights, situated between the wooden fins, supports the general lighting of the passageway.

The new intervention from the architects serves to revive the initial communication between building and people. As well as enhancing the experience for visitors who use the offices and services, it activates the pathway that connects the public spaces on both sides of the building, turning what was a dark, non-inviting shortcut into a lively, attractive element of the urban fabric.

On entering the reception's interior, the timber fin structure becomes a prominent characteristic of the space, with iGuzzini's Linealuce highlighting the structure. The circulation within the reception space is a transition through high-intensity formal areas and more relaxed and cosy informal seating and waiting areas. Light Bureau differentiated these disparate areas through variations in light intensity and colour temperature, as well as product typologies and design.

Being directly connected to the atrium, the reception space is a combination of single height vertical planes and surfaces that lead the sight all the way up through the height of the whole building. Therefore, spatial orientation via vertical illumination as a key strategic approach of Light Bureau, intended to enhance navigation through the space.

The solution needed to be consistent and adequate in intensity and colour to enhance the impression of the wooden frames, binding the whole space together. Reggiani's suspended Yori linear and track-mounted spotlights highlight the reception space, while integrated LED Linear fittings add extra detailing.

Low level seating beneath the frame acts as a low intensity, relaxed area that benefits from atmospheric lighting and a more localised approach. At the same time, keeping light levels lower in this area creates a threshold, enabling the perception of depth to the building's façade when viewed from the outside.

Wayfinding is further supported through the illumination of key vertical surfaces that invite the visitors further into the interior, meanwhile the Spanlite-illuminated feature wall, located in the atrium is a good opportunity to enhance the identity of the building, and connect with its users and the public.

www.lightbureau.com





Concord

Beacon Muse Xicato® and
Beacon XL Muse Xicato®

Light the moment

Concord architectural lighting by **SYLVANIA**

In museums and art galleries, natural lighting provides a familiar experience while preserving delicate artifacts. With the innovative Xicato® Artist LED module the range provides perfect accent lighting, while the IR and UV free light prevents the colours of art applications from fading.

The range boasts an ultra high CRI of 98 – ensuring vibrant colours across 99 TM-30 colour samples – the ideal spotlight for museum, gallery and retail applications where the highest quality of light is required.

Beacon Muse Xicato® combines cutting-edge LED technology and ancient lens principles to create a fully adjustable spotlight enabling the end-user to manually adjust the beam from a wide flood (52° / 72°) down to a tight spot (8° / 10°).

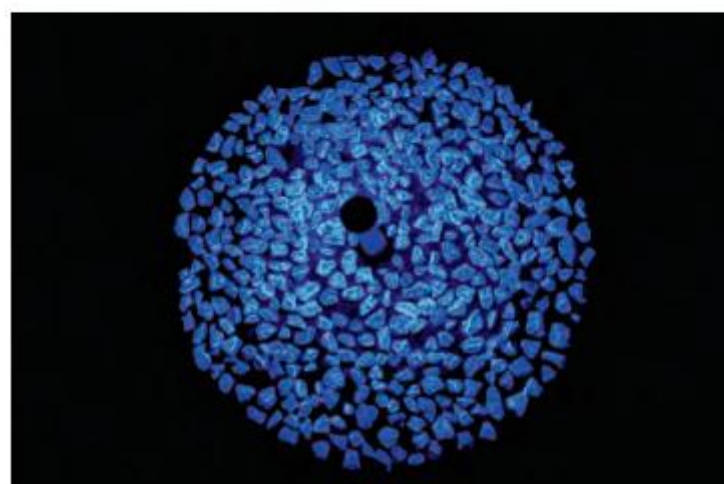
www.sylvania-lighting.com
Tel: +44 (0) 800 440 2478

Light your world





Pics: Studio Roosegaarde - Ruben Hamelink



Levenslicht Netherlands

To mark 75 years since the liberation of Auschwitz, Daan Roosegaarde unveiled *Levenslicht* in January, a temporary Holocaust monument, in Rotterdam.

The light monument was designed to represent the 104,000 Jews, Roma and Sinti that lived throughout the Netherlands that were persecuted, deported and murdered during the Second World War, with each victim represented by their own luminescent memorial stone.

Located on the banks of the Maas river, where Rotterdam's victims were collected and deported at the time, Roosegaarde presented *Levenslicht* in the presence of the Secretary of Loods 24; Jewish Children's Monument Frank van Gelderen; Paul Blokhuis, State Secretary of Health, Welfare and Sport; Mayor of Rotterdam Ahmen Aboutaleb, and Chairman of the National Committee Gerdi Verbeet. Stones are important both in the Jewish memorial tradition, and in Roma and Sinti culture. Roosegaarde and his team used this tradition as inspiration. The luminescent memorial stones were coated with fluorescent pigments and lit up under the influence

of invisible ultraviolet light. Every few seconds, the stones radiated in a blue colour before extinguishing again, like a breath in light.

Roosegaarde said of *Levenslicht*: "It is an honour to be able to make a public light monument to remember the Holocaust. *Levenslicht* is a place for everyone where we remember the past, but also think about what the future may look like."

The monument was replicated in 170 municipalities across Netherlands. Ferdi Verbeet, Chairman of the National Committee, discussed how the monument complements existing commemorations in the context of 75 years of freedom: "It cannot be celebrated without looking back at the darkest page of the Second World War: the Holocaust.

"This unique project lets people in their own neighbourhood reflect on the horrors of the past, in a local and personal way. It's special to see how municipalities present and supplement this in their own way."

Levenslicht was open from January 22 to February 2.

www.studio Roosegaarde.net



light+building

Frankfurt am Main
8–13.3.2020
Halle 3.1
Stand E91-E95

Omantel, Muscat

The iconic exterior of the new Omantel headquarter in the Irfan Business Park of Madinat, designed with the Omani tourism agency OMRAN, is inspired by the "Omani Massar", the typical Omani headdress, wave like patterns, just like the lighting of the building façade.

Lighting design: Visual Energy Studio | **Product:** Rubber 3D bend

linealight.com



Pic: Nicolaus Haaponiemi



Pic: Aleksi Friman Calcus



Pic: Aleksi Friman Calcus

Väre Finland

Väre is an installation inspired by light, sea, wind and people. Consisting of approximately 2,000 kevlar ropes, the piece amplifies its space as a meeting point for locals and visitors to Kalasatama, Helsinki. The installation, designed by Lighting Design Collective (LDC), refers to the history of the region as an old harbour with an industrial vibe, while generating an artistic and engaging identity for the new developments in the area.

LDC was approached by Helin and Co. Architects to design an art piece within a fifteen-metre tall outdoor space of the recently opened REDI Shopping Mall. The project is part of a collaboration between SRV and Berry Creative to curate nine art installations in Kalasatama Smart City – one of the largest construction projects in Finland. LDC's primary idea for the installation was to create a "place within a space," a tactile urban light art piece to generate memories and inspire interaction.

Sitting next to one of the shopping centre's main entrances, the space had a transient quality, that led LDC to re-imagine the space's identity by applying a placemaking approach. As such, *Väre* is a simple merge between the man-made space and nature, aiming to establish an emotional connection with

the users by introducing contextual, experiential and playful elements. The piece invites people to float in a shimmering volume, or to simply sit, relax or meditate, embraced by the warmth of light both during the day and at night.

Taken from the Finnish word for shimmer, *Väre* is a poetic embodiment of sparkling sunlight on the Baltic Sea. The play of light and shadow in the daytime on the golden tones of the ropes is intended to resemble the harbour, while after dark, it transforms into a golden field of light, via iGuzzini's E166 and E167 uplights.

The rope installation is not fully tensed, allowing the wind to interact with the piece, making it dynamic and lively; while several hanging stainless steel pipes add a musical layer, thanks to the strong winds that blow through the site. The mesh density varies within the installation, creating hollow spaces for people to pass through.

The overall aesthetic of the installation is inspired by the kinetic art movement of the 1960s, and Jesus Rafael Soto's works. The materiality of the ropes, floor to ceiling connections, and the floating seats are carefully chosen to create a marine feeling.

www.ldcol.com



ALASKA

The reinterpretation of the incandescent filament light bulb.

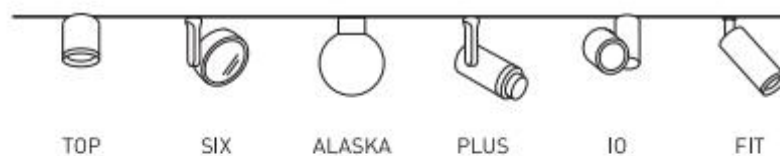
Step 1

Install the structure of Minimal Track with the anodized black profile.



Step 2

Electrify the system with the flexible rubber cable.



MINIMAL TRACK

DESIGNED BY RUBÉN SALDAÑA

Miniaturization: a new paradigm

Micro-sized track, luminaires and components.
Surface track with a trimless visual effect.
Visual uniformity, a black minimalist line.
Easy installation: pin, fix and enlight.

ARKOSLIGHT®
www.arkoslight.com



Pics: Anders Robert

P.U.S.H Sweden

Located in Stockholm's Gallerian Urban Escape, P.U.S.H (Performance Sk8 Urban Skate House) is a 1,000sqm vibrant space filled with pop-up stores, a skateboard bowl and street skating space, providing a refreshing urban meeting place in the centre of Stockholm.

Designed by White Arkitekter, in collaboration with Performance Sk8, P.U.S.H is one of the only spaces in Stockholm that houses everything from music concerts and live events to networking meetings, conferences and fundraising weeks for the charity UNHCR.

Intended to be a temporary space, the interior features borrowed, donated and recycled materials, creating a circular economy.

Isabel Villar, lighting designer at White Arkitekter, explained: "We wanted to create a concept that could support the different activities in the best way possible, while at the same time bringing light to the architectural space.

"Not too far into the concept, we identified the

great potential that P.U.S.H had as a temporary, multi-activity space to become an example of how lighting can make a bigger effort in finding new compromises between the choice of technology and the environmental impact that the fast-developing lighting industry currently has."

Because of the temporary nature of the space, and the abundance of natural light that it has access to, White Arkitekter reused older lighting fixtures, instead of using new materials.

"With the help of Rebel Light, sponsors of the lighting equipment, we were able to bring back to life high quality LED fixtures that were outdated and had lain in the storage room of manufacturers."

Rebel Light provided Reggiani's Yori track projectors, alongside Factorylux's Reflector pendants to illuminate the multi-purpose space, and Villar believes that such re-use is something that we need to see more of in the lighting industry.

"From a sustainable point of view, we must dare to find this type of compromise more often. It comes



down to having a better understanding of the available resources that we have, the need of users and the task at hand.

"Being able to say that more than 90% of the lighting installed at P.U.S.H comes from the storage of manufacturers, and from fixtures that have been re-used and repaired makes me very proud. We are bringing back to life neglected available resources that are totally capable of doing a very good job." Created by Swedish skateboarding company Performance Sk8, P.U.S.H aims to strengthen the self-esteem of children and teenagers by offering a safe, social space where they can meet and be active around common interests.

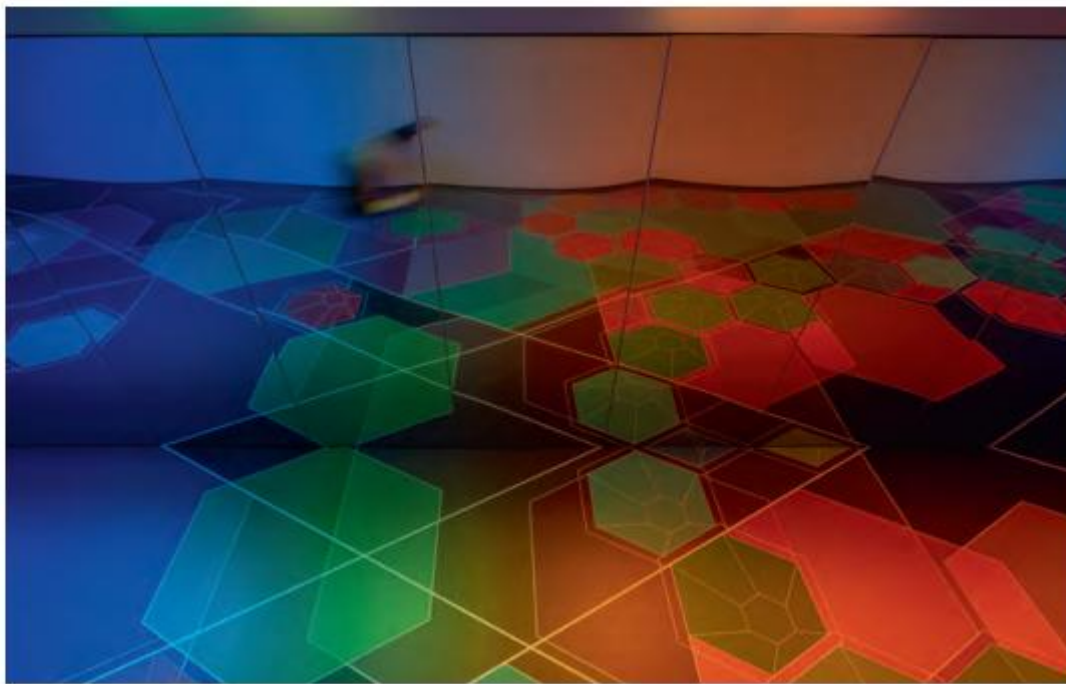
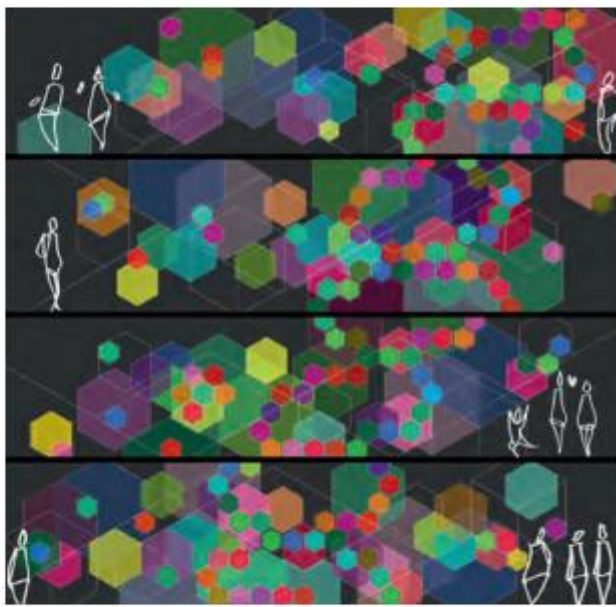
Once P.U.S.H closes (it will only be open for 300 days) its furnishings and fixtures will be resold, with the funds raised contributing to the UNHCR relief organisation in Sweden. Rickard Lundell, Managing Director of Rebel Light, explains why supporting P.U.S.H was so important for the company: "I grew up at youth centres, and I can't imagine where I'd be without them. For years it has annoyed me that cost savings in tax-funded activities has caused many of these centres to shut down, and left a generation of kids without that great opportunity to learn and grow in a safe and controlled environment.

"When I understood the concept for P.U.S.H I knew that it was a good fit for us. If we can help collect money for the great work of UNHCR, that'd be a fantastic bonus, but now I'm just thrilled that there's a fantastic indoor skate park and hangout for kids in Stockholm, so that they can skate all year round, at a great location that is available for everyone."

www.whitearkitekter.com

www.rebellight.com





Brainbow USA

Brainbow is a dynamic, colourful, mural in Michigan State University's Interdisciplinary Science and Technology Building. Designed by SmithGroup in collaboration with scientists specialising in four different health and medicine research fields, the four-storey installation contrasts the surrounding corn fields and institutional buildings, clad in pre-cast concrete and metal panels. It aims to reflect the interdisciplinary research of the building's occupants, crossing boundaries and finding meaning through representation of mass amounts of data.

University researchers in the building process large quantities of data by structuring and representing this data in a coherent graphic in order to reveal layers of meaningful information. Seeking to understand neurons and neural networks, researchers apply coloured dyes to individual neurons, generating vibrantly coloured images, affectionately referred to as "brainbows".

The design team at SmithGroup abstracted this "brainbow" effect and structured it into a fractal pattern, creating an image that spans four stories, visible to the exterior through large, floor-to-ceiling windows. The composition features a hexagonal network infused with hidden DNA strands that extend vertically across the wall, uniting the four storeys. During the day, diffuse northern daylight illuminates the wall, but at sunset, 40 Philips Colour Kinetics' SkyRibbon IntelliHue Wall Washing Powercore RGBW fixtures activate to bring the hexagonal network to life, while a mirrored ceiling on each floor helps to extend the vertical plane of the graphic through the plenum space.

SmithGroup designers sought to replicate the coloured dyes applied to

neurons with colour-shifting light across the installation. The application of variable spectral wavelengths of light to the static mosaic of colours therefore serves to alter the perceived colour of each cell.

Several mockups were conducted to study colour combinations and their appearance under different colours of light. Programming the light show across all four storeys took place on-site over two nights. Testing several tailored effects and custom-designed coloured lighting sequences proved to be invaluable while assessing the effect at full scale.

The result is a highly dynamic field of transient colour that is used to reveal previously unseen relationships, challenging the viewer's notion of what colour is, and abstractly representing the building and its occupants with a simple manipulation of colour and light. The introduction of this morphing visual spectacle cements the building amid the campus fabric.

"Even though this is an interior mural, the lighting effect has transformed it into a public work of art experienced by all who pass by," said Laura Walker, mural artist and Architect at SmithGroup. "This dynamic, colourful mural is unique to this part of the campus, and it creates not only a sense of identity for the researchers, but provides a visual and playful amenity."

Patrick MacBride, Lighting Designer at SmithGroup, added: "I'm always excited to explain how the mural works. The collaborative process, the concept and the fact that it's such a simple lighting solution make for a great design story. I could not be happier with the result!"

www.smithgroup.com

SHELLBY

Sun by day, moon by night





Pics: Peter Kociha

Endo at Rotunda UK

Endo at Rotunda was conceived as a 20-seat sushi counter - one of the smallest in London - at the top of the Helios Building (Soho House), which used to be the broadcasting headquarters of the BBC in White City. Designed by Kengo Kuma, the restaurant features lighting design from Light.iQ.

The long and undulating Hinoki counter is the focal point in the small, round room, which had to be softly illuminated and accented by a very complex and discreet system of Precision Lighting's stem mounted spotlights. These were strategically hidden within the fabric panels of the cloud-like ceiling installation, as a clean 'horizon' under the fabric was desired.

Each stem-mounted accent light had to have a specific location and custom rod length, to avoid protrusions below the fabric edge, which undulate and vary in height across the entire ceiling. As a result, each spotlight had to be controlled and dimmed individually, in order to balance the brightness difference, which resulted from the height discrepancies between each spot. Optical accessories and lenses were used to correct the differences in lighting effect on the counter.

In addition to accent lighting for the counter area, a set of 120 individually controllable custom-made pendants with white-tuneable LED sources were installed between the fabric panels. The intention was to gently glow the 'cloud' installation throughout the day and emphasise the organic shape of the structure.

Neutral white (3000K) light is activated during daytime, which slowly changes into warmer tones (2700K in the afternoon and down to 2200K in the evening), mimicking the changes in natural light, depending on the time of the visit.

Additional lighting throughout the restaurant comes via linear LEDs, courtesy of Lucerna Lighting and Kemps Lighting, and recessed spotlights from Orluna, while John Cullen Lighting provided additional landscape lighting.

The internal reflections of the 'cloud' glow on the glass of the windows, which also play a key role and are part of the overall lighting effect and ambiance, meaning that Light.iQ had to balance the brightness of the 'cloud' carefully to ensure the reflection was conspicuous enough to be perceived by the diners on the counter.

A special single event-only scene was created for the restaurant's special occasions. This scene involves all the globe lighting, which progressively changes in terms of brightness and colour temperature, transforming the fabric installation into a 'moving cloud', where light softly and gently fades from one end of the room to the other and thus recreating the sensation of light and shadow passing above the dining area, as if the diners were under a moving cloud.

www.lightiq.com





WHAT COLOUR IS THE UNIVERSE?

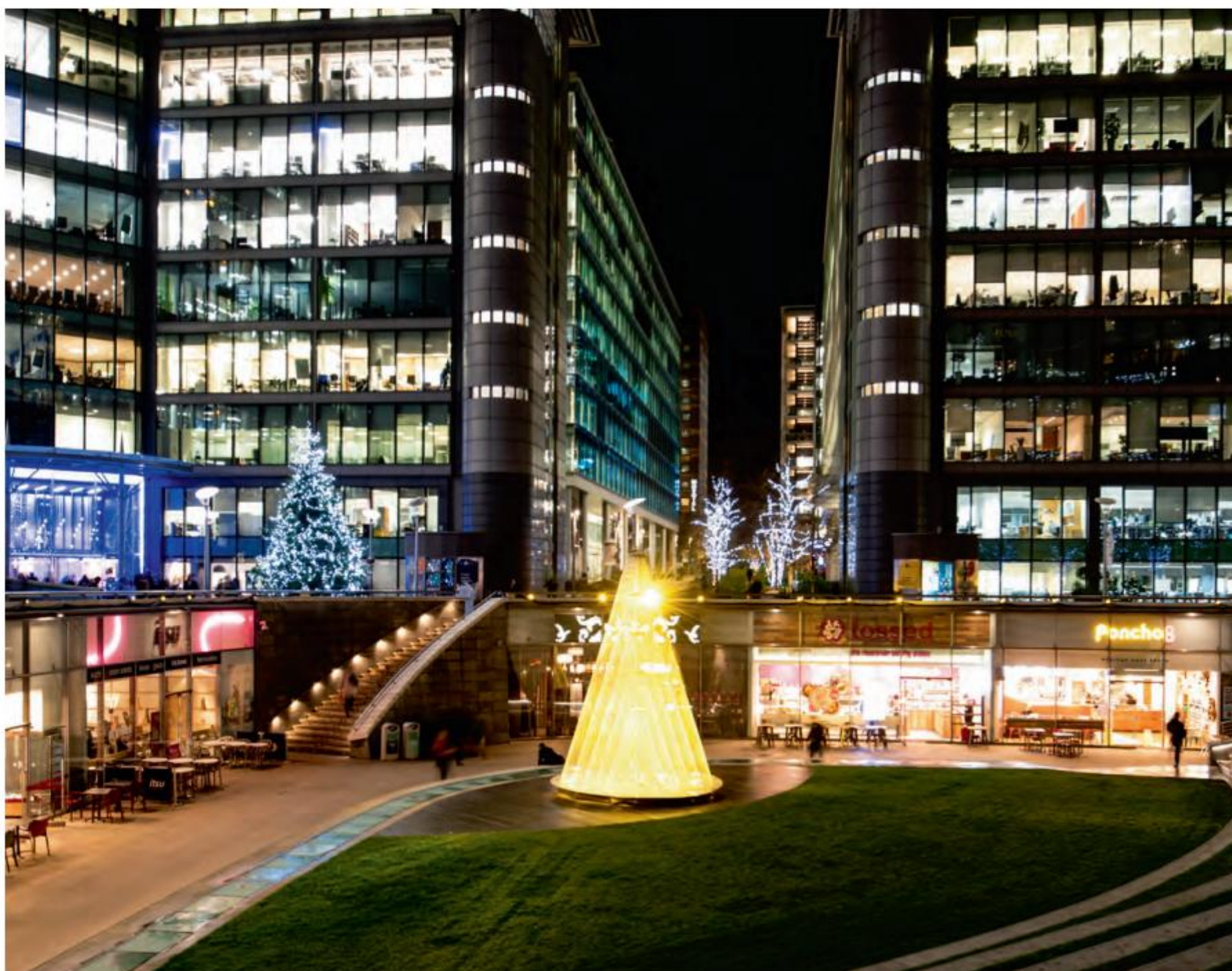
00:06:32 of light and sound
an audio-guided storytime experience

HALL 3.1 STAND D25

Come and visit us and sign up
for your storytime experience.

light+building





Chords of Light UK

This winter, London-based design engineering studio Tangent created a new installation, entitled *Chords of Light* for Paddington Central.

The installation, which utilised the latest technology of optical engineering and LEDs from Stanley Electric, was comprised of a contemporary sculpture, a symbolic Christmas tree, located on the stage of the amphitheatre at Sheldon Square, with an array of 32 individually-controlled spotlights surrounding the stage. The tree was made of five layers of silver strings wrapping around the conical shape, giving an illusionary Moiré effect when one walked around it.

The spotlights, provided by Stanley Electric, feature the latest optical lens technology, which enabled the tree to stand out in the dark and create 'chords', visible sharp beams of light, across the amphitheatre on a foggy night. The spotlight was also special in its colour – the world-first 'gold' LED. This colour, which was developed based on a white LED and differentiated from conventional yellow, can enhance the colour of an illuminated object without losing the material's quality - the same type of spotlight was used to light up the Eiffel Tower.

The installation – which was in place from November to January – also featured an interactive element, where viewers could trigger real-time light animations on the spotlights through social media, creating a dramatic landscape on the stage of the amphitheatre.

www.tangent.uk.com





DRX1 | WHITE | TUNABLE WHITE LIGHT ENGINE | LENSVECTOR® DYNAMIC BEAM SHAPING | WIRELESS CONTROL

THE ULTIMATE SPOTLIGHT

TUNABLE WHITE & VARIABLE BEAM
IN A SINGLE MOTORISED LUMINAIRE



TUNABLE WHITE
2200K TO 4000K



VARIABLE BEAM
NARROW TO WIDE FLOOD



MOTORISED BEAM POSITIONING & DIM FROM 0.1% TO 100%

COMPLETE WIRELESS CONTROL WITH THE **NEW RCL CONTROL IPAD APP** FROM GROUND LEVEL

AVAILABLE IN DRX1 (TRACK OR MONOPOINT) & DRX5 (RECESSED)

COME & SEE THE EXPANDING RCL RANGE AT **light+building** STAND A40 | HALL 4.2 | 8 - 13TH MARCH 2020



EXCLUSIVELY DESIGNING & MANUFACTURING
REMOTE CONTROLLED MOTORISED LUMINAIRES
SINCE 2001

RCLIGHTING.COM

David Cockburn



As Hacel kick-start the celebrations for its 40th anniversary, **arc** talks to David Cockburn, Founder of the Newcastle-based manufacturers, to learn more about the company's history.

How did you get into lighting?

When I was six or seven, my dad bought me an electronic set where you could make a lighting circuit or a radio, so that probably first got me interested in lighting. Later, I served an apprenticeship as an electrician, and then I had a mobile disco and started making my own lights for that. After that people would ask me if I would make lights for them.

And Hacel was formed 40 years ago?

We were on Tomorrow's World on January 4th 1980 and for me, that was the time the business was formed. At that point I was working at the BBC doing some outside broadcast lighting and I decided to give my day job up and start the business. That was the tipping point, we were limited as a company a year later, but I always feel the 4th January 1980 was the starting point.

How has the company evolved over the years?

Massively, it is unrecognisable now as you can imagine; it wouldn't be a good state of affairs if it was exactly the same as 40 years ago. Every aspect of it has grown. I've grown as a person; your staff grow with you, your product develops, you're financially better off than you were 40 years ago, your facilities are a lot better. I think the main thing is that we have the same mentality: always try to be the best you can, the client is always right. Just try to offer the best product you can, the best service you can, at the best value for money.

You started out in entertainment lighting; how did you make the switch to architectural lighting?

Everything we designed and developed at first was disco orientated. At the start of the 1980s a lot of bars were being turned into disco bars, and there were a lot more night clubs than there are now so every bar was an opportunity to design and develop lighting for them. We made the switch to architectural lighting for two reasons: one, you could never get paid off the bars! But secondly, I went to Hannover to the Light Fair in 1984, and low voltage lighting had just come along, the low voltage dichroic lamp was just starting to hit the marketplace, and what an exciting light source that looked. It was immediately visible how good an opportunity that was.

Was it an easy transition to move to architectural lighting?

Not at all. I never really wanted to do residential lighting so it was like starting again in a fresh market. The two overlapped for a period of time and we continued doing effects lighting until '87 or '88, but we started getting low voltage products developed and designed from '86 onwards.

What celebrations have you got planned for your 40th anniversary?

We have lots of different things planned: one of the biggest things we have done is we have created this beautiful coffee table book that appeals to all of our clients. On a personal level it is a case of trying to show our staff how much we appreciate them and the work that they have put in for Hacel over the years, so it's really just to try and treat the year as a celebration.

You have some staff that have been with Hacel for over 20 years, what does that level of commitment and longevity mean to you?

It gives you a lot of continuity and a lot of trust. A lot of people that deal with us can go back and deal with the same person over and over again. So I think it is a very good security blanket in lots of ways, from my point of view, and from my staff's point of view because when new members come in and they say they've worked here 30 years, it is very comforting.

How has the lighting industry has changed in the past 40 years?

Massively, the lighting industry re-invents itself every three years. We've only got to look at controls and what is coming through now. I don't think we have even scratched the surface yet. I think some of the things we will see in ten years time will be amazing. There is a lot of talk of Human Centric Lighting, but I don't think it is quite right at the moment. But I think we'll realise that light will be able to read your mood, and it will either give you a calming affect or you'll be able to get some sort of reaction. I'm not sure Human Centric is that right now, but there will be some play on that without a doubt.

How do you as a company make sure you're reinventing yourself with the times?

We very much try to keep abreast of what goes on within the industry, and sometimes we'll just sit back and watch. I think sometimes it is nice to be at the forefront of your industry, but sometimes you can head off in the wrong direction. So sometimes I feel that it is better being that little bit behind to see what develops, and then you can put your own take on it and your own USP to it. As an example, we did our own light engine, and on reflection we did it at a very early stage and we, like every other lighting business, suffered because of the quality of the LED strips that were out there. Whereas the companies that came a year or two after that, they benefitted because they waited a little while.

Looking forward, what is the next step for Hacel?

We have plans to expand the factory, our sales force. We are continually looking at gaps in our product range. I think connected lighting is a very big development and we are committed to connected lighting, whether that's with the likes of Casambi, because I think Casambi is one of the most exciting things that has come along in lighting for a long time, because it's so usable. Other systems that we have seen in the past - I remember DALI took probably ten years to get established - were quite complicated to actually get it to function properly. Whereas I think with Casambi, because we are all in this digital age now, everything comes a little easier. We've sent people to Helsinki to Casambi to learn about the system, and when they were on our stand at Lux Live, I was asking: "Can we do this? Can we do that?" and two minutes later it was all done, and that was amazing. I almost got to the point where I was trying to trip them up but you couldn't.

www.hacel.co.uk

Climar

L I G H T I N G



Co-financiada por:
COMPETE 2020
PORTUGAL
2020
União Europeia
Fundo Europeu
de Desenvolvimento Regional

light+building

Frankfurt am Main
Hall 1.1 | Stand D02

we **create** the light of tomorrow

climarlighting.com

Livingprojects

At the debut of Lights in Blokzijl in December 2019, we caught up with Nick Dankers from Livingprojects. Here we take a peek at the lighting work they complete across the Netherlands.

The Admirant Canopy Eindhoven, Netherlands

In collaboration with Ellen de Vries and the LUX Lab, Livingprojects installed an interactive LED grid on a canopy in one of Eindhoven's central shopping streets, named *Don't break the sound barrier*. During the light festival Glow, the installation was used as an interaction between light and the people passing by. This was achieved with the LED grid reacting to the sounds that people produced under the canopy. The various reactions of the audience not only produced different shapes in the light, but also a change in colours. This created a great collaboration between the spectators, who worked together to discover all the hidden combinations.

The lighting system on the canopy at The Admirant has now become a permanent light art piece in Eindhoven. Despite it no longer being interactive, it still produces plenty of dynamics, due to the change and movement in the colour on the grid.



Fletcher Hotel Amsterdam, Netherlands

The Fletcher Hotel Amsterdam has become a landmark along the highway that runs to and from the Dutch capital. Particularly in the evening, as night calls, the striking blue appearance of this unique hotel draws the attention of passersby. Livingprojects turned the Fletcher Hotel into a true eyecatcher in collaboration with Signify. The round shape of the hotel's façade presented a challenge for the teams to find the right fixtures to match the curve. The eW Graze from Color Kinetics was the ideal resolution with its small features. Now, the building is not only illuminated evenly but the fixtures are also installed in such a way that the window cleaning installation can still move up and down freely.



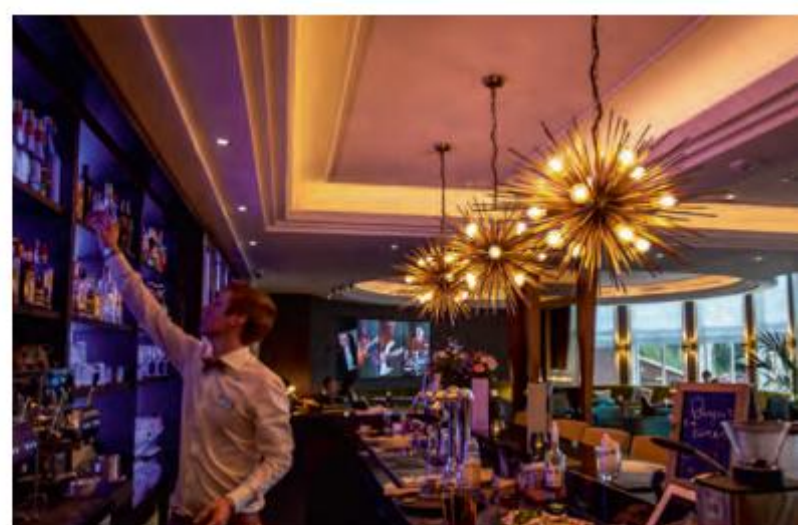


Grand Old Lady Breda, Netherlands

The 'Grand Old Lady' is the name of the large church in Breda, the hometown of Livingprojects. In collaboration with lighting designer Ellen de Vries, Livingprojects developed an RGBW installation of hundreds of LED modules, metres upon meters of cables, and multiple DMX channels to bring de Vries' design to life. The lighting emphasises the monumental character of the church and highlights the historic details. The new lighting of the Grand Old Lady in Breda was celebrated with a dramatic light show, in which all elements that are a part of the installation were shown. The show ended with the church shining in the standard lighting that can be seen on a day to day basis. On special occasions the church changes colour.

Radisson Blu Palace Hotel Noordwijk, Netherlands

Van Egmond Totaal Architectuur was called in to produce an interior design scheme that matched the style and vision of Radisson Blu. Livingprojects translated this design into a lighting plan and installation. Both the lounge and the bar have received stylish lighting that can be changed into different styles, themes and colours. On top of that, it's very easy to control the lighting system with a touch screen. The lighting of the bar comes with a fun quirk - every time a bottle of wine is taken from the wine cabinet, the lighting goes out in the compartment where the bottle of wine was located.



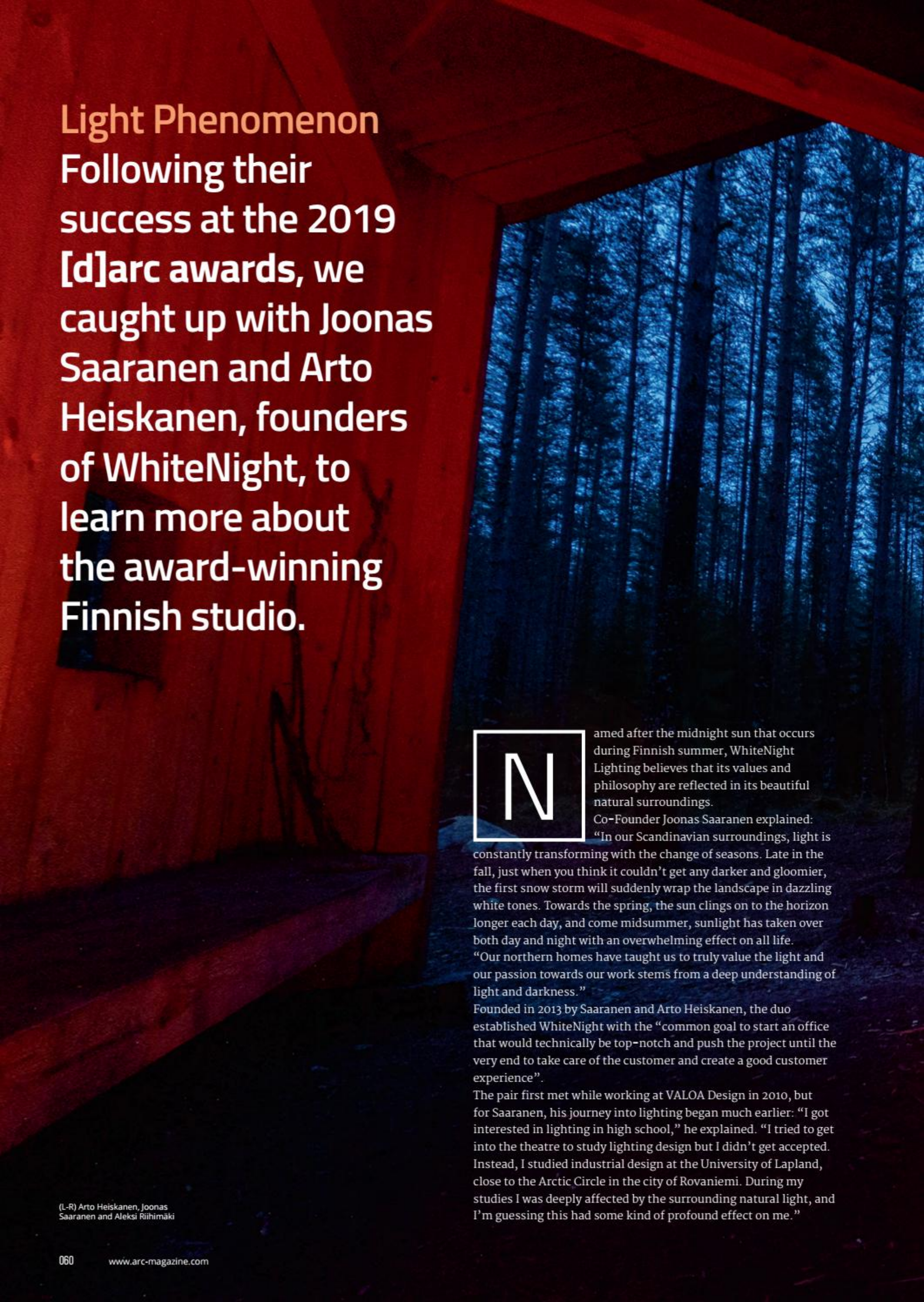
Holland Casino Utrecht Utrecht, Netherlands

Holland Casino Utrecht is building a striking new location in the Netherlands. Livingprojects has been brought on board to help realise the technical design of OZ architects for the project. The new Holland Casino is particularly distinguishable due to its one-of-a-kind designed glass entrance and a golden façade. During the day a lively shadow play takes place on the surrounding panels, where changing light projections become visible in the evening through the integration of LED lighting. The completion of the new Holland Casino Utrecht is expected to be in 2021.



Livingprojects

Livingprojects work with techniques in light, sound, image and scent, mixing it with craftsmanship, pure dedication and creativity. They are a technical and conceptual team that call themselves visionary, imaginative and amazing. "In the end, we are just a bunch of techies, happy with complicated questions, light calculations, complicated engineering and techtalk. But above all making beautiful things." As a supplier of high-quality LED solutions, Livingprojects understands the complexity and technical challenges that new LED technology entails. It is a leader in creating dynamic lighting solutions with LEDs in coloured or white light. "We know how to achieve an optimum light experience, taking into account sustainability, maintenance and costs." www.livingprojects.nl



Light Phenomenon
Following their
success at the 2019
[d]arc awards, we
caught up with Joonas
Saaranen and Arto
Heiskanen, founders
of WhiteNight, to
learn more about
the award-winning
Finnish studio.

N

amed after the midnight sun that occurs during Finnish summer, WhiteNight Lighting believes that its values and philosophy are reflected in its beautiful natural surroundings.

Co-Founder Joonas Saaranen explained:

“In our Scandinavian surroundings, light is constantly transforming with the change of seasons. Late in the fall, just when you think it couldn’t get any darker and gloomier, the first snow storm will suddenly wrap the landscape in dazzling white tones. Towards the spring, the sun clings on to the horizon longer each day, and come midsummer, sunlight has taken over both day and night with an overwhelming effect on all life. “Our northern homes have taught us to truly value the light and our passion towards our work stems from a deep understanding of light and darkness.”

Founded in 2013 by Saaranen and Arto Heiskanen, the duo established WhiteNight with the “common goal to start an office that would technically be top-notch and push the project until the very end to take care of the customer and create a good customer experience”.

The pair first met while working at VALOA Design in 2010, but for Saaranen, his journey into lighting began much earlier: “I got interested in lighting in high school,” he explained. “I tried to get into the theatre to study lighting design but I didn’t get accepted. Instead, I studied industrial design at the University of Lapland, close to the Arctic Circle in the city of Rovaniemi. During my studies I was deeply affected by the surrounding natural light, and I’m guessing this had some kind of profound effect on me.”

(L-R) Arto Heiskanen, Joonas
Saaranen and Aleksí Ríihimäki





1. WhiteNight has completed a high number of lighting projects in and around its hometown of Tampere, Finland, particularly illuminating the architecture surrounding the Tammerkoski Rapids, which run through the city.

2. The SuperSized IceLantern is based on the Nordic tradition of freezing a bucket of water to shape a lantern and placing a candle inside. The lighting is designed to mimic the movement and intensity of real flames, while the colour changes based on the weather forecast, updating in real time. An added interactive element allows viewers to select a number of lighting scenarios, from the colours of the local ice hockey teams to a neutral Aurora Borealis theme.



In the summer of 2006, Saarinen enrolled in a partnership programme that saw him work with Saas Instruments – a small Finnish luminaire manufacturer. From here, he travelled to Barcelona, before enrolling in the Berlin Weissensee School of Art. While there, he entered into a competition ran by Licht Magazine to design a luminaire, and visited Light+Building and Luminale. This led him to the Architectural Lighting Design Master's programme at KTH in Stockholm, and then a spot at Philips Research in Eindhoven, before eventually joining VALOA in 2010. After a year at VALOA, Saarinen joined Ljusarkitektur in Sweden, before returning to Finland to work at Kone Elevators, where he and his team designed the iF Award-winning RL20 elevator ceiling light.

Heiskanen's route into lighting design was far more straightforward, as he explained: "My interest in light comes from photography. My dad had his own laboratory to make black and white photographs at home, and I've been doing photos with my dad and grandad since I was a young child. In black and white photos, light and shadows are the main thing."

"After high school I was studying classical music, and after a few years of studying and playing in orchestras I was ready for something else. That led me to study lighting design at the School of Art and Media at Tampere University in 1999. A year later I went to do my trainee period at VALOA, and I started to work in the same office while finalising my studies."

"In 2010 I met Joonas for the first time; we worked on a few projects and then he left, and it was a few years before our paths crossed again. In 2013, I was ready for a new challenge, and after thirteen years of working in the same office, I decided to jump into a new challenge together with Joonas." Alongside their shared ambition to establish a "technically top-notch" studio, the duo share an affinity towards the transformative power of light – something that was a key driver in their decision to branch out on their own. "With lights you can tell a story and guide the spectator to see a detail or steer into a specific place," Saarinen said.

"Finland is a very dark country during winter, so my hope was to use light to enhance the quality of living."

DESIGN **PLUS**
2020 WINNER

Visit us at

light+building

8 – 13 March 2020

Hall **3.1**, Stand **D20**



Tracker | Trimless 56mm profile, up to 2510 lm/m

www.intra-lighting.com/#tracker

 **intra lighting**

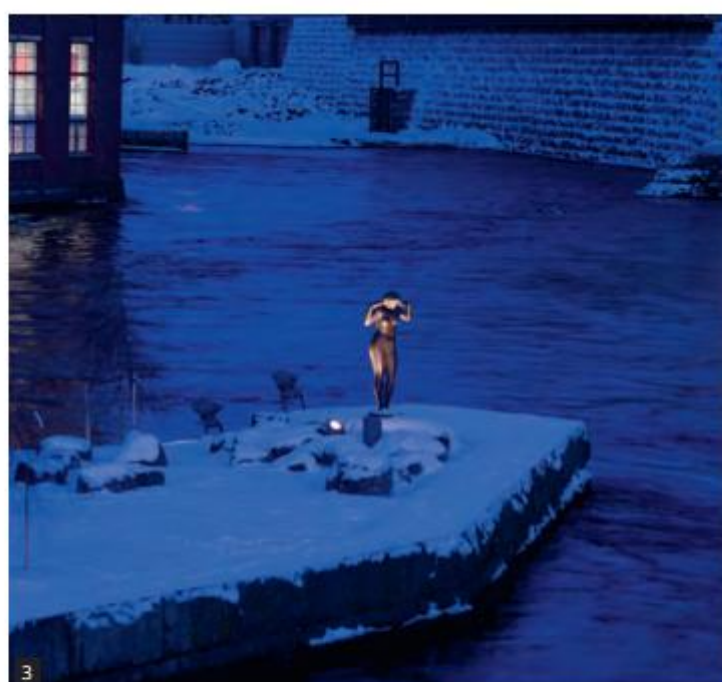
"Our northern homes have taught us to truly value the light, and our passion towards our work stems from a deep understanding of light and darkness."

Joonas Saaranen, WhiteNight Lighting





The [d]arc award-winning *Aurora Experience* takes tobogganers on a journey inspired by the traditional Finnish tale of Tulikettu, the mythical fire-fox that used his tail to create the Aurora Borealis while running away from hunters.



Based in Tampere, the Finnish studio has been very influenced by so-called Scandinavian style, as Heiskanen continued: “I think in some sense our ‘signature style’ is very Nordic: simple and functional. “However, every project is different, so there isn’t a continuity between them. Our style could be recognisable in well-designed details – we try to pay attention to everything in a project. And of course, there is always something to learn in every project.”

“Due to very different natural lighting conditions between different times of the year, we have learned to appreciate the beauty of nature and the phenomena it can provide. We don’t feel like everything cool can only be done by designers and technology,” added Saarinen.

“We often explore ideas for our lighting scenes and colour changes from natural lighting phenomena. Lighting doesn’t need to be just a thing placed into a space or building to create some ‘wow effect’. It can also be a very composed and integrated

part of the architecture, letting daylight and other things shine.”

The idea of using natural lighting phenomena as a source of influence is none more evident than in Aurora Experience; the [d]arc award-winning project in Saariselkä, Finland. Inspired by the tale of Tulikettu, the mythical fire-fox that used his tail to create the Aurora Borealis while running away from hunters, Aurora Experience consists of a dramatically illuminated toboggan run that lets participants live both the thrill of chasing Tulikettu, and being inside the natural light phenomenon.

Saaranen explained: “Saariselkä is a unique place, as is the whole of Finnish Lapland, with its nature, history and stories. It was quite clear that we should try our best to draw inspiration from those things. Luckily, the art plan for the ski resort area encourages the use of local folklore and heritage. We just had to find a good enough story to be told through the means of light. “The Aurora Borealis is a distinctive phenomenon highlighting the beauty of

natural light, attracting people around the world to witness it with their own eyes.”

The Aurora Experience begins next to the sky itself, above the treeline at the top of the Kaunispää fell. From this barren landscape, participants speed down an illuminated track through arctic scenery littered with projected imagery of Finnish lore.

Halfway down the fell, they arrive at a central plaza where “Pohjannaula”, the proverbial centerpin of the known world, according to Finnish folklore, stands. After this point, the tone of the course changes, and illuminated evergreens line the rest of the route down the valley, while projections and lighting mimic the dance of the Aurora Borealis.

Lighting on the route comes via streetlight luminaires, customised for this project and equipped with RGB LEDs – providing good optical qualities while still maintaining powerful colour effects – while the light projections were mainly done by metal halide GOBO-projectors.

The Aurora Experience saw WhiteNight



pick up not just the SPACES – High award at the 2019 [d]arc awards, but also the ‘Best of the Best’ Ultimate [d]arc award – it received more than twice as many votes as any other project entered into the awards – and Saaranen exclaimed his delight at the success: “We started the company from zero seven years ago, and to get a prize like this with a small team is very uniting. “We are constantly playing the game with big engineering offices, so these kinds of projects are a good showcase that a small team of devoted professionals can succeed.” While Aurora Experience has given WhiteNight international recognition, the studio has gained a lot of plaudits closer to home for its work in and around its hometown of Tampere. From larger lighting projects like the Vuolteentori Square and Tammerkoski Power Plant, to smaller, more artistic pieces such as SuperSized IceLantern – a feature based on the Nordic tradition of freezing a bucket of water to shape a lantern and placing a candle inside – and the illumination of the Kultakutri (Goldilocks)

statue in Konsulinsaari, WhiteNight has built an impressive portfolio of work across Tampere, in many cases using light to honour its industrial past.

“Tampere has a deep history in industrialisation and the rapids flowing through the city have always played a major role in the city,” Saaranen said. “The banks of Tammerkoski have many red brick buildings, and we have had the honour to light many of these over the years. Nowadays we have a good understanding of the essence and soul of redbrick buildings.”

However, one of the main points of pride for Saaranen is Hämeenkatu, the main street of the city. Modernised during the introduction of the Tampere Tramway, WhiteNight designed the lighting for the whole street, which separates vehicle and pedestrian traffic through colour temperature of the lighting – colder white light illuminates the road, while warmer lighting is used on the pedestrian sidewalks and crossings.

This lighting was housed in custom-made, multipurpose poles designed by WhiteNight.

1. Through work on the likes of Tampere’s Verkaranta and the Tammerkoski Power Plant, both situated on the Tammerkoski Rapids, Saaranen believes that WhiteNight now “have a good understanding of the essence and soul of redbrick buildings”.

2. The façade of the new service building for the outdoor pool at Ahvenisto, a venue used during the 1952 Olympics, acts as a backdrop for custom light art pieces, carefully designed according to its location. During the day, the human figures change as the sun moves across the sky.

3. When the Kultakutri (Goldilocks) bronze statue was moved to its new location in Konsulinsaari, an island in the middle of the Tammerkoski, WhiteNight was asked to provide illumination for the monument. The team lit the statue and the trees of the island, making them stand out from the surrounding milieu.

4. WhiteNight designed the whole lighting scheme for Hämeenkatu, the main street of Tampere, when the new Tampere Tramway was introduced. The project, which is still under construction, will see colder white light used to illuminate the road, while warmer lighting is used on the pedestrian sidewalks and crossings.



The shape of these poles is inspired in equal parts by the city's old trolley bus poles, and the organic shapes of nature. "This might sound a bit boring, but the design of the pole is very radical," said Saaranen. "Because the pole is used to carry contact wires for the tramlines, and hang seasonal lighting, there are special needs for the rigidity of the pole. It was designed to meet these requirements with an airy design, fitting in to the scale of the environment."

Following their success last year, Saaranen and Heiskanen, alongside third team member Aleksi Riihimäki, who joined the team in June 2018, are showing no sign of slowing down. Instead, they're taking stock of the emerging trends within the industry to try and predict where the lighting world will go next.

"After the fast revolution of LEDs, maybe the quality of the light and the luminaires is now more considered," Saaranen said. "For example, preventing light pollution and achieving exactly the features needed from the luminaire, alongside reliability, are important."

"Artificial Intelligence and machine learning as a global megatrend is getting into the lighting industry too. Luminaires can already deliver data in their current state. In the future, probably more sensors will be integrated into lighting fixtures

and poles, and luminaires will be able to learn and adapt to surroundings based on gathered data."

On a more personal level though, Saaranen revealed that WhiteNight has looked at the increasingly prevalent use of technology as a means to improve its service offering. "Lately, we have put some effort into Virtual Reality and utilising it in our work," he said. "We've found it to be a really helpful tool to visualise our ideas in an even more realistic way to the customer."

"We try to keep ourselves updated on the latest technologies, not just VR, but also the latest products and ways to control lighting too, for instance integrating open data into lighting control."

Through all of these changes though, it is important to retain the passion that made you fall in love with lighting in the first place – the ability to tell a story, transport spectators to another world and create moments of magic. This passion is something that lives strong in WhiteNight, as Saaranen proclaimed: "Working with lighting is rewarding in itself."

"It literally lets you bring light into darkness, highlight the otherwise unseen, and bring forth beauty that would otherwise be hidden in the absence of light." ■

www.whitenight.fi

1. Throughout *Aurora Experience*, customised streetlights equipped with RGB LEDs and metal halide Gobo projectors create a dramatic light show, allowing participants to live both the thrill of chasing Tulikettu, and of being inside the natural light phenomenon.
2. For Pohjolatalo, a landmark of Kouvola City designed by Castren-Jauhainen-Nuutila, WhiteNight transformed what was previously considered one of the ugliest buildings in Finland with an ice-themed façade lighting scheme that changes the appearance of the building completely after dark.
3. When illuminating Vuolteenatori Square, WhiteNight used lighting recessed into the concrete walls, defining the shape of the area. Meanwhile, bench lighting creates smaller spaces inside the square, with accent lighting of the trees complementing the space.
4. The OptiMine Showroom of Sandvik Mining features a delicate blend of light and shadow, with tones of coloured, indirect light lifting the atmosphere and creating a memorable experience for visitors.
5. *Metsän Henki* (Spirit of the Woods) is a light and sound installation created for Tampere Trail of Light 2019. For this installation, visitors could affect the visual appearance of the work by pressing buttons that altered the soundscape, making the lights react in real time to the shifting sounds.
6. The custom-made, multipurpose light poles, developed by WhiteNight for the Hämeenkatu lighting scheme are inspired in equal parts by the city's old trolley bus poles, and by the organic shapes of nature.



BORA

Versatily Light Family

More than 30 possible combinations with our 8 different products (magnetic track, recessed, suspension and surface) with two different powers (4,5W and 8,5W) and four different colors (matt black, matt white, rose gold and chrome).

UGR>10 (in 4.5W) and UGR>15 (in 8,5W).
CRI>93.
CCT 2700K & 3000K.



beneito-faure.com



BENEITO FAURE®
passion for led light



Reach for the Stars

Nathalie Rozot and think tank PhoScope reach out to deserving communities to fight light poverty.



his year marks the beginning of a decade when the world is paying closer attention to climate change and improving sustainability. This movement is also reflected in the lighting industry with a focus on reusability and repairable fixtures

to ensure their durability, as well as our awareness of light pollution and the spreading knowledge of environmentally-friendly light sources.

Nathalie Rozot, Founder of PhoScope, is on a mission to spread and share knowledge about light with underserved communities, while fostering social engagement in the architectural lighting industry. "Our vision is to expand the knowledge and application of light worldwide, using scalable solar lighting programmes with replicable and rapidly deployed projects," explained Rozot when talking to arc. Starting out, Rozot obtained degrees in both science and design and practiced architectural, landscape, urban and exhibit design for ten years in Paris and New York. In 2000, she discovered 'light' whilst working at l'Observatoire International in New York. There, Rozot was responsible for leading prestigious, large-scale

international projects, while also organising the studio's workflow and production processes.

Simultaneously, Rozot began teaching at Parsons where she has since taught thesis studios and seminars for over ten years. She has also taught intensive workshops in France with Roger Narboni and then Sara Castagné and Sophie Bruère, in landscape architecture Master's programmes in Versailles and Lille for many years, and served as education columnist for the Illuminating Engineering Society's LD+A publication.

"I have always pursued an independent research practice," explained Rozot, "and I have long ventured away from our discipline's robust for-profit and grid-tied design culture; I have advocated for social innovation and environmental stewardship throughout my professional, academic and pro-bono work. In 2011, I founded the international think tank on light, PhoScope, to focus my design research and practice on the social value of innovative and disruptive ecological and economical light applications, from scenic to architectural and urban solutions.

"The solar-powered lighting project I developed for Haiti's informal settlements, which was implemented with cLSF (Concepteurs Lumière Sans Frontières), set the premise for PhoScope's global initiative, Light Reach." Light Reach is a large-scale and multi-programmed initiative whose mission is to scale-up social action and engagement in the field of lighting design, and to fight light poverty with rapidly deployable project models. The charitable initiative strives to empower communities



1. Installation of light poles at the Parque de la Amistad with the Proyecto Enlace del Caño Martín Peña team and community.
2. Indoors workshop with the residents of the barrio Mariana de Humacao.
3. Lighting workshop at the Mini Oratorio Los Hijos de Don Bosco community center.
4. Outdoors workshop with the residents of the barrio Mariana de Humacao.

with solar lighting and knowledge about light, and to build an infrastructure to enable and encourage lighting industry participation.

Rozot's unique path to lighting activism is solar, modular and scalable, with project templates designed to suit the needs of communities and residents in a variety of situations and locations. "Access to light can greatly benefit communities by improving their natural, public and domestic environments. It is also essential to community placemaking, and displacement prevention after disasters," elaborated Rozot.

"Moreover, education about the physics of light and the physiology of vision is valuable in more ways than one: it helps solve kitchen table issues in daily life, and it sparks creative and cultural expression."

Rozot explained further that light poverty not only curtails in-home educational and economic

development, but also impedes wellbeing by depriving communities of public spaces after dark. "It obstructs sociocultural fulfilment for individuals and communities by obscuring social life, artistic expression and creative enterprise. "Humanitarian lighting programmes are typically market share-driven and product-based and only offer barebones lighting commodities; they address baseline tasks and safety, but not communities' social and cultural needs. We need more sophisticated deployment models to positively effect social change, and lighting experts and professionals are uniquely positioned to advance communities with impactful initiatives." "Light Reach offers an actionable plan to scale-up the positive impact of lighting design with a game-changing replicable project model across multiple programmes: it combines the deployment of off-grid lighting kits and knowledge transfer about



light with a framework for social engagement for lighting professionals. Its lighting design projects immediately solve pressing social and recreational needs, plus they double-up as sustainable back-up lighting systems for relocation and distribution to families and communities in case of emergencies,” she added.

Based in New York, Light Reach operates on a global basis. Its pilot programme Recreo de Noche in Puerto Rico, supported by seed grants from the New York sections of the Design Lighting Forum and the Illuminating Engineering Society, has already served three Puerto Rican communities with five workshops and 137 donated fixtures. Marién Vélez, a young woman in lighting from Puerto Rico, facilitated partnerships with local community organisations she was connected to, and led the pilot projects with a small team of volunteers while working closely with Rozot.

“Our volunteers lead workshops where the participants learn about the science and art of light and lighting, and help each community determine where to install the stationary lights.”

After the success of this pilot programme and moving forward, the team is planning to expand it and to introduce new programmes. It is hoping to work with volunteers in Mexico to start Lighting in Unplanned Settlements in the upcoming months, and is seeking project opportunities and partnerships worldwide to aid launch Lighting in Transitional Refuge this year to help communities of refugees.

PhoScope is now focusing on outreach. Light Reach is gaining traction amongst local communities and the lighting community: demand for projects is rising, and several new volunteers have signed up for the two-session Volunteer Training Programme, which will launch as soon as the next

5. RDN team lighting tests with solar floodlights.
6. RDN team lighting tests with solar floodlights.
7. Outdoors workshop with the residents of Comerío.



1. Outdoor workshop with the residents of Comerio.
2. Kids discovering light, using reflections and refractions to experiment with different colour effects.

projects are funded.

“With our system of project models and templates, the work of two volunteers benefits a community of 250 people, so collectively our international professional lighting community can reach hundreds of thousands of people worldwide,” explained Rozot.

Rozot is also working closely with the Women in Lighting and Design (WILD) and Women in Lighting (WiL) organisations to expand Light Reach’s work and network.

“The New York WILD chapter is awesome and WiL is amazing: kudos to Sharon and Martin for their magnificent vision.

“WiL and WILD exert a strong sense of community; they offer expansive platforms and great opportunities for cross-generational networking and collaboration. Organisations that embody professional women in lighting also thrill me, since I experienced gender politics first-hand in my professional and academic careers.

“Light Reach is a uniquely homegrown and women-led lighting design initiative, so WiL and WILD are ideal stages for us to address light poverty and scale-up social action in the field. I believe

connecting the Light Reach network with the WiL and WILD networks will not only help us inspire positive change in our industry, but it will also fundamentally contribute to advance lighting justice at a grand scale.”

In October 2019, PhoScope officially partnered with WeWork to launch an annual fundraiser in six global locations: New York, San Francisco, Tokyo, Mexico City, Bengaluru and London. The multi-city fundraising marathon for Light Reach kicked off with great success, with participants creating their own light-crafts and hosting raffles, and raised over \$2,000 for Light Reach.

“Every project costs \$15,000. The vision and model for Light Reach imply a shared effort with the participation and social engagement of our industry at large – together we rely on each other and we can only keep serving more communities with light if more sponsors, partners and volunteers join our network.” ■

www.lightreach.net

www.phoscope.org



Worktitude for Innovation

Lighting strategies
to enlight the future.

Speaking to other audiences: A new approach for lighting designers

Victor Palacio instigates an industry-wide conversation after IALD Enlighten Americas, 2019.



Victor Palacio; Former IALD President
Pic: Sarah Cullen



During my tenure as IALD President, I found that the way lighting designers communicate to audiences not familiar with our profession is frequently ineffective.

We have been focused mostly on speaking amongst ourselves for a long time, decades I would say. As a result, we have developed

a narrative of identity and reassurance that supports the values of lighting design for ourselves and for our stakeholders. This is positive indeed; an emerging profession needs to make definitions and establish principles to reinforce its vision and beliefs. Now, as a profession with some degree of maturity, lighting design needs to address other audiences and be able to deliver a meaningful message for everyone. The global society is embracing higher values related to health, human wellbeing, environment, innovation, democratisation of technology, social development, and more for which light is a relevant factor of influence.

Given the complexity of this topic, I decided to share this concern with some friends. The input that they provided turned out to be very relevant and revealing.

Circles of influence

In a conversation with Mark Major, Principal at Speirs and Major, we talked about three circles of influence:

Firstly, the innermost - the lighting designers' community - where we share information and expertise. We learn from each other and thus, we contribute to the ultimate construction of our profession. It is here that the common passion for, and practice of, lighting design resonates louder than anywhere else. This circle is introspective by nature and somehow indulgent. We cherish our common accomplishments in both formal and informal ways as a collective possession.

Secondly, our stakeholders - the professionals in the industry of lighting and technology development. Here, a separate conversation is developed that is relevant but not central to the argument of the lighting design profession.

Finally, the general public - people with a wider and different perspective, concerned about social light, health, sustainability, cost of energy, etc. Unfortunately, it seems like people come to their own conclusions about lighting, mostly because of the lack of authorised voices and quality references.

How can we communicate the relevance of our profession to a wider audience? How do we get an authorised voice?

A first step is to become more self-critical of what we do; we need to raise the level of debate and talk in depth about the nature of lighting design and not so much about the tools, as architects do, for example.

Secondly, communicating our value system to a broad audience is an evident need - for example, talking about the qualities of the night, darkness, atmospheres, contrast and everything that goes into the human experience rather than technology. The 'I am a lighting designer' phrase might be out of focus; what about 'I create experiences for people after dark', which is a provocative way to steer the conversation differently (at least out of the LED discussion). Our issues are not really in the realm of 'how' we communicate but 'what' we have to say, starting with who we are? It does not seem to be completely clear yet.

Major's vision goes in the direction of paying more attention to the quality of our work and the ultimate value it adds to society. For him, it is in this spectrum where the conversation will be more productive.

Lighting designers or simply designers?

Talking with Ignacio Valero, Principal at Ignacio Valero Lighting, in Madrid, he immediately said: “Our profession has been defined by the tools we use, not the work that we do, which is absurd but true.” Valero offered an example: “Think of an association of oil painters, for instance. It could exist but of course it says nothing about the work of those people, it only speaks of the tools they use. I think we have been in that situation for a while.”

For Valero, being part of the design culture is essential to us.

Traditional design careers have positioned themselves in the world of professions and are completely recognised, be they graphic, interior, industrial or fashion design. They do not talk about the tools they use, they talk about the approach of their work, the benefits that people get out of them, the relevance of design and the purpose, etc. So, initially, we should ask ourselves: “What is design about?” For Valero, design is the incorporation of three elements in your work process: interaction with the user, a medium and a narrative. The outcome must be in the layer of creating a specific experience, only then may you talk about “design”.

“Design is the construction of experiences through a distinct narrative,” he says. Being a designer also implies that you have a basic set of capacities, which are transversal, meaning they would work in different fields of design. Afterwards, you acquire specialties by incorporating specific skills. In our case, the ‘lighting’ seems to be, at times, a burden rather than an advantage.

After these attention worthy remarks, I asked him what would be a good approach for the future of lighting design?

“We need to realise that the ‘lighting expertise’ is moving towards obsolescence while our future is in our design perspective, design that must be understood as the creation of experiences”.

What makes sense for an audience?

Speaking with Jimalee D. Beno, OCL Lighting President, I had a refreshing set of tools for effective communication, starting with the need to understand your audience before trying to lecture them. We usually say what we care about rather than what they care for.

A few pieces of advice from Beno:

- Create value for the people. If the case is about light, of course you need to learn what they know about light – how they appreciate it and what value light might bring to them.
- Assess the best way for them to connect with your message and why they haven’t so far.
- Finally, start developing a plan to build the kind of relationship that will allow you to deliver the right message.

In any case, it is necessary to construct a relationship with your audience; lighting designers have been talking for a long time about “educating the general public” without understanding them, we should be making connections first.

A great observation is that changes in technology have made it readily available to everyone, thus there is a growing need for relevant advice – that of an expert with the vision to interpret information and make it useful.

There is no doubt about the shift towards human experience in society with the idea of putting people back in the centre of discussions. With that in mind, are we taking the time to research our clients? Are we embracing their wellness and health concerns? Are we still only talking about the beauty of light?

For Beno, we should acknowledge the new path we are headed down. The market is evolving and so should we, delivering a message that expresses our value, staying connected and involved.

Collaboration as a key value to our work.

My next conversation took me to Douglas Leonard, Principal at DLLD and current President of the IALD. One of his first concerns is how we connect with our clients’ interests. Owners and investors have

assimilated the need to offer experiences to the public in general for which they convey design teams. Those experiences are based on the needs of people to enjoy a place, be housed, learn or even go shopping. If we are looking to be heard, our narrative needs to address emotions and significance rather than numbers or technical facts. Language is one of our best tools to craft our own ideas and then to transfer them to the right audience. Metrics had a big say in advocating for quality lighting, however, that is not the case anymore. People are now engaged by articulated conversations that convey experiences. It reminded me of the phrase *light tells the story of a place*.

How should we communicate about lighting to a wide audience?

Our language must be universal in perspective and at the same time provide a personal meaning. The better we can articulate a story and develop a strong narrative, the more we will open spaces for lighting design.

Lighting design conversations must be consistent with the architectural intention and thus with the client’s needs. As experts in the visual environment, we have a responsibility to understand their ideas, interpret them and be able to construct something that truly adds value and still satisfies their expectations.

For Leonard, lighting designers must be great listeners and able to learn from others as a starting point. Then, being brave and confident to challenge what has been taken for granted; being generous to give our best for the project and staying in the game when others have ditched for lack of interest. When a member of the team gives more than expected, exceeding the articles in the contract, they get respect and authority.

Light is a language itself, one that drives impressions, emotions and, ultimately, experiences. If we intend to reach effective outcomes, a collaboration process with the design team becomes essential. In the end “there is a lot of satisfaction in what we do, it helps us to become a better version of ourselves by making reality the dreams of others. We are good at collaborating”.

The royals of lighting design?

Mariel Fuentes, Principal at LDLuz Lighting Design in Barcelona, addressed the need for collaboration and communication with a variety of professionals who work in design and creative fields for whom light is also a tool.

A good deal of Fuentes’ current projects involve people from the audiovisual industry that have shown her how architectural lighting designers are perceived by other professionals involved in lighting. Other lighting designers are more involved in the trends and outcomes of technology than us. They customise their solutions and per Fuentes’ words: “other professionals cook their own solutions and eat them up by themselves.”

People working in stage lighting, art installations, media and events are hand crafters of light, while architectural lighting designers have a commission to develop a project that will be executed by someone else.

What Fuentes has heard from other lighting colleagues is:

“architectural lighting designers are the royals of light, you don’t get your hands dirty nor do the grunt work. Simply give directions and watch over everyone else to get your design done.”

Should we get more involved to stay relevant? Should we need to put our hands on the fixtures themselves or is this the job for someone else? Do we honor the clients’ and end users’ needs only by developing all the theory of a project, or should we get more involved in the execution process?

Fuentes’ candid input shed light on the diversity of approaches to lighting.

But, *are we the royals of light?* ■

www.iald.org



Andrew Whalley, Chairman
and Partner at Grimshaw
Architects (pic: Mark Wickens)

Future Proofing

As Grimshaw Architects celebrates its 40th anniversary, arc speaks with Chairman Andrew Whalley about the firm's past, its present, and its future.



While the principle of 'Form Follows Function' seems almost common sense, the idea that a building's design should correlate to its intended purpose, there are some in the architectural sphere that prefer to focus on creating outlandish, incredibly stylised structures, without much consideration for what their creations will actually be used for.

Such an approach is not shared by architectural studio Grimshaw, which, since its formation by Sir Nicholas Grimshaw 40 years ago, has built its reputation on responding to the needs and resources of the contemporary world, approaching projects with a detailed understanding of the functions they must fulfil, the conditions they have to provide, and the materials from which they are constructed. "We have a very pragmatic approach to design where flexibility and adaptability become a critical operational requirement of the building," explained Andrew Whalley, Chairman and Partner at Grimshaw. "That has grounded us in a certain approach to architecture, which is driven predominantly by function and performance."

This approach has seen Grimshaw, since its beginnings in 1980, expand from its London offices to seven locations around the world - from Los Angeles and New York, to Melbourne and Sydney, to Paris and Dubai - building a vast portfolio of projects, covering everything from airports and train stations to stadiums, office spaces and cultural centres.

With such a wide spectrum of work, across myriad sectors, Whalley believes that it's important for Grimshaw to take each project on a case-by-case basis, rather than focusing on imprinting their own signature style. "We're very driven by the programme," he said. "We don't bring a pre-ordained stylistic approach. Some architects do, that's their signature and that's fine, but with Grimshaw, I think you can never say what one of our buildings might turn out to be."



Above The Waterloo International Terminal in London was one of Grimshaw's landmark projects. Built for the impending Channel Tunnel, the station was the beginning of a "renaissance in rail" for the architects. (Pic: Jo Reid & John Peck)

"It becomes a kind of recipe – a chemical combination of the client, their vision, our vision and the programme, the building. You bring all of those ingredients together, and then it's a fascinating journey and out of it comes the unique solution that is just about that one project. Then the next project is going to be different because there's a different client, a different programme, so you respond in a different way."

Whalley joined Grimshaw Architects in 1986 after completing his undergraduate at the Glasgow School of Art, before studying under Ron Herron for his diploma at the Architectural Association in London.

"When I finished my diploma, I came out penniless and had to find a job immediately," he explained. "I was fortunate because I knew somebody at Grimshaw. He said 'there aren't many jobs but come in anyway, I'll get you to meet Nick'. He went through my portfolio and said that they could find something for me to do, so I literally started here the week after I finished at the AA, and I haven't gone anywhere since."

Not long after Whalley joined, Grimshaw was commissioned to complete the Waterloo International Terminal, to coincide with the opening of the Channel Tunnel – the biggest infrastructure project in the UK at the time.

"Waterloo was a really interesting project, in that no one had done a major, large-scale station for a generation or more, and it would mark the start of a renaissance in rail for us," Whalley said.

"It was a watershed moment for us in that it took us into the large-scale infrastructure and rail projects, which is something that we really enjoy because it's so important. Particularly going forward to a more sustainable future, we need rail, it will be a very important part of that."

From Waterloo International Terminal, Grimshaw went on to complete a number of high profile rail and transport projects, not just in the UK but around the world. From the London Bridge Station to Melbourne's Southern Cross Station – an environmentally-minded development whose unique, 'mogul field' inspired roof contributes to the station being Grimshaw's first net zero carbon building.

A particular highlight for Whalley though, was the redevelopment of Paddington Station. Completed in the late 90s, the renovations helped to return the splendour of Isambard Kingdom Brunel and Matthew Digby Wyatt's original Victorian design, showcasing its original features, while modernising elements, blending the old and new. "Working on Paddington Station was a great privilege because Brunel is one of our great heroes, so renovating that and turning what was a rather black hole into something more pleasant to use that had great spaces was really important," Whalley said. "We worked with Speirs + Major on the lighting, and the light is very important because it transformed the whole experience of the station at night, turning it into a really good public asset and resource."

LIGMAN IoT ready or **LIGHTCONNECT™** is the next generation of exterior luminaires that provide the platform for deploying multiple sensors to collect data and by using the latest "sensor-ready" LED drivers, process and deliver that information to the cloud via any of the worlds most popular CMS systems providers.



Energy efficiency
and safety



City wise



Neural
networks



Future proof
design

LIGHTCONNECT™ promises to deliver future proof applications to any city through open protocols and industry leading standards such as Zhaga and DALI.

All LIGMAN **LIGHTCONNECT™** luminaires feature multiple Zhaga Book 18 sockets for sensor inputs, the latest sensor-ready LED drivers and support for communications modules via the current NEMA 7 standard socket or by the new Zhaga Book 18 socket.

LIGHTCONNECT™ will ensure compatibility into the future and support the multitude of new and varied sensor developments that will take advantage of this simple and cost-effective city-wide platform.

STAND **E21, HALL 4.0** Frankfurt light+building



LIGHT LINEAR PT



ABERDEEN



STEAMER



BILLUND



HAMILTON



MACARON



ARIZONA



BENTON



VANCOUVER



L-COLUMN

Social

[f](#) [@](#) [v](#) [in](#) [t](#) [@](#) /ligmangroup

www.ligman.com

LIGMAN



Since opening in 2001, the Eden Project in Cornwall has become one of the UK's most popular tourist destinations. Clad in ETFE, its iconic domes are inspired in equal parts by nature and technology, and are just one of many eco-conscious projects within Grimshaw's portfolio. (Pic: Hufton + Crow)

"The reason why nature is so beautiful, is that it never does things unnecessarily, it always uses the minimum to do the maximum, and that gives inherent elegance."

Andrew Whalley, Chairman & Partner, Grimshaw





1. Completed in the late 90s, the renovation of Paddington Station returned the splendour of Brunel and Wyatt's original Victorian design, while modernising other elements. Grimshaw worked with Speirs + Major on the lighting design for the renovation. (Pic: Nick Hufton)
2. The British Pavilion at the World Expo Seville in 1992 was one of the first examples of Grimshaw's environmentally-conscious, sustainable focus - something that remains at the forefront of the firm's current thinking. (Pic: Jo Reid & John Peck)

The late 90s proved to be a busy time for Grimshaw; as the UK was preparing for the new Millennium they had a number of different enquiries from across the country. "This included the Leicester Space Centre and Bath Spa, but probably the most critical one was the Eden Project," Whalley said. Located in Cornwall, since opening in early 2001 the Eden Project has become one of the UK's most popular tourist destinations, thanks in no small part to its stunning design. Whalley explained how the project came about: "We were approached by Tim Smit and his partner, who had this amazing idea to build some of the world's greatest greenhouses. They told us that they didn't have a site, and didn't have any money, which normally sets alarm bells off, but it was such an exciting opportunity that we just had to help make it happen."

"It took several years, but we eventually found an amazing site, which was a disused quarry in Cornwall, and I remember when I first saw it, I walked to the edge and looked into it, and it looked like the Lost World. You didn't see it until you came across this massive crater, so we liked the idea of having something that was just that - you discovered it as it unveiled itself."

Not only was the Eden Project an important one for Grimshaw because of its status as a new landmark destination within Britain, it also acted as a clear signpost of the firm's environmentally-conscious, sustainable focus. "It's something that we've been passionate about for more than three decades now, dating back to the British Pavilion at the World Expo Seville, and it's very much at the forefront of our current thinking. The Eden Project was a natural progression on that, looking at ecology, the environment, plants and how important they are."

The Eden Project's design features domes clad in ethylene tetrafluoroethylene (ETFE), creating a super lightweight structure inspired in equal parts by nature and technology. "We're known for our exploration of technology, but part of that is just about finding the best, most optimum way of doing things," Whalley said. "I'd also been very influenced by Frei Otto, and that idea of using natural forms as a generator. "We can learn a lot from nature - the reason why nature is so beautiful, why we all think it's elegant, is that it never does things unnecessarily, it always uses the minimum to do the maximum, and that gives inherent elegance."

"Quite a few architects started to do wavy forms, but for no apparent reason, which isn't how we approach architecture. It's the old adage, just because you can doesn't mean you should, and in our minds the technology is there for us to create much better



MEGAMAN®

MARCO DBT Tracklight



MARCO MINI
24° / 36°
720-1000lm



MARCO MIDI
25° / 45°
1500-2000lm



MARCO
25° / 45°
2600-5000lm



MEGAMAN® Dual Beam Technology (DBT) offers a flexible choice of beam angles and is now available in MARCO integrated LED tracklight. This innovative dual beam design is ideal for changing onsite visual effect and facilitating the inventory management.



Visit Us:



2 beam angles
in one luminaire



"I always think that working with a lighting designer is like working with a wizard."

Andrew Whalley, Grimshaw

performing buildings and environmentally performing buildings, not just about creating different shapes."

This approach towards creating more environmentally performing, sustainable buildings will see Grimshaw unveil its Sustainability Pavilion at the World Expo in Dubai later this year. The Pavilion, Whalley explained, will follow in the footsteps of Southern Cross Station, in that it will be completely self-sufficient.

"They're expecting more than 20 million visitors to the World Expo. It's going to be one of the busiest expos ever, because of where it is, with a very high number of international visitors. So on this amazing world stage, we decided we wanted to do a completely net zero building, that's not just net zero energy and net zero carbon, but that's net zero water too, so it generates its own water, recycles its own water, and is completely self-sufficient.

"And we thought 'if you can do it here, in one of the world's harshest environments, you can do it anywhere'. It's been very complicated and challenging, but the client

has backed it 100% of the way."

The role of lighting, and specifically of lighting designers, has consistently played a part in Grimshaw's work, dating back to the Waterloo International Terminal, where Jonathan Speirs, then at LDP, developed the lighting scheme. And Whalley eulogised the importance of lighting design in architecture: "In the daytime, we obviously have one very large light that gets switched on – in some places more than others. Obviously manipulation of natural light is really important, particularly in our transport projects, because we use it to help people navigate and to give a sense of direction. But when the sun goes down, that's when the lighting designer's opportunity emerges.

"I always think that working with a lighting designer is like working with a wizard, because they can do all sorts of magical things, and as lighting technology has developed, it has become more and more a piece of magic, with LEDs and the ability to change colour, they're so controllable, and the energy consumption has dropped with it



as well.

“So we’ve always worked very closely with lighting designers in our projects, and recognise their importance. It’s not something we do, it’s something that we collaborate on.”

This collaborative approach has seen Grimshaw work with a whole host of lighting designers (*arc* has featured projects from WSP and Cundall Light4 in recent years), and Whalley feels that this approach, rather than sticking to one practice in particular, reaps greater rewards in the long run. “We work with a whole range of firms, in the same way that we work with different engineers, different structural engineers, different mechanical engineers. And the nice thing about working with different consultants is it’s the same as when you work with a different client on a different project, you come up with a concept that’s appropriate to that, with a team that’s appropriate to the demands of the project, that’s tailor-made to that project’s particular needs.” Whalley was also keen to stress that, because of the importance that Grimshaw places on lighting design, it is something that the firm bears in mind right from the concept stages. “Obviously when you’re coming up with the bare bones and skeleton

of the project, it’s just about form creating, but within that, quite soon afterwards you have to think about the whole experience,” he said.

“Not all of our projects benefit from the availability of natural light, so the integration of lighting is absolutely the experience of the space – it’s got to be thought of from the beginning.

“So I think how you integrate lighting into the architecture, so that it’s seamless, and just becomes a natural part of the architectural experience, is absolutely critical.”

Having worked at Grimshaw for the past 34 years, Whalley has noticed how attitudes towards lighting designers, and lighting design as a concept, have changed within the architectural field.

“I would hope that now, most architects, when you’re doing buildings, especially large-scale public buildings, appreciate the importance of lighting and integrated design. But I think some probably put greater emphasis on it than others. “Sometimes I walk around buildings and it looks to me that lighting came along rather late on. So that’s why it’s so important to bring it in at an earlier stage.

“I think it has changed a lot in the last 20 years though, because when we did Waterloo, bringing

1. Melbourne’s Southern Cross Station features a unique, ‘mogul field’ inspired roof, which directly contributes to the station being Grimshaw’s first net zero carbon building. (Pic: James Ewing)

2. The renovation of London Bridge Station, which features lighting design from WSP, pays tribute to its traditional features through the subtle use of light throughout. (Pic: Paul Raftery)

3. Thermae Bath Spa brings together traditional and contemporary architecture to form a revitalised complex in Bath’s spa quarter, which restores the ancient practice of healing and relaxation in mineral springs. (Pic: Jason Hawkes)



in a lighting designer was fairly exotic – lighting designers were for theatre, and seldom used on public buildings, and the array of lighting fixtures available was much more limited.

“But I think that as lighting technology has evolved, so too has the craft and skill of lighting designers, and it’s become a much more integral part of buildings. Seeing the opportunity, if you have an imaginative lighting designer and what they can bring to a project, really transformed things.”

However, while the role of lighting design is becoming more appreciated, especially within Grimshaw, Whalley doesn’t believe there are plans within the firm to introduce its own lighting design department. Instead, he would prefer continued collaboration with separate lighting design specialists. “Some do that, they start adding more things, but the trouble is that would then take away our flexibility to work with different designers. And I think we would lose something by doing that. In the same way that we don’t talk about doing engineering, it’s so important to be able to collaborate with different designers for different projects.”

Looking ahead to the future, with the Sustainability Pavilion at the World Expo almost

complete, Grimshaw will continue to push towards being more sustainable in its own efforts, with the firm pledging to make all of its buildings net zero by 2030. “We’ve also appointed Dr Paul Toyne as our Head of Sustainability,” Whalley added. “It’s become a very important part of what we do, and I think it’s very important for the whole planet. “It wasn’t as fashionable a few years ago, but it’s gone from being something that’s interesting to being imperative.”

This approach will extend to its building design too, as Grimshaw hopes to remain flexible to the changing demands of both the client, and wider society. “We’re very interested in how things can change and how architecture is part of an evolving society. Architecture is very much in the service of society, and how that can influence the future.

“A really important lesson going forward is that if you create buildings that are flexible and that can absorb change, they have a very long lifespan.”

Over the last 40 years, Grimshaw has established itself as a major player within the architectural field, and with its new sustainability goals, the future looks equally bright. Here’s to the next 40. ■ www.grimshaw.global

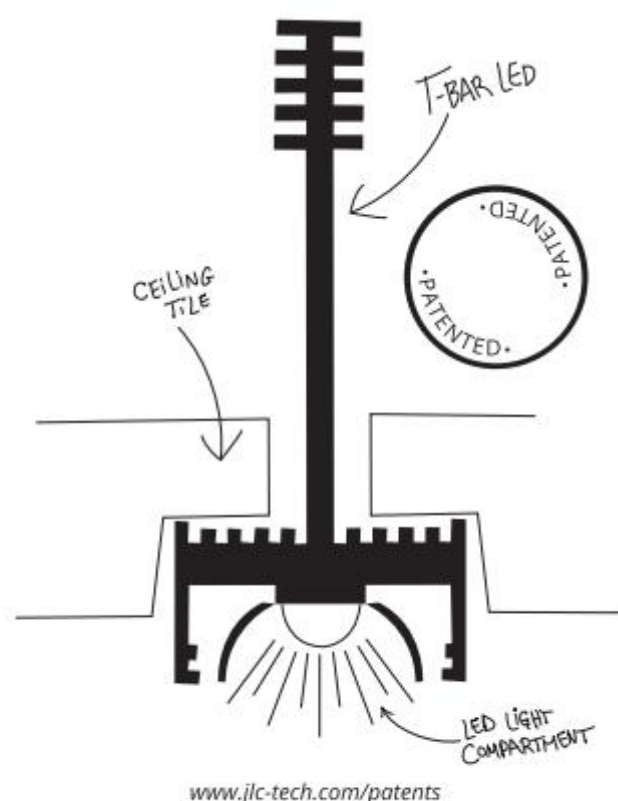
Grimshaw’s designs for the Sustainability Pavilion at this year’s World Expo in Dubai. Following on from the net zero carbon Southern Cross Station in Melbourne, the Pavilion will be completely self-sufficient. (Pic: Grimshaw)



Houston International Airport, Terminal C – Houston, TX
 Lighting Designer: HLB Lighting Design
 Architect: Pierce Goodwin Alexander & Linville

JLC-Tech creates the only lighting products that are designed, approved and patented to replace the cross members in a suspended grid ceiling system. Dramatically cut energy use, reduce installation costs, and minimize construction waste by using the T-BAR LED™.

To learn more about the T-BAR LED™ and other products by JLC-Tech visit JLC-Tech.com.



www.jlc-tech.com/patents

Your Partner in Europe

LKD Licht Kommunal Digital GmbH
 Münchner Bundesstraße 144
 A-5020 Salzburg

T. +43 (0)662 432 514-0 • F. DW-111 • E. office@lkd.at • www.lkd.at



JLC • tech

Made in USA | www.jlc-tech.com

©2020 JLC-Tech LLC, All Rights Reserved



PROJECT DETAILS

Jewel Changi Airport, Singapore

Client: Changi Airport Group, CapitaLand

Lighting Design: Lighting Planners Associates

Architects: Safdie Architects, USA

Photography: Jewel Changi Airport Development;
Lighting Planners Associates; Benoy

Jewel in the Crown

The Jewel Changi Airport is the latest piece of iconic architecture in Singapore. Combining retail spaces with interior gardens and the stunning Rain Vortex waterfall, Lighting Planners Associates designed the lighting for this impressive new destination.



Opening Spread The Jewel Changi has been gaining plaudits for the iconic Rain Vortex - the huge indoor waterfall that stretches from the floor to the glass domed ceiling. This Page From afar, the Jewel Changi façade glows with a blue-white lighting that alludes to a depiction of clear daytime sky. This colour constantly shifts within blue hues to show a transition of time, while creating a pleasant contrast with the warm interior lighting.

Jewel Changi Airport is a world-class, multi-dimensional lifestyle destination that combines gardens and attractions, retail and dining offerings, a hotel, and facilities for airport operations. Designed by renowned architect Moshe Safdie, it has been gaining plaudits since its official opening towards the end of 2019 for its iconic glass and steel domed façade and huge indoor waterfall – the largest of its kind in the world – which acts as a striking, dramatic centrepiece to the building. Aimed at being the next tourist hotspot in Singapore, Jewel Changi was created with the idea of marrying the contrasting concepts of a serene garden and a bustling city. The beautiful indoor gardens marry with large retail spaces more akin to shopping malls. Taking cues from the Garden of Eden, Shangri-La and the Hanging Gardens of Babylon, the architect’s vision was to design a unique destination for travellers and locals alike. The vast glass dome fills the interior with an abundance of natural daylight, creating an experience more in line with strolling through an outdoor park, rather than an airport terminal. The natural light that floods the space is complemented by lighting design from Lighting Planners Associates (LPA), which sought to create

a 24-hour, immersive visual experience, in which the gentle and slow transition of natural light is reflected in the artificial lighting. Brought in to the project by developers Changi Airport Group, through which the studio has a good track record of previous experience, LPA worked closely with Safdie Architects to complement its vision. For Reiko Kasai, Managing Director of LPA Singapore, the opportunity to work with an architect of Safdie’s calibre was an exciting prospect: “The most unique part of this project is the architect. “From the very beginning, he was very excited to create a garden park within the airport. His concept idea, and the expectation for the lighting, was to create something very subtle within the protected environment. The lighting had to be as if you were walking in a park in the evening.” From afar, Jewel Changi’s façade glows with a blue-white lighting that alludes to a depiction of clear daytime sky, creating a soothing, calming impression. This colour constantly shifts within its blue hues to show a transition of time, while creating a pleasant contrast with the warm interior lighting. Up close, the glow around the façade fades from floor to ceiling, with the glowing light of the interior gaining prominence and dematerialising the façade.

LIGHT LAUGH LOVE

IT'S YOU. OWN IT

LOVE IS

light

LOVE
ALL.

2020 ALTO CAMPAIGN

light+building

08-13.03.2020
HALL 4.2
STAND H41

ALTO CO., LTD

H Tower, 15, Beodeunaru-ro,
Yeongdeungpo-gu, Seoul 07253 Korea
Phone +82 2 2176 3282-3 altoled@alto.co.kr

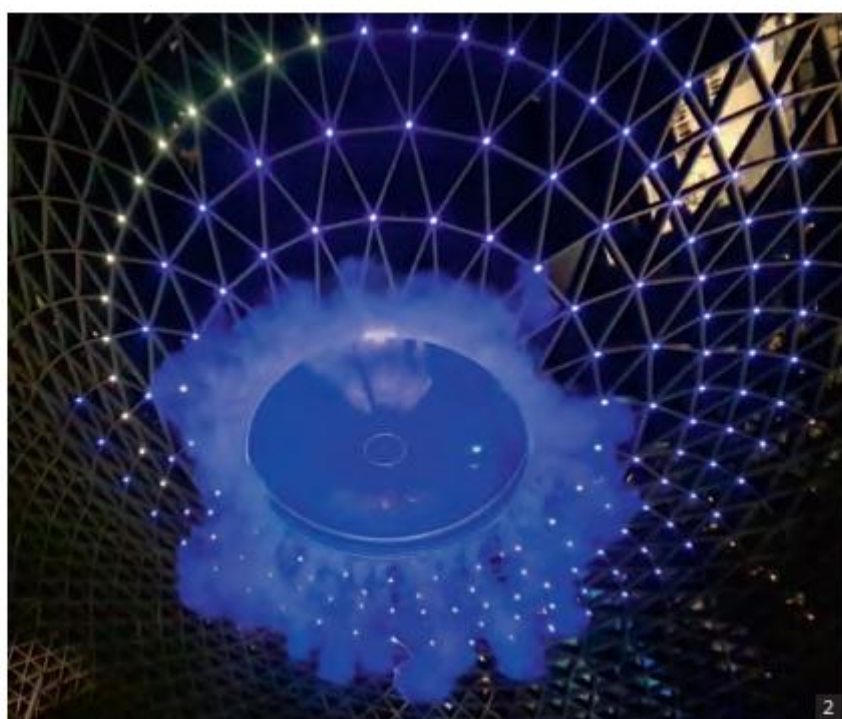
www.alto.co.kr

ALTO
LIGHTING FOR HEALTH



1

1. From the initial concept stages, the architect, Moshe Safdie sought to create a garden park within the airport.
2. The architects wished for the glass dome to remain free of lighting fixtures, creating a clear view of both the complex, latticed steelwork, and the sky outside. Although LPA installed some 'stardust' point source lights around the central waterfall, which lay a key part in the lighting show.
3. Blending interior gardens with retail spaces, alongside restaurants, a hotel and airport facilities, the Jewel Changi is in itself a new tourist destination for Singapore.



2



3

For the interior space, Kasai continued: "Our initial concept was for an amphitheatre that appreciates nature, that blends natural light with artificial light." The colour temperature and brightness of the lighting constantly changes, giving different experiences throughout the day. However, the retail area has been clearly differentiated from the garden spaces through differences in brightness levels – in the retail area, frontage is brightest, with light levels concentrated towards the perimeters, while in the garden space, light levels are intentionally kept low, so that the eyes are able to wander into the magnificent views.

Sunyoung Hwang, Associate at LPA Singapore, explained: "Because of the dome structure, there is a lot of daylight coming into the building, especially in the central garden areas, and there are pockets that let light through to the retail areas. But we wanted to make sure that the retail areas still have the experience of the 'outside' areas, extending the garden feeling.

"We wanted to use tunable white lighting for all the retail areas. When we were developing the concept, it was quite new in the market, and the client was hard to convince, so we had to do some mock-ups to convince them what kind of value it brings to the project. In the end we didn't take the colour temperature as high as it could be during

daytime, except in the areas receiving daylight through the opening, because the client wanted to have a warmer feeling for the retail spaces throughout the day."

Although the contrasting spaces within Jewel Changi blend together effectively, there was some degree of conflict between the designers and client over how the project should be defined.

Kasai continued: "The architect had a very strong idea of creating a retail shopping experience within the garden, but the client and the developers had the opposite vision. What they wanted was more like a shopping mall with greenery. That was a big challenge for us because in the beginning we worked to fulfil the architect's vision, to create the experience of walking in nature, in a natural environment, but then this was replaced by the need to fulfil the requests from the operator's side."

This conflict was in some ways complicated by LPA's design approach, in which the firm adopts a 'less is more' approach. "In Singapore, clients often get very nervous when they sense the word 'darkness' or 'subtle'," Kasai explained.

"LPA's lighting design is known for creating beautiful shadow, light and shadow, learning from nature, beautiful darkness. These terms are almost taboo to some clients."

LIGHT LAUGH LOVE

IT'S YOU. OWN IT

LOVE IS

love all

LOVE
ALL.

2020 ALTO CAMPAIGN

light+building

08-13.03.2020
HALL 4.2
STAND H41

ALTO CO., LTD

H Tower, 15, Beodeunaru-ro,
Yeongdeungpo-gu, Seoul 07253 Korea
Phone +82 2 2176 3282-3 altoled@alto.co.kr

www.alto.co.kr

ALTO
LIGHTING FOR HEALTH



"The scale of the project is so big, and because it can be seen as a mixture of everything, that meant that it was completely unique."

Reiko Kasai, Managing Director, Lighting Planners Associates



At 130ft tall, the Rain Vortex is the world's largest indoor waterfall, spanning the full, ten-storey height of the building. A recreation of the precipitation cycle, the waterfall utilises Singapore's plentiful rainfall, funneling rainwater through the building's central oculus, where it falls 40-metres before it is recycled back up to the roof.



However, after a series of mock-ups, demonstrated to both the client and other consultants, including the architects, LPA was able to finalise the selection of lighting fixtures, and agree on the right colour temperature and brightness throughout the space. In the garden spaces, LPA was free to create a much more subtle, atmospheric lighting scheme. Instead of a uniform, homogenous lighting experience, pockets of light are created so that both light and dark can be appreciated, creating a sequential rhythm that allows visitors to appreciate light without using too much of it.

Adding to this sense of intrigue, one of the key parameters for the lighting within the garden areas was for fixtures to remain hidden amongst the greenery so that they don't disturb the 'look' of the forest.

As such, pole-mounted lights are placed amidst the trees, while step and coping lights from KKDC offer the main source of functional lights along two walking trails within the Shiseido Forest Valley, with spike-mounted spotlights for the trees. Elsewhere, Roblin's fibre optic lighting was used to create a 'firefly' effect in the Shiseido Forest Valley, West

Gateway Garden, and the attractions at Canopy Park. Uplights were limited to the trees, while other lights were aimed downwards to minimise light spill to the sky, and the reflection of light sources within the interior from the glass panes of the dome.

Throughout the Jewel, LPA utilised a range of downlights and spotlights from the likes of Alto, Erco, HK Lighting, Endo and Zumtobel to create a subtle yet specific, focused lighting scheme.

"The elements of lighting that we chose are very minimal, almost not visible," Hwang explained. "When you go there, there are not many lighting elements that you can find very easily. It's very focused."

"The project is under a glass dome, which is considered an indoor environment, but actually, because there are lots of greens and plants, we had to consider IP-rated, outdoor fixtures," added Yusuke Hattori, Associate Director at LPA Singapore. "The challenge was to comply with indoor lux level standards, while creating the exterior feeling. To cater to this outdoor feeling, we only had bollard lights and pole lights, as those are lighting elements that you normally see in outdoor environments."

1. A special lighting show highlights the Rain Vortex as the central focal point of the Jewel Changi.
2. The architect wished to create the impression of a retail experience within a garden, while the developers preferred the idea of a shopping mall with greenery. LPA worked to create a harmonious lighting scheme that merged both visions together into one unified space.
3. Because of the vast glass dome, natural light floods the main circulation areas of the Jewel, while pockets allow natural light to also filter down through to the retail spaces.

light+building

8–13 March 2020

Find us at
Hall 4.2 Stand H81
Frankfurt am Main



The Langley – a Luxury Collection Hotel, Buckinghamshire

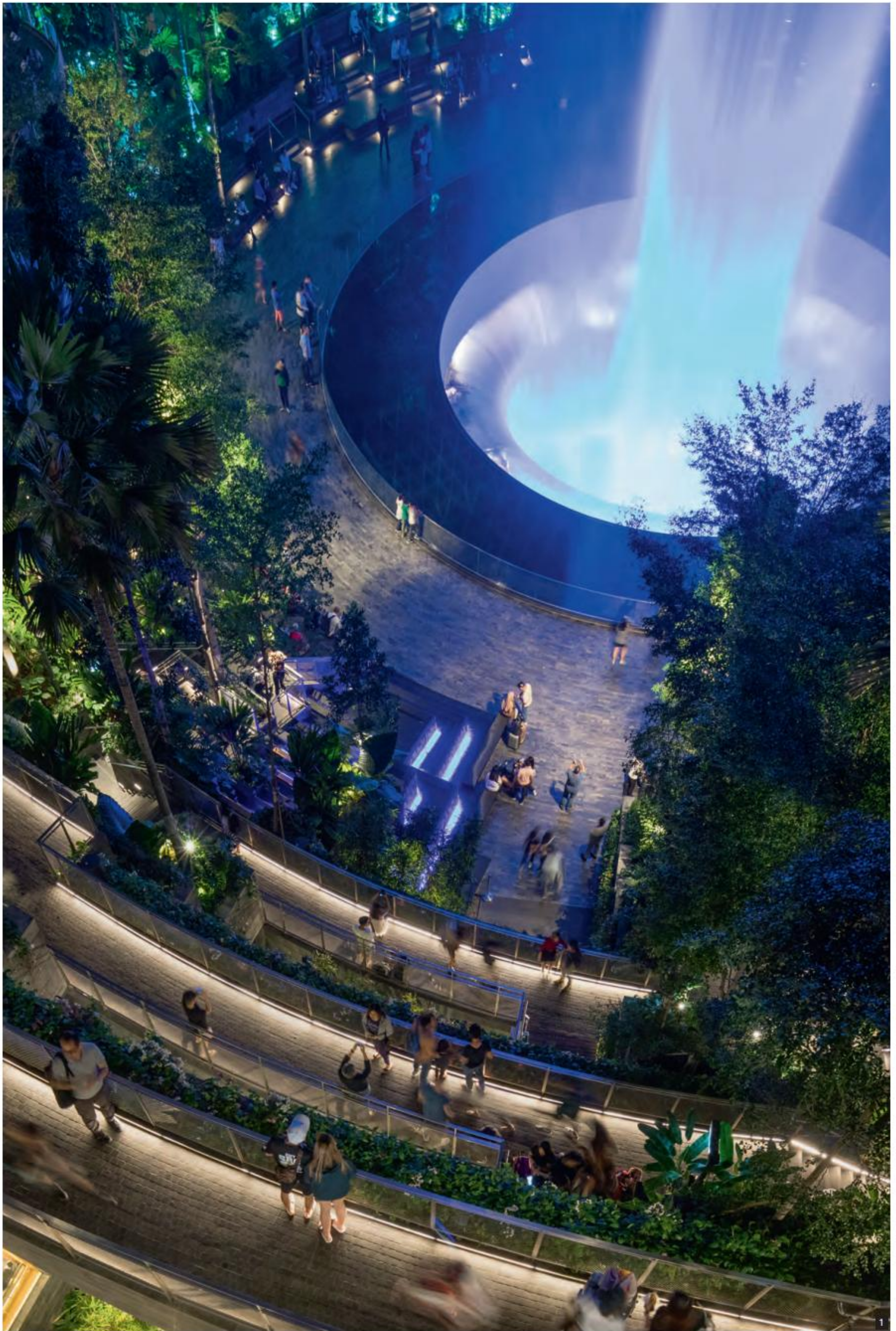
Lighting Designer: dpa Oxford
Architect: Dennis Irvine Studio
Photography: James Balston Photography

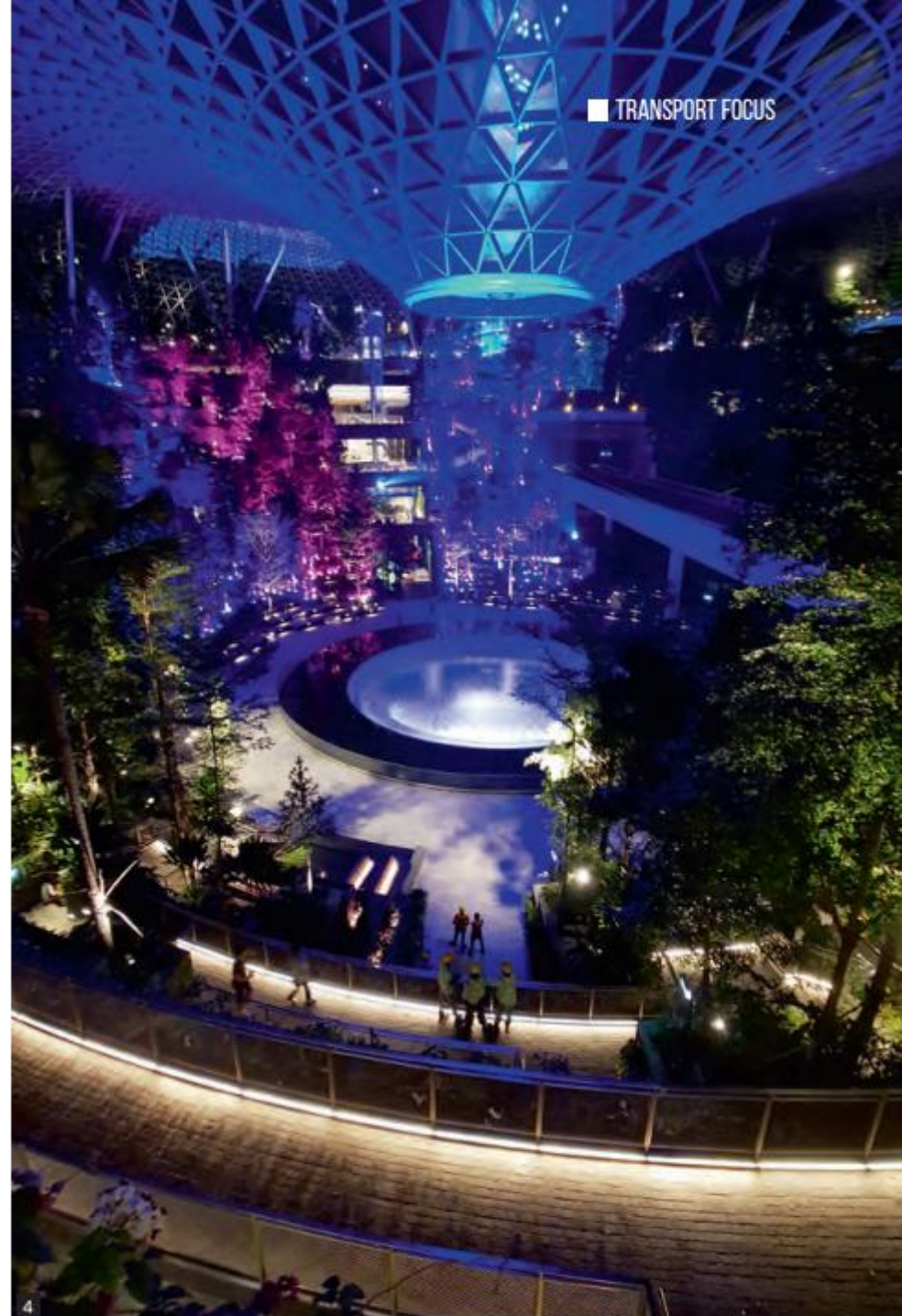


KKDC products now packed using
sustainable & recyclable materials

KKDÖ

www.kkdc.lighting





The defining centrepiece of the Jewel Changi though, is the beautiful Rain Vortex. At 130ft tall, it is the largest indoor waterfall in the world, spanning the full seven-storey height of the building.

The waterfall utilises Singapore's plentiful rainfall, funnelling rain from the roof through a central oculus, before it is then recycled back to the roof. A recreation of the precipitation cycle, the Rain Vortex is seamlessly integrated into Jewel Changi, framing natural rainwater as the centrepiece.

Highlighting this extraordinary feature is a special lighting show, which LPA helped to coordinate. As a key focal point of the project, LPA ensured that its architectural lighting scheme complements the lighting show. Most of the light fixtures in the Shiseido Forest Valley, terraces and Canopy Park dim down during the show, while LPA also installed "stardust" point source lighting around the rim of the waterfall, which is activated during the show.

Outside of this, no lighting fixtures were installed on the complex latticework of the glass ceiling, as the architect wanted a clean visual of both the internal dome and the sky outside.

Since officially opening in October 2019, the Jewel Changi has become a landmark destination for Singapore, and the LPA team has expressed its pride in being involved in such a notable project. "Because of the size of the project, we've spent a lot of time on it – more than 13,000 hours – but

we're very proud of the team, and that we finally delivered a good result," said Hattori.

"It was a really demanding, time-consuming project, because there were so many people from so many different perspectives and departments, each with their own agenda," added Kasai. "The scale of the project is so big, and because it can be seen as a garden, as a shopping mall, as a public space, it's a mixture of everything, that meant that it was completely unique."

Looking back over the project, a particular highlight for LPA is seeing how visitors have interacted with the space since its opening. "Seeing how people spend time there is really what we intended in terms of atmosphere. We've seen people after long flights having naps, sitting and chilling out, so that was quite successful for us," Hattori continued.

"We said in the beginning we wanted people to appreciate the space at any time, be that daytime or evening, early in the morning or late at night, when the lighting show turns on or when it's off, you still enjoy the space," said Kasai.

"In fact the architect, Moshe Safdie seems to be extremely happy with how this project was conceived. He's said that he's so happy to see people in the space – whoever comes here, they all look very happy. Whether it's local people or visitors.

"Because of that, we're very happy with the contribution that we were able to make." ■

www.lighting.co.jp

1. In the garden spaces, LPA created a subtle, atmospheric lighting scheme. Instead of uniform, homogenous lighting, pockets of light are created so that light and dark can be appreciated, creating a sequential rhythm that allows visitors to appreciate light without using too much of it.

2. To create the feeling of an exterior garden, LPA used a lot of IP-rated, outdoor lighting fixtures, such as bollard lights from We-ef.

3. Complementing the natural sunlight, tunable white lighting was used in the retail areas, extending the 'outdoor' feeling of the garden areas deeper into the building.

4. In a bid to keep the dome free of light fittings, pole-mounted lights are hidden within the greenery. Uplights were limited to the trees, while elsewhere, other lights were aimed downwards to minimise light spill to the sky and reflections of light sources within the interior of the glass panes of the dome.

LIGHTING SPECIFIED

Alto O5 series downlight
EldoLED Dualdrive
Endo GERD5437WT downlight
Endo GRB573C diffusion lens
Erco Parscan spotlight
Futuro Luce LED Pixel Dot RGBW
HK Lighting ZX16i Spotlight
KKDC POKI HR15
Lumenpulse Lumenbeam Grande
Lutron control system
Meyer Uplight 220 LED
Roblon Fibre Optics
Tokistar Exhibitor (custom)
Tokistar WG TLXWGCH
We-ef pole & bollard lights
Zumtobel Panos Evo R200H

Building Bridges

London's oldest rail station has been brought firmly into the 21st Century, thanks to a major, full-scale renovation. Designed by Grimshaw, with lighting design from WSP, the new-look station creates a pleasant, welcoming hub for London's commuters.

PROJECT DETAILS

London Bridge Station, London, UK

Client: Network Rail

Lighting Design: WSP, UK

Architect: Grimshaw, UK

Photography: Sam Neequaye, unless otherwise stated





Opening Spread Located adjacent to the iconic Shard building, the newly renovated London Bridge Station has been brought into the 21st Century, befitting its location next to some of London's most iconic architecture.

1. A new pedestrianised walkway between Tooley Street and St Thomas Street features *Me. Here. Now.* a striking installation from Mark Titchner and commissioned by Network Rail that reflects the brickwork of the ceiling, and the continually shifting people below, emphasising both the individual and their place within the wider community.

(Pic: Sarah Fouracres)

2. Originally opened in 1836, London Bridge Station is the city's oldest rail station, and the new design blends traditional architecture with a more modern aesthetic.

Originally opened in 1836, London Bridge Station is one of the oldest rail stations in the world. Handling more than 50 million customers a year, it is the fourth busiest station in London, and in 2013 underwent a dramatic, five-year refurbishment process that sought to bring the station firmly into the 21st century.

Upgrade work to the station included major track upgrades, a new rail underpass on the approach to the station, and platform widenings and extensions, allowing 30% more trains into the station and improving commuter journeys for decades to come.

Working alongside Grimshaw Architects, WSP developed the lighting design for the station, as Sacha Abizadeh, Associate at WSP, explained: "The refurbishment of London Bridge Station has been one of the most complex and ambitious rail station redevelopments in UK history, with an innovative lighting scheme at its heart.

"The scheme involved the design of an 8,000sqm concourse at street level, with a live railway running over the top on a viaduct, utilising existing brick arches, and a new deck supported on columns located within the concourse. Several parts of the station were heritage listed, and we incorporated these original features into the final design, while creating an attractive environment that allowed free passenger movement through the station from street to platform level."

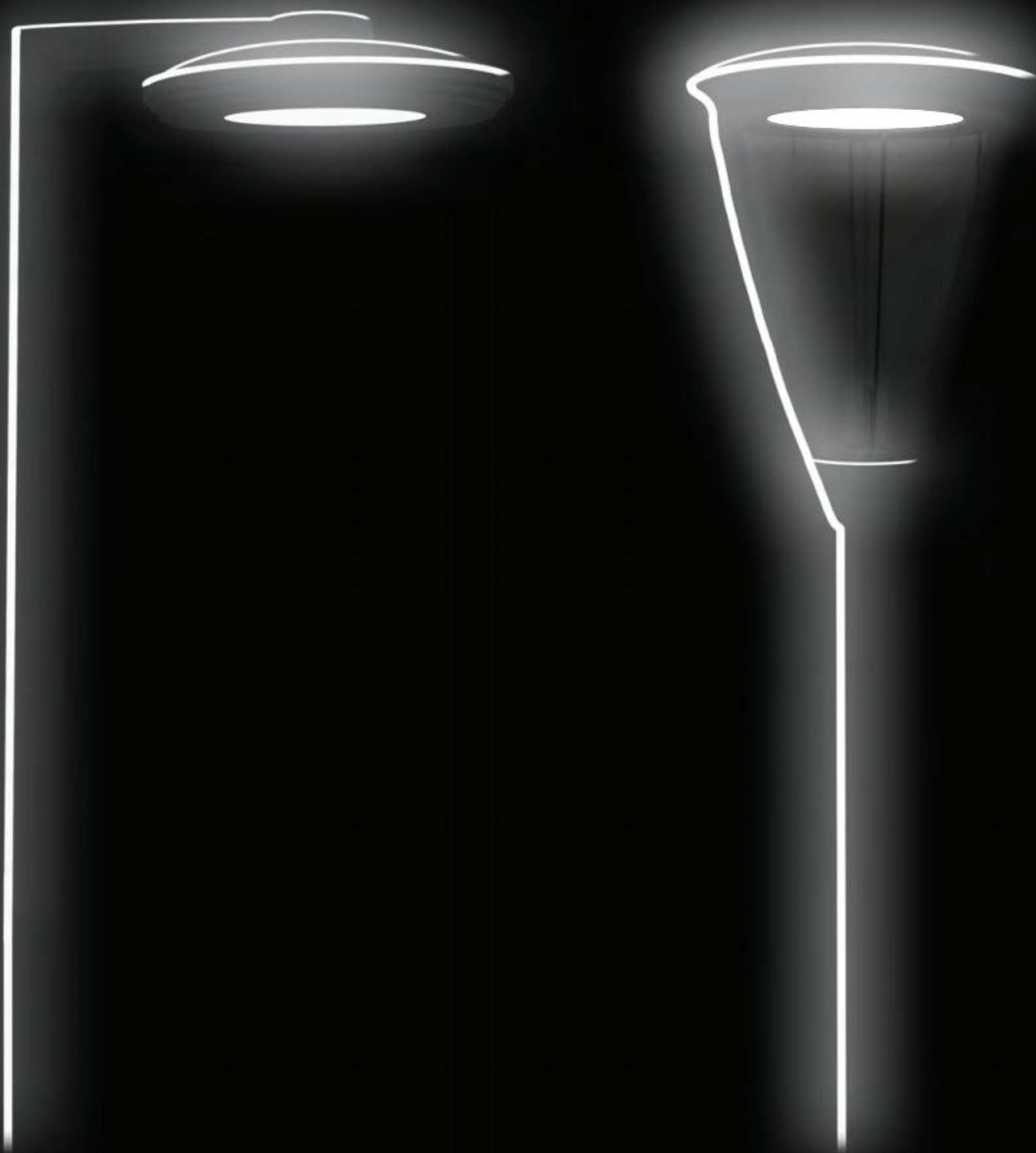
For the project to have maximum impact and

usability, it was imperative that the lighting design was developed in parallel with the architectural design. This presented the challenge of coordinating across multiple disciplines in a short time frame, while always considering budget, buildability and procurement on a site with significant constraints. As Abizadeh explained, "it was a total engineering approach".

However, the biggest challenge wasn't coordinating the many different disciplines, but instead ensuring that the station was still operational during the extensive renovations. "Completion of the design was subject to several significant challenges, including the need to provide permanent works to maintain the integrity of the Victorian arches," he continued. "But the key challenge was to minimise disruption for passengers.

"With historical findings during excavations, design alterations and a hugely public space, we were required to be flexible and resilient to any changes that came our way. The complex construction strategy involved a phased demolition and reconstruction, with more than 70 sub-stages, ensuring that the station remained operational throughout the works."

For the newly renovated station, the client's vision was to provide a safe, cost-effective yet well-lit environment across the entire station, and as such the lighting design brief called for an installation that "embraced luminaire specification for all public areas, covering associated issues such as



FLEXIA

A CANVAS FOR
YOUR IMAGINATION

#whycompromise



The new design for the Western Arcade, which currently provides pedestrian access to and from the London Underground, has doubled its length, and tripled its width, with retail units either side of the circulation vaults. (Pic: Giovanbattista Canella)





luminaire installation, maintenance requirements and safety procedures,” Abizadeh continued.

“By providing a uniform scheme with modern functional LED technology that blended into the architectural surroundings, this enhanced the building and its concrete, tiling and brickwork features. Highlighting the use of materials meant that the architects vision came to life, allowing the site’s history to mesh with the modern era.” A key example of this approach can be found in the Victorian arches in the Western Arcade, which currently provides pedestrian access to and from the London Underground. “The new station design lengthens the Arcade by more than double its current length and increases its width by approximately three times, with retail units either side of the central circulation vaults,” Abizadeh said. “The historic quadripartite vaults are grazed with a series of recessed mounted linear LED uplighters, enhancing

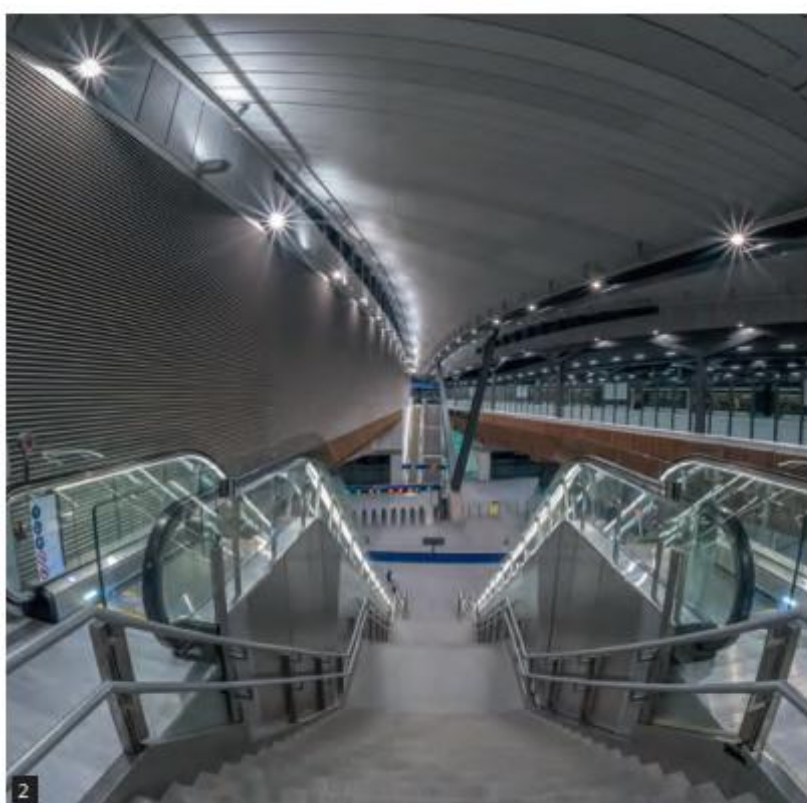
the arch structures, form and texture, using warm white lighting, giving the space a welcoming feeling.

“In amongst the historic Victorian brickwork areas, the emphasis of the lighting was to provide passengers with a pleasant experience and to make their journey through the building effortless.” Adding to this pleasant experience is the introduction of some striking new artwork from artist Mark Titchner. Commissioned by Network Rail and curated by Futurecity, *Me. Here. Now.* is situated in Stainer Street, the new pedestrianised walkway linking Tooley Street and St Thomas Street. The work comprises three giant polished stainless steel domes suspended from the ceiling of the new walkway. Mirrored inside and out, the domes reflect both the existing brickwork of the walkway ceiling, and the movement and colour of everyday life below. These reflections animate the domes, continually shifting the view in their

reflected image; emphasising both the individual and their place in the wider community.

Titchner hoped to associate the experience of travel and commuting with endurance and the potential for self-improvement, reflection and spiritual growth. Each dome contains text, offering words of encouragement to passersby underneath and a moment of pause within the hectic transportation hub. The quotes – “Only the first step is difficult”, “The distance means nothing” and “One foot in front of the other” – can be attributed to 18th Century French noble Anne de Vichy-Chamrond, American post-hardcore band Fugazi and a self-help book, and according to Titchner, the circular shape of the domes acts as a metaphor for a journey without end: “As long as we continue to change, so does the world around us.”

Despite large parts of the station being underground, one of the key aims for the



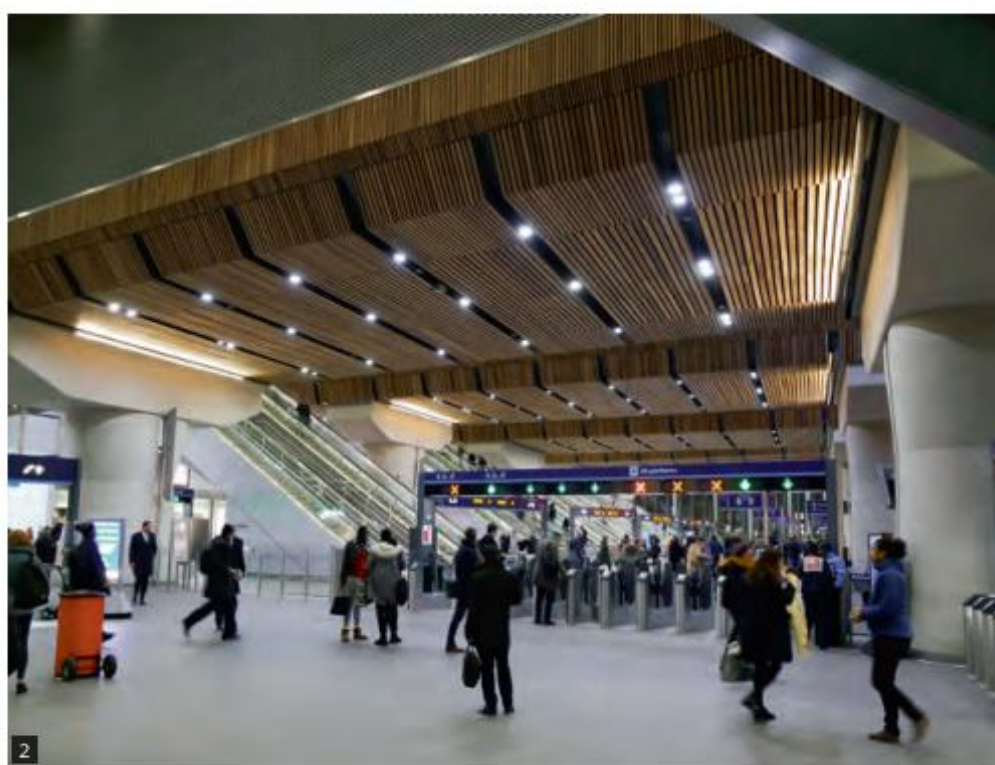
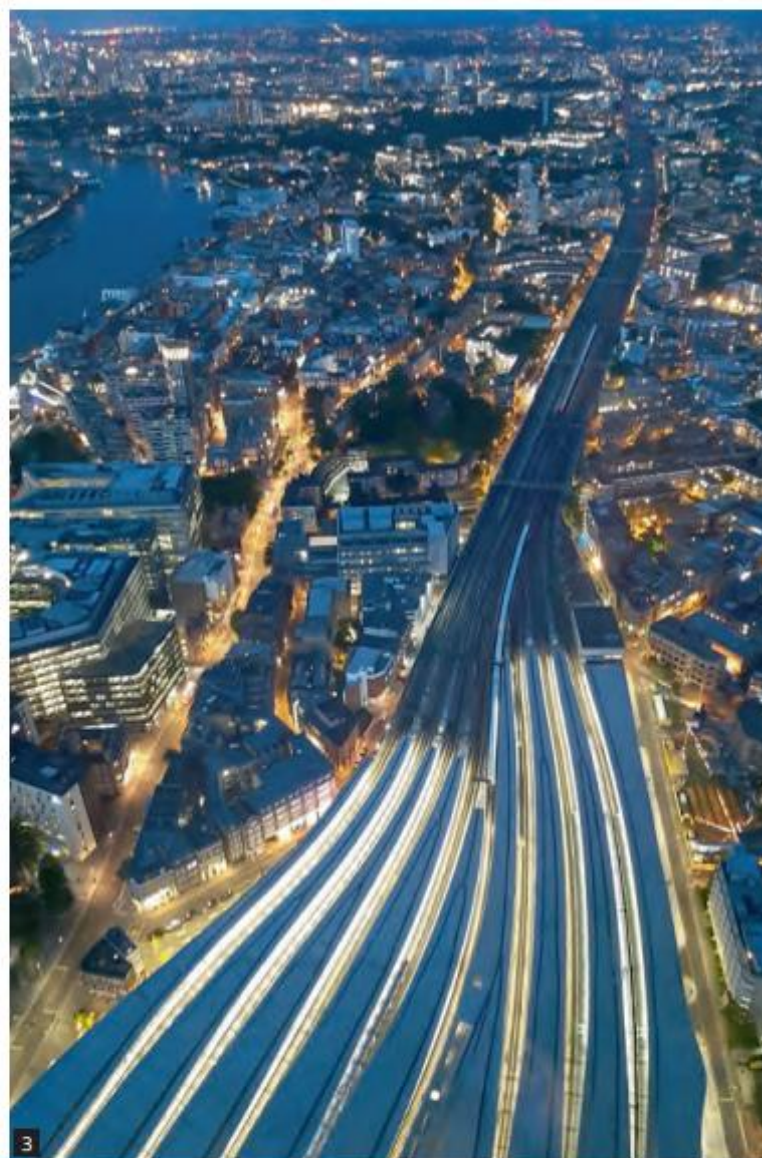
“In amongst the historic Victorian brickwork areas, the emphasis of the lighting was to provide passengers with a pleasant experience and make their journey through the building effortless.”

Sacha Abizadeh, Associate, WSP

proposed lighting strategy at London Bridge was to optimise natural light and minimise artificial lighting, helping to reduce energy consumption. The street level concourse receives daylight via ceiling voids, as well as the external vertical glazing facing Tooley Street and St Thomas Street. Escalator shafts also allow daylight from the terminus rooflights to reach the circulation zones at street level. As part of its natural light studies, WSP also looked at how glare from The Shard – situated adjacent to the station – would affect both train drivers and passengers within the station. “For the covered areas of the station, we analysed a daylight simulation model and determined which parts of the station concourse would be naturally lit,” Abizadeh continued. “The daylight levels allowed us to optimise intelligent photocell positions throughout the concourse level. This meant that artificial lighting would be reduced during quieter spells in the evenings and early mornings, making significant environmental gains. Dawn and dusk scenes were incorporated to transition the entire station from natural to

artificial light, with the use of intelligent sensors to balance out the existing natural light with artificial lighting, reducing operational costs while providing the appropriate task lighting.” Despite working within an old, pre-existing structure, Abizadeh revealed that developing the lighting design was a relatively pain-free process. “We progressed the lighting design through numerous iterations and reviews, and worked closely with the clients and architects to deliver the project,” he said. “As part of the design, we created a full multi-discipline 3D BIM model including the lighting, which contributed to managing the stages, ensuring that any conflicts had been identified and designed out before construction of each stage commences.” The process was helped by the near constant communication between the various teams, as Abizadeh highlighted: “The team, client, architect and design engineers were all based on site, which helped with forward design thinking, communication and decision making. By working

Left Hand Page Recessed linear LED uplights create a beautiful, dramatic lighting effect throughout the Western Arcade, gracefully illuminating the historic quadripartite vaults, enhancing the structure, form and texture of the arches.
1. As the station serves more than 50 million commuters a year, one of the biggest challenges was ensuring that the station was still operational during the extensive renovation work.
2. WSP provided a uniform scheme with modern functional LED technology that blended into the architectural surroundings, which enhanced the building and its concrete, tiling and brickwork features.



side by side on site, we could communicate through weekly presentations, visualisations and mock-ups, and report back to the design team straight away.

“We worked closely with the other design teams to fully understand their requirements; lighting boom systems were created across the station to accommodate smoke detectors, speakers, presence detectors, CCTV, wi-fi antenna and a cable management system, helping to keep the ceiling clean and free from conduits, providing a pleasant passenger experience and making their journey through the building effortless.”

Commencing in 2013, the renovation of the station was completed in 2018, but despite this being a fairly long-running project, Abizadeh was happy with the extensive time-frame. “It was great working on the project for a long period of time,” he said. “It allowed me to gain a lot of knowledge from various design stages, and understand the client expectations.”

“The project was subject to constant changes from the client, from the initial stages right through to the construction phase and beyond.

As the lead lighting design engineer, I was responsible for re-coordinating all lighting services whenever one of these changes occurred. Changes included revised internal space layouts between secure and non-secure areas, revised lighting specifications and external landscaping.”

The extended time frame proved valuable though, as now the modernised station is fully befitting of its place next to some of London’s most iconic architecture. WSP’s lighting scheme, alongside Grimshaw’s architecture helps to create a pleasant, welcoming environment in the often stressful world of commuting in and around London.

“The lighting scheme transformed central London’s oldest station into a station fit for the 21st century,” Abizadeh concluded. “We created a striking, modern lighting scheme unique to the station, despite all of the challenges presented by the product, which was a fantastic achievement.” ■

www.wsp.com

1. The redevelopment of the station saw major track upgrades, a new rail underpass on the approach to the station, and platform widenings and extensions, allowing for 30% more trains into the station.

2. The optimisation of natural light was a key factor for the design team, with ceiling voids and external vertical glazing filling concourses with natural light, while artificial lighting was designed to transition at dawn and dusk.

(Pic: Giovanbattista Cannella)

3. WSP has created a striking, modern lighting scheme that is unique to the station, bringing it into the 21st Century. (Pic: Max Eich)

■ LIGHTING SPECIFIED

CU Phosco P850
Designplan Flair Square
Designplan Terminus
iGuzzini Delphi
iGuzzini Linealuce
iGuzzini iRoll
iGuzzini iPro
iGuzzini Woody
Schreder SCULPflood
Selux M100
Selux M125
White Croft Duo3
XAL Mira Round

orluna



Not all lights are created equal. At Orluna, our lighting doesn't just illuminate a space, it also enhances its beauty. We don't just sell beautiful fittings, we offer a beautiful lit effect with the most accurate colour rendition – for truer reds and whiter whites. Welcome to a world more beautifully lit.

orluna.com

Designing for Love

Lighting design guru and former Global Leader at Arup, Rogier van der Heide discusses the design process for Copenhagen's seventeen Cityringen stations, how they blend daylight with electric lighting and create pleasant environments for the city's commuters.





■ PROJECT DETAILS

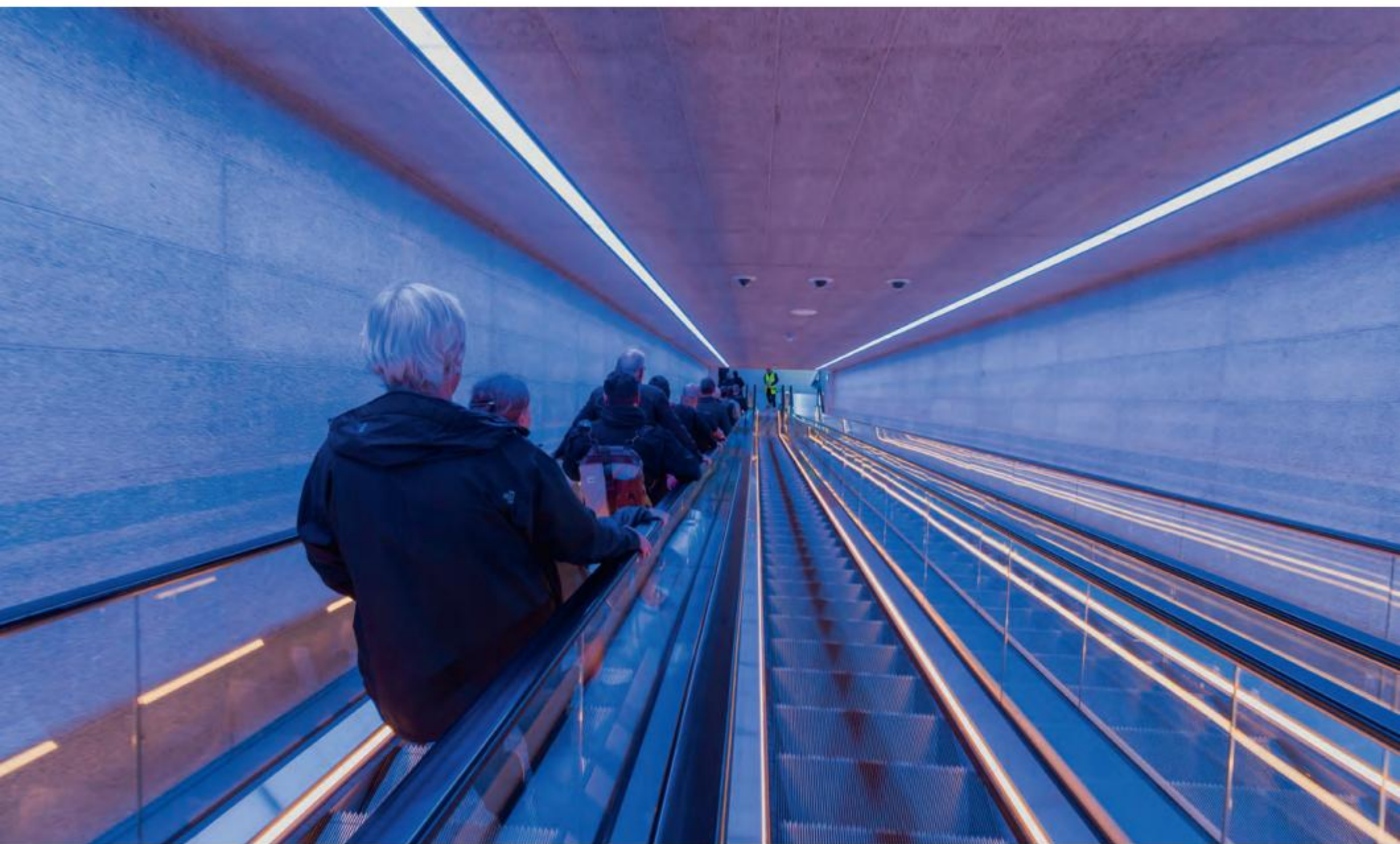
Cityringen, Copenhagen, Denmark

Client: Copenhagen Metro Authority Metroselskabet

Lighting Design: Arup, UK

Architects: Arup, UK

Photography: Shutterstock



Opening Spread Enghave Plads is lined with cafés, bars and restaurants that are all built of red brick. The metro station underneath reflects the world above, with brown-red stone forming large surfaces that are softly washed with light.
This Page The escalators of the Gammel Strand station descend more than 30 metres underground. The deep blue light reminds travellers that they are underneath the Slotsholmens Canal.

“

Public transport – you may love it or hate it. You may consider it a responsible choice or perhaps something “not for my type of people”. However you feel about it, public transport keeps our cities going and it helps billions of us to get to work, to see our friends and families and get our errands done every day. But how do you get everyone else out of their cars and into the metro? While many cities debate the pricing of public transport or the frequency of trains as a main factor, the City of Copenhagen believes that the quality of the experience in transit is a key motivator for the public to travel by metro. And that is where design kicks in: the creation of a pleasant, effective, delightful experience. It is the true purpose of design. Whether we create a pair of earphones, an MRI scanner or a metro station: design establishes an emotional bond with the user by offering a great experience.

We – designers I mean – love this kind of thing. Because contributing at the emotional level means moving away from following the crowd, from tech features, from specifications and from efficiency. It means having a discussion about value instead of cost. Design is all about getting to the essence of what it is to be a human: our emotions. Design, as a custodian of brands, truly differentiates. It establishes an emotional connection. Could you love a metro station? Well if you’d love any, it would be one of the Cityringen stations in

Copenhagen, Denmark. Or all seventeen of them. That is how you get people into public transport: make them love it.

Design, whether lighting design, architecture, product design or the Cityringen (which mixes of all of those at the same time) also drives business. It was 1973 when Thomas Watson Jr. said in a lecture at the University of Pennsylvania: “Good design is good business”. Who was he? The CEO of IBM. 50 years later, Watson is still so very right. His vision is the second rationale behind the role of design in the Cityringen project. Forget the timetable of the trains, or the cost of a ticket: design is what makes Cityringen a success. Is that all it’s about? Well, no. Besides enabling an emotional bond and driving good business, design is instrumental in a third way. Nille-Juul Sørensen, the brilliant Dane who is not just an architect but also a product designer, a thought leader, a luminary and an illustrator, got it right when he started as the Chief Architect of Cityringen. He composed a team of some of the brightest design minds he could find. The contacts in Nille’s phone read like the who-is-who of design, so he could hand-pick the very best.

This idea of true teamwork and taking a holistic approach to design was instrumental. By doing so, Nille wanted to influence, and enable the client to take bold decisions. Blending daylight and electric illumination in a 30-metre deep metro station? It’s easy to say “it’s not possible”. But how cool would

light+building

Frankfurt am Main 8. - 13. 3. 2020
Booth No. Hall4.2 G81

LEDucation.
Presented by the Designers Lighting Forum of New York

March 17-18, 2020
New York Hilton Midtown

Slim
Simple
Safe

DIVA Free

No more transformer with FLX Stix NDFree
Easy Installation & Long Connection



FEELUX

www.feelux.com / info@feelux.com



1. Nuuks Plads (named after Nuuk in Greenland), gets ample daylight from the "origami skylights" - smart assemblies of glass and mirrors that divert light deep into the station.
2. At the Frederiksberg Allé station, it becomes clear how lighting design cannot exist without understanding of materials. Tiles with four different green glazes - two matte and two glossy - refer to the street above that is lined with linden trees.



you feel as a client when you decide to just do it and give your team a mandate? This is a vision that we practice in every project and with every client. It truly moves things forward and into the future. Cityringen engaged designers so that they could take bolder decisions than they would have taken without them. We give you not just ideas, we give you confidence. In the Cityringen project, we validated those "crazy" ideas in my favorite way. And we discarded a few too. Long before Cityringen, in 1994, we developed large-scale physical models to evaluate natural light and miniature versions of architectural light fittings. We went all the way to the Science Museum in London, modelling parts of the building at a scale of 1:5, including scrims, dimmable lights, colour gels and everything else. We had so much fun, and that has never changed. Later, in our work with Zaha Hadid Architects, projects were getting so large that we had to resort to scales such as 1:250 for our wooden models of bridges and large office complexes. Then when working on the Apple Stores, we returned to full scale mockups and developed the famous seamless, continuous ceiling illumination. All those projects are examples of pushing the boundaries of what light can do: the way it plays with materials, how it changes perception, how it drives the experience and how it is good for the project in new and unexpected ways, and how clients take bolder decisions than they would have taken without the designers. The large-scale models of Cityringen were stunning, and they illustrated very effectively the things that are otherwise just so hard

to explain: the rendering of the textures of walls; the liveliness of the colours of tiles; the pattern of shadows on concourses; the perceived changes of sunlight outside when you're 30-meters deep under the surface, waiting for your train; the light in its magnificent wholeness. The models showed that wholeness. They convince without words, without calculations, but with so much persuasion. The models were big enough to include light, yet small so you could walk around them. They were rough enough so that we did not lose ourselves in details, yet fine enough to tell what had to be told. They were inspiring, and they generated many new and better ideas. And they were affordable. So, I say: what else do you want? And the interesting thing is, once such models are there, engineers, architects, lighting designers, acousticians, wayfinding experts, industrial designers, investors, owners and even train drivers all start using them in their very own way. Models provide a simplification of a complex problem, and that is not a bad starting point to find an elegant solution. Moreover, my teacher at the Academy of Arts, Peter de Kimpe, was right when he said: "If you can make it out of cardboard, you can make it for real." He did not only mean that models are a great way to validate design, I think that he also meant that imagination is the designer's most important instrument when creating the man-made world that surrounds us. The lighting plan for Cityringen is simple and clear - the light is "easy to experience". With that, I mean that you don't need to be an expert on architecture to appreciate its quality. There is a simplicity

kreon graphic play of light



kreon kagi*

Everyone has their own patterns. They can be seen as movements that connect the parts of a composition. But what happens if you break the patterns?

In search of the forms that comfort us, we find a way to break our pattern.

Welcome to the #worldofkreon

Light+Building 2020
Hall 3.0 | booth B61







1



2



3

to it, and that is what I love: the patterns are intuitive, and the lights seems to be placed just how everyone else would place them – I like that so much. It's the natural logic of a great design. At Cityringen, the light is just how it is meant to be. In the Cityringen stations, there are light lines, where we suggest to guide you – just follow them and you'll find the train. There are splashes of light where surfaces are interesting – just look at them and you'll discover. There are highlights – just see them and you'll step safely (at an escalator landing, for instance). And in some stations, there is the generous, ample daylight from skylights and mirrors, or does it come from heaven? Either way, we have directed it as deep as we could. The project opened towards the end of last year, but we began its design back in 2007. There was LED, for sure, but it was not always viable, in particular not wherever colour rendition was really important. The choice of LED fittings was limited. Most lighting people were still using metal halide when it had to be bright, and tungsten for everything else. So, it is no wonder that many asked me how the Cityringen team anticipated the expected changes and the full digitisation of lighting. Well, there wasn't any rocket science: instead of specifying lighting technologies, we detailed

lighting principles. We described the effects and how the public will experience the light. Sure, at some point we had to make an estimate of power consumptions, and describe physical dimensions. But even then, what prevailed was what we wanted it to look like and to feel like, not what happens behind the walls and ceilings. Later in the project, the priorities shifted of course, and the technical design became crucial to delivering a well-executed project. And now, having visited the final result just after the opening, I can say that the project has worked out wonderfully, just like any other project that uses digital light not just for energy savings, but also for focus and direction, as well as for glare control, colour rendition, beam shaping and controllability. The lighting team and the designers and engineers have done a fabulous job. The seventeen stations of the Cityringen demonstrate that "form follows emotion" and together they are a tremendous project. And while their lighting may look easy and intuitive when you travel underneath Copenhagen, it was born out of a desire to delight travellers and give them a rewarding and memorable experience. And that is exactly what design is supposed to do.

www.rogervanderheide.com

Previous Spread With great attention, not only to materials but also to geometry, the design team made natural light an experience for the traveller. Physical models enabled the team to evaluate the sun path throughout the year.

1. The Gammel Strand station has no natural light, as it is located underwater. The design team decided to detail the "origami ceilings" nonetheless to mimic sunlight with LED fittings.

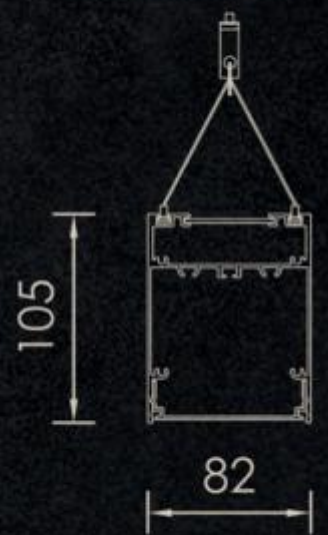
2. The wayfinding and signs of the Cityringen are a continuation of the design for Copenhagen's other two metro lines by Kontrapunkt of Denmark. The agency also designed the new network map of the metro system.

3. To identify transfer stations, the design team applied bold red cladding that creates "internal façades", and makes finding your way easy, as seen here at København Hovedbanegård station.

■ LIGHTING SPECIFIED

Designplan custom fixtures
Fagerhult custom fixtures

NOTUS 14
LINEAR LED STONE



NOTUS 16
LINEAR LED STONE



NOTUS STONE TEXTURES





■ PROJECT DETAILS

Arlanda VIP Services, Stockholm, Sweden

Client: Swedavia Airports

Lighting Design: Tengbom Studio Ljus, Sweden

Architect: Tengbom, Sweden

Electrical Consultant: Ramboll, Sweden

Photography: Felix Gerlach



VIP Treatment

As part of the ongoing expansion of Stockholm's Arlanda International Airport, Tengbom has designed the Arlanda VIP Services – a slice of Scandinavian luxury for high-profile travellers.

Nestled away from the hustle and bustle of the main airport terminals, Arlanda VIP Services, at Stockholm's Arlanda airport, provides a luxurious retreat for travelling royalty, dignitaries, world leaders and celebrities.

Designed by Tengbom Architects, the private terminal captures the essence of 'Nordic Luxury', with the delicate blend of concrete, wood and stone creating a simple yet sleek environment that the architects hoped would create a "visual experience that will linger long after its occupants depart".

From the outside, the building is as discreet as it is functional – an anonymous concrete shell that blends into its surroundings, avoiding any undue attention for the VIPs passing through. However, on entering the terminal, the hard outer shell gives way to a warm, welcoming spot of luxury, showcasing an architectural concept that builds on the contrasting relationship between hard and soft, cold and warm, with the Swedish landscape and culture serving as a key source of inspiration.

Inside, wood materials dominate the interior via simple wooden façades and panelling, while leather-bound stair rails, neutral colour schemes and a functional yet expressive curation of exclusive Scandinavian furniture add to the local feel that Tengbom sought. Mark Humphreys, Practice Director and Partner at Tengbom, explained further: "The materials are quite simple – a cross between stone, wood and cement. We thought this was a more toned down Swedish luxury."

Originally intended to be an extension of Terminal 5, Arlanda VIP Services is a completely separate, free-standing space within the airport – one of very few of its kind around the world. On entering, travellers go through their own security control and check-in before



“As both lighting designers and architects, our desire was to integrate lighting within the architecture and interior design.”

Chiara Carucci, Lighting Designer, Tengbom Studio Ljus

Previous Page From the outside, Arlanda VIP Services appears as an anonymous concrete shell, with iGuzzini's inground Linea Luce Mini chosen to bring out the warmth of the wood in the entryway.

This Page Track lighting from Reggiani complements the vast skylights in each of the private rooms, adding to the “Scandinavian Luxury” aesthetic that Tengbom sought.

being directed to their private suite. Here, they can relax, unwind and prepare for their flight, while staff are on hand to cater to their every need, before a car takes them directly to their flight.

Despite its high-end, luxurious finish, the project had a very fast turnaround from concept to completion, as Humphreys explained.

“The story behind Arlanda VIP was that it was meant to be a really quick project – it had a really short timeframe, but it’s also got the highest security class, so it was a challenge. The pressure on us was enormous to deliver a conceptual building, but we thought ‘this building is a really big thing for Sweden, shouldn’t we try to make it a sort of ‘brand’ building for the country?’”

Complementing the architectural concept, Tengbom Studio Ljus developed the lighting concept for the VIP terminal. This was built on lighting principles intended to enhance the architectural design, improve safety and security, ensure code compliance and improve wayfinding.

Chiara Carucci, Lighting Designer at Tengbom Studio Ljus, explained the initial concept for the lighting: “The role of the lighting is to create a well-cared for environment, with the distinctive Nordic Light as a reference.

“With light, we highlight the spatial identities throughout the day and year, while reinforcing volumes and the choice of materials. By designing through contrasts made of light and shadows, and cold daylight and warmth, we created a dynamic place.

“As both lighting designers and architects, our desire was to integrate lighting within the architecture and interior design, and to be more sustainable, both economically and environmentally.”



Up to 45 x 4 ft
luminaires per circuit

Up to 150 m

Full speed DMX 512
and RDM

With Linealux,
the Possibilities Are Endless

Linealux™ L3 Family

When you choose Linealux L3 architectural luminaires, you get more than top-quality materials and timeless design — you get precision-engineered solutions that transform buildings, bridges, and monuments into dazzling displays of performance art. Select from five high-output options or customize for seamless integration into any lighting design.



1. Each room within the VIP terminal becomes akin to a wood cabin, providing the ideal retreat for its high-profile visitors as they wait to board their flights.
2. The use of skylights, preferred over outward facing windows on the façade, fill the interior of the terminal with natural light, while the textured concrete walls catch the light beautifully.
3. The architectural concept was built on the contrast between hard and soft, cold and warm - exemplified through the sleek blend of wood and concrete.

After developing the initial lighting concept, Tengbom worked with electrical consultants Ramboll on the design development and specifications, utilising fixtures from iGuzzini and Reggiani to create a minimalistic lighting scheme that blends into the architectural frame of the building.

“Working with the architects, we designed a special mounting solution for the lighting fixtures integrated within the wooden ribs on the ceiling, as well as several other details, such as very small scale, specially-designed mirrors with 3cm radiused corners in the bathrooms,” Carucci added.

In each of the private rooms, decorative lighting adds to the “Scandinavian Luxury” feel, while customised control systems offer a range of lighting scenarios, such as “Welcome”, “Movie”, “Dinner” and “Lounge”.

While from the outside the VIP terminal appears to be a windowless, concrete bunker, Tengbom was able to utilise natural light to fantastic effect through the use of upward facing windows and skylights – partly due to safety regulations, but also because of the users’ need for discretion and privacy.

“The natural light coming in through the skylights is to create the feeling that you’ve got a little cabin sitting in a concrete box,” Humphreys

continued. “So you’re aware of the protective shell, but you can still see the daylight. And the way that the concrete has been rendered, it catches the light beautifully as it comes in, so you’re aware of the outside.

“If you had done a normal building, you’d put all the rooms on the outside, but there’s not a lot to look at outside,” he continued. “If we did that here, we’d have to have bullet-proof glass, which is very expensive, and then curtains drawn, because you don’t want anyone looking in at the guests. So it would have been counterproductive. “Instead, we decided to make a building with no windows, and just use skylights. The result is an environment that emanates stillness and relaxation from its very core. For us, this is Scandinavian Luxury.”

Indeed the spatial qualities of the terminal evoke a sense of sanctuary, where guests can shake off the stresses of travel, escape everyday life for a while and prepare for their onward journey.

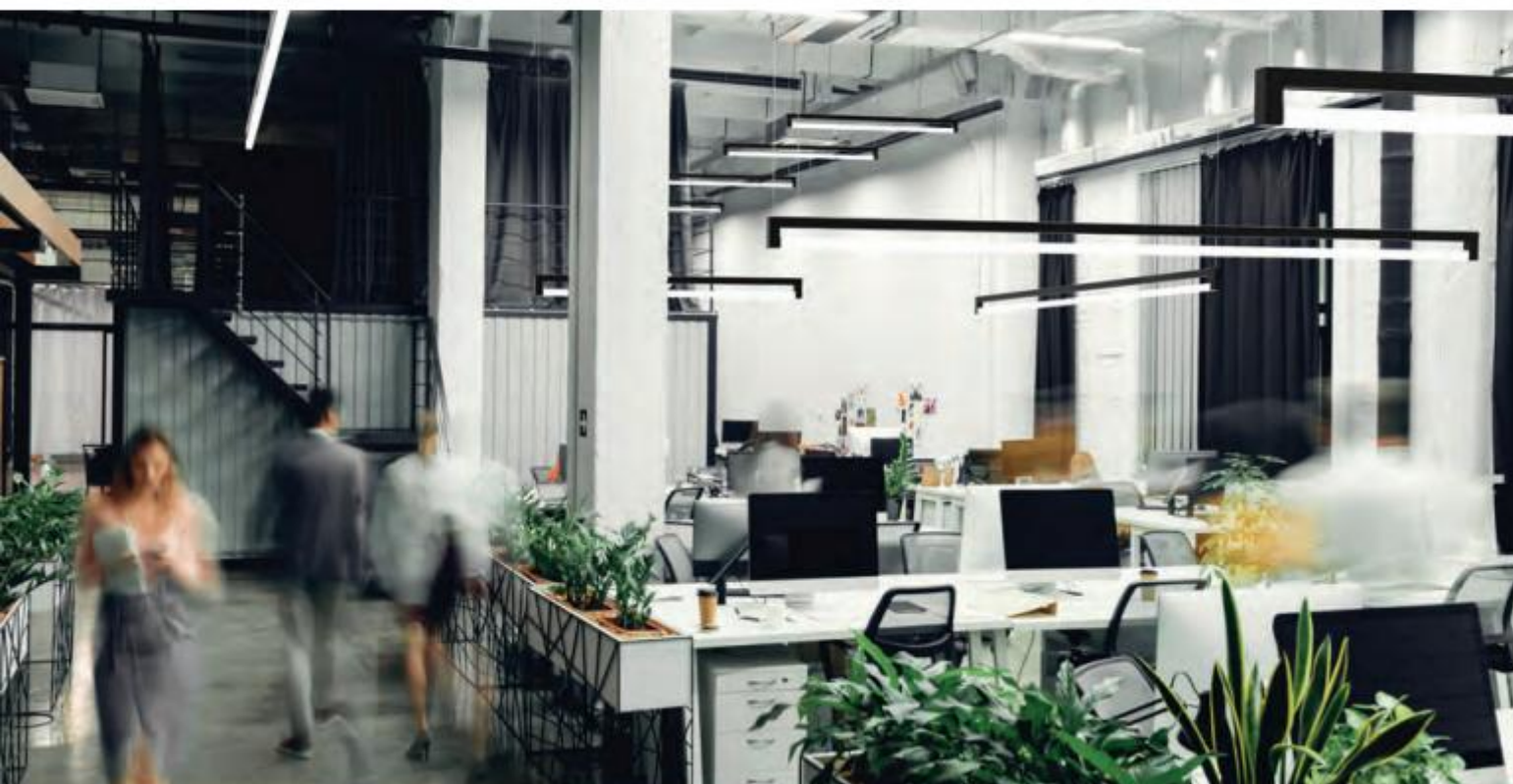
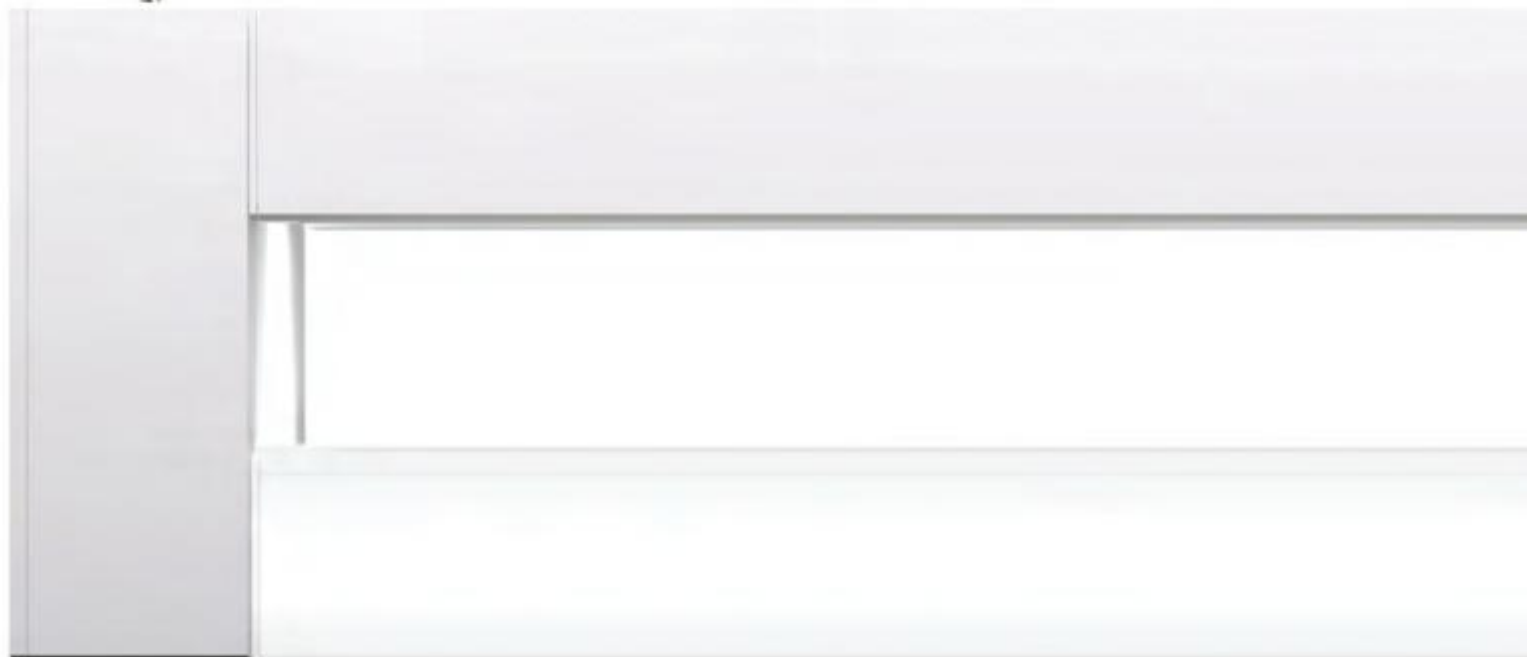
“Scandinavian Luxury is going into the forest and being alone, or going into a cabin and cutting off from the world. And at Arlanda VIP, this unexpected experience in the modern world, when all these people are under all this stress, must be luxury.” ■

www.tengbom.se

■ LIGHTING SPECIFIED

iGuzzini Laser Blade InOut
iGuzzini Laser Blade XS
iGuzzini Linealuce Mini Recessed
iGuzzini Platea Pro
iGuzzini Underscore InOut
Reggiani Yori Evo Ghosttrack

UP TO 106 LM/W
RGBW AND/OR WHITE LIGHT
2-8 FT. FIXTURES
CORNERS AND SHAPES
FIXTURE/SYSTEM/NODE CONTROL
NO POWER CABLE



Space is the re-imagination of a traditional linear pendant, balancing opaque, illuminated, and open air elements to create an innovative lighting tool. Combining decorative with performance elements, the ambient down light is supplemented with a high-performance indirect light source. Available in a range of white or RGBW outputs, the fixture can be controlled as a complete unit, or in independent 4-inch sections. An elegant yet powerful building block, Space can be installed as a single fixture, in continuous runs, or in custom shapes to fit any environment.

insightlighting.com/space

insight lighting

SPACE



PROJECT DETAILS

Dawn, Jeddah, Saudi Arabia

Client: **Areen Design**, KAIA International Airport

Lighting Design: **M+R**, UK

Lighting Engineer: **Control Lighting**, UK

Photography: **M+R**



Head in the Clouds

Light-art sculptures by M+R greet passengers coming through the departures hall at the new KAIA International Airport in Jeddah, Saudi Arabia.

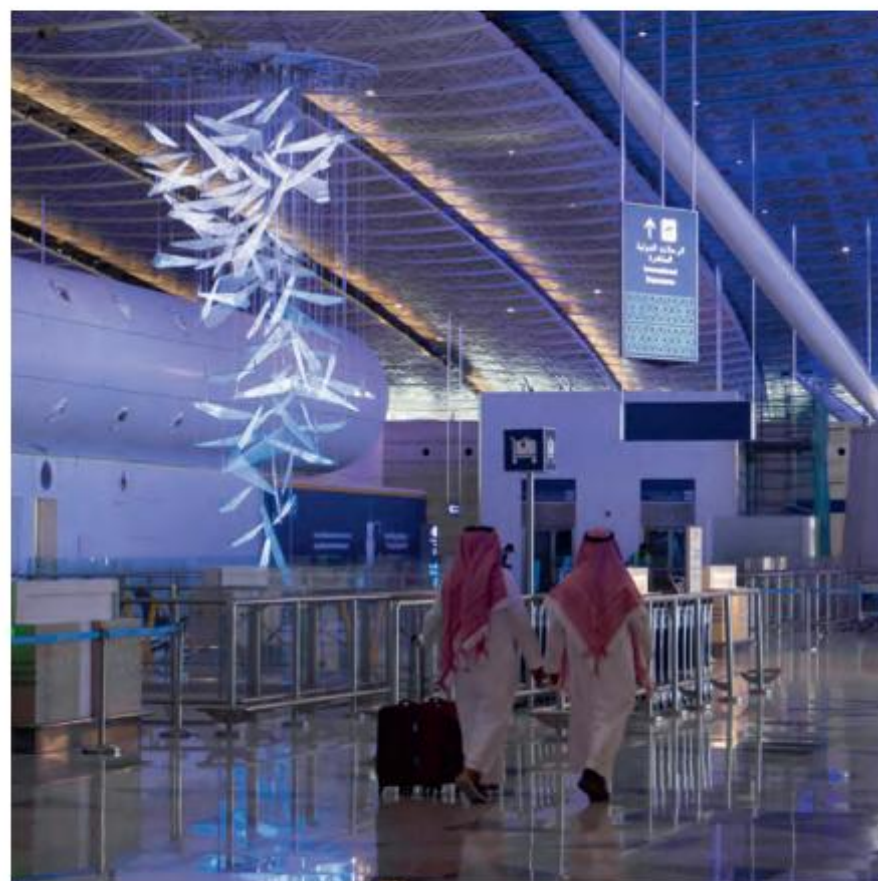
Neil Musson and Jono Retallick of M+R have recently unveiled their latest artwork *Dawn* inside the new KAIA International Airport in Jeddah, Saudi Arabia. The artwork was commissioned by Areen Design, who managed the interior design for the vast space in which the sculpture is located.

“The illuminated sculpture forms a centrepiece consisting of four enormous sculptures that spiral upwards like currents of air into the curved rooves of the main hall,” explained Retallick.

The sculptures are comprised of colour-changing wing-shaped translucent acrylic blades that reflect light. Individually programmed LED light strips, located on the inside of each blade, illuminate the outer surfaces with a palette of sky-blues, soft greys and subtle whites. The programmed light sequence mimics the movement of clouds drifting across the sky; as the light drifts across each sculpture towards an adjacent sculpture located further down the departure hall. Musson elaborated: “We started with the shapes and forms being used in the architectural scheme and expanded these with the concept of birds in flight. The form captures the moment that a flock of birds suddenly takes off as one dynamic shape. We started with chalk sketches and are pleased to see that the energy of those sketches remains in the final sculptures.”

Each individual light-art piece is comprised of 80 custom-made blades supported by 160 weight-bearing wires of differing lengths. “The extraordinary engineering, made possible by Colin Musson, used complex computer modelling to ensure that no blades or wires touched each other or changed the delicate overall shape of the cluster of wings.

“Each wire carries data to the blades and is also carefully considered as part of the sculptural form. The cables were chosen for their



Specially designed acrylic blades are clustered together to form the light-art sculpture by M+R. The pieces were inspired by a flock of birds taking off, and are illuminated with a pre-programmed LED light sequence that mimics the movement of clouds across the sky, creating a calming effect for passing passengers.

“The form captures the moment that a flock of birds suddenly takes off as one dynamic shape.”

Neil Musson, Director, M+R

■ LIGHTING SPECIFIED

Applelec LED light sheet

translucent and reflective qualities with the result that they glisten as light shines through them rather like a fine rain,” explained Retallick.

M+R’s sculptural light effect brings a sense of calm into the centre of a busy airport, and “uses metaphors of light reflecting and refracting within the structure to suggest the way in which peoples’ lives cross over and influence each other in this busy space,” he added.

The team developed the pieces through close collaboration with Applelec, to design the blades using its LED light sheet, and Control Lighting to develop the programming. Ray Dolby of Control Lighting commented: “This is one of the most exciting and interesting projects that we have been part of for many years. Whilst we have worked extensively on both artwork and commercial lighting control projects, Neil and Jono’s knowledge of exactly what they wanted and their amazing attention to detail was remarkable. They involved us closely at all stages, so we really bought into their vision.”

M+R’s portfolio of work particularly focuses on the sensitive integration of art into architecture, with the aim of enhancing social interaction.

“We enjoy collaboration and consider the client, the engineers and the public a vital part of our creative team. We look forward to the next challenge and aim to make something else that is equally high quality, beautiful and original.” ■

www.mussonretallick.com

Smart Lighting Without Compromise!



Light Sources | Drivers | Controls | Software & Services

Best-of-Breed Solutions You Can Afford!

Best Quality. Highest Performance.
Most Reliable. End To End Solutions.



Xicato is the Smart Choice.

Retro Glam

One Lux Studio transforms the iconic TWA Flight Centre into a glamorous hotel lobby with updated fixtures from Spectrum Lighting.



PROJECT DETAILS

TWA Hotel, New York, USA

Client: TWA, John F. Kennedy Airport

Lighting Design: One Lux Studio, USA

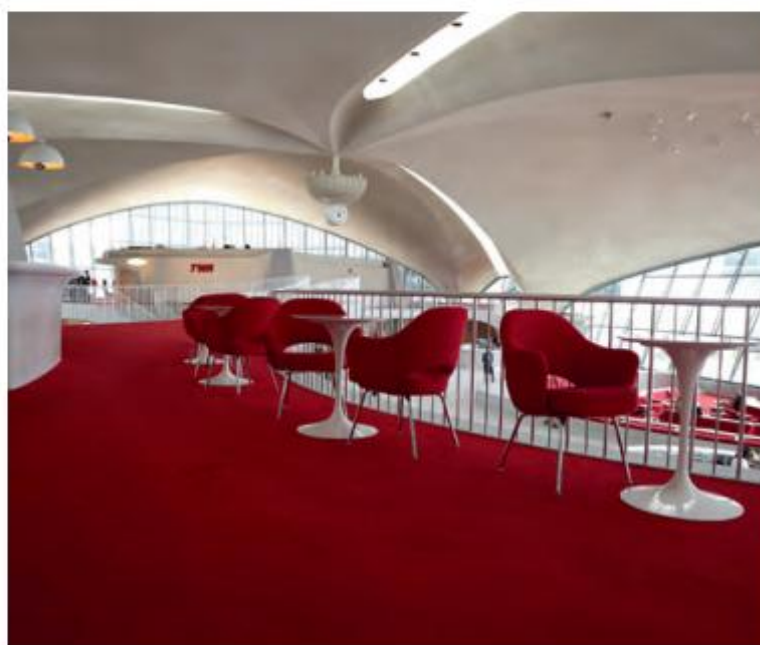
Photography: Spectrum Lighting, USA





One Lux Studio and Spectrum Lighting recently collaborated to bring the 1960s TWA Flight Centre into the 21st century as a new, retro-inspired, hotel lobby at John F. Kennedy Airport, New York. The former airport lounge was designed by mid-century architectural icon Eero Saarinen in 1958, and was used as an iconic backdrop in multiple Hollywood films, most notably in the cinematic *Catch me if You Can*. The original lighting design was completed by Stanley McCandless, who is widely considered as the “father of theatrical lighting design and inventor of 3-point lighting”. The flight centre closed its doors in 2001 after Trans World Airlines went bankrupt, and it wasn’t

until early 2017 that One Lux was brought on board to help complete its renovation into a hotel lobby. Jack Bailey, Partner at One Lux Studio explained the studio’s initial involvement with the project: “We started work in the Spring of 2017 and the interior lighting was completed in the fall of 2019, with the exterior floodlighting still in progress. The design brief was to use lighting to transform an early 60s airport terminal into a hotel lobby without altering its authentic appearance. With a faithful architectural restoration, lighting presented the greatest opportunity to transform the character of the space after dark. “A hotel lobby has a much different character than an airport terminal – it requires warm, dim lighting, contrasts and highlights. These attributes



The new TWA Hotel lobby at John F. Kennedy Airport in New York has transformed from a 1960s airport lounge into a retro glam hotel lobby with the help of One Lux Studio and Spectrum Lighting, who replaced the original light fixtures like-for-like, but with improved LED technology for better efficiency and longevity. Spectrum Lighting created brand new cylinder, eyeball and spotlight fixtures using original photographs to ensure the authentic styles were accurately replicated with the updated performance.

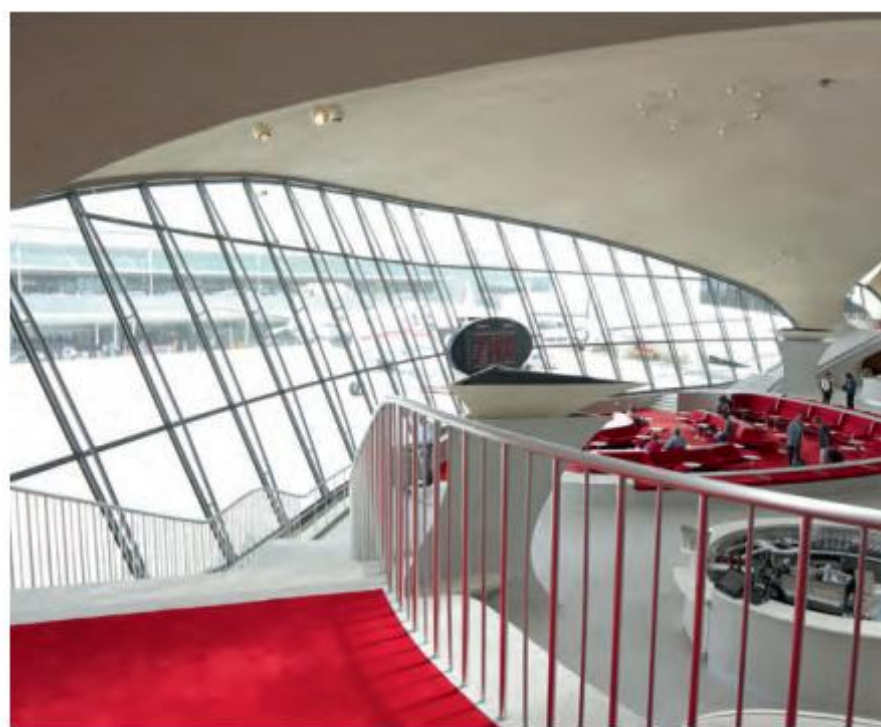
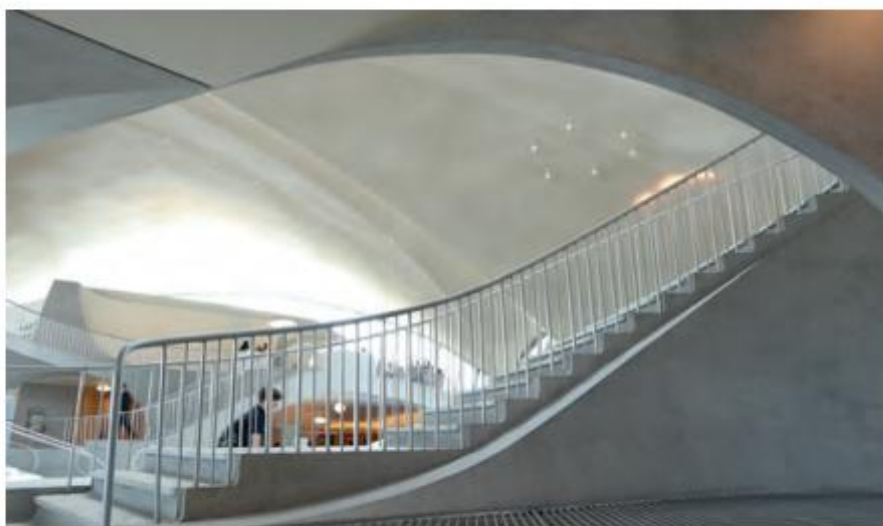
are not ordinarily found in airport terminals.” The team at One Lux worked closely with Spectrum Lighting to complete the new lighting scheme for the lobby that replaced the original fixtures from the 1960s with like-for-like modern updates. “All of the visible functions are custom-manufactured to match the appearance (though not always the function) of the originally installed lighting,” explained Bailey. “Spectrum produced three different custom fixtures. One of these was replicated from existing fixtures, one was a reproduction based on original photos, and the third was a new design to mount at existing locations. In all three cases, the performance of the light was determined based on the present needs of the space, rather than the

original lighting characteristics.” The eyeball, cylinder and spotlight fixtures blend modern LED components and high-tech controls with original mid-century lighting designs. Due to the ceiling being the underside of the concrete roof, it was impossible to introduce new lighting positions, so the fixtures had to be replaced in the exact same locations. “The irony of being a 21st century lighting designer for a futuristic building from the middle of the 20th century is clear to me,” explained Bailey. “We can do things they wouldn’t have been able to imagine, and yet at times it seems like they did. Lighting positions are just where we need them and drive us towards the inevitable solutions that Saarinen had determined for us 60 years ago.



“The building is exceptional in every way. It is a masterwork by one of the greatest architects of the 20th century.”

Jack Bailey, One Lux Studio



“The urn is just the right height to avoid shadowing on the roof shell at the porte cochere and the surface globe lights are at just the right position to avoid shadow from the ‘brow’ onto the sign at the information desk.”

Spectrum Lighting installed four rows of custom deep recessed cylinder fixtures that line the skylight over the lobby, and clusters of louvered eyeball fixtures light the seating areas throughout the space. The fixtures can all be controlled via Bluetooth, connected to an ETC dimming system. “There were practical constraints associated with working in a landmarked interior, and especially in this project, where the ability to add lighting at new positions is almost non-existent. In some cases, we were required to not just re-use existing positions, but also to re-use existing 60-year old wiring,” added Bailey.

The teams successfully completed their brief of modernising the original TWA terminal into an atmospheric, relaxing and glamorous hotel lobby

that evokes an authentic period of recreation and 1960s glamour.

“You are transported to that place and time as you walk through the doors after dark. It is the lighting that gives the building a warmth in the evening,” he reflected.

“The building is exceptional in almost every way. It is a masterwork by one of the greatest architects of the 20th century. Everything about it, including the lighting, was custom-designed in pursuit of Saarinen’s vision. Given the extensive modifications to the lighting that have occurred over the years, one of the greatest challenges was understanding the architect’s original vision, and how it could be re-interpreted for the new hotel.” ■

www.oneluxstudio.com

www.speclight.com

■ LIGHTING SPECIFIED

Spectrum Lighting 5-inch PAR20 Cylinder

Spectrum Lighting 10-inch Cylinder

Spectrum Lighting Eyeball

Spectrum Lighting TE04 w/ Snoot

Dawn

Client: Areen Design, KAIA International Airport
Location: Jeddah, Saudi Arabia
Lighting Design: mussonretallick, UK
Lighting Suppliers: Applelec LED Light Sheet

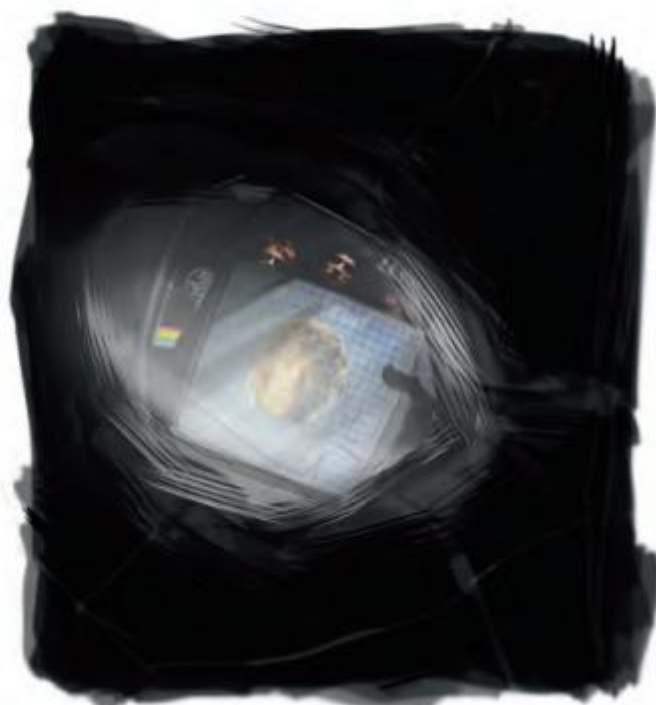
applelecTM

Our expertise deliver your vision

www.ledlightsheet.co.uk
ledlightsheet@applelec.co.uk
+44 (0)1274 774 477

Prometheus





Dark Source Stories
created by Kerem Asfuroglu
[instagram.com/darksourced](https://www.instagram.com/darksourced)

dark source



archiproducts®

ALL THE LIGHT YOU NEED.

Find and shop over **600 lighting brands**
and **3,000 more**, from furniture to decor.



© Credits Flos | The running magnet



SOURCE.

Leaf through the greatest catalog for Architecture and Design: **+ 3,600 brands and 220,000 products**, from lighting to furniture, outdoor, kitchen, bathroom, finishes and decor.



DESIGN.

Streamline your workflow with our **professional tools** and download thousands of **BIM and 3D models** to be used directly in your project.



SHOP.

We are the official reseller of the finest brands worldwide. Our customer care provides assistance before and after sales. **We ship worldwide.**



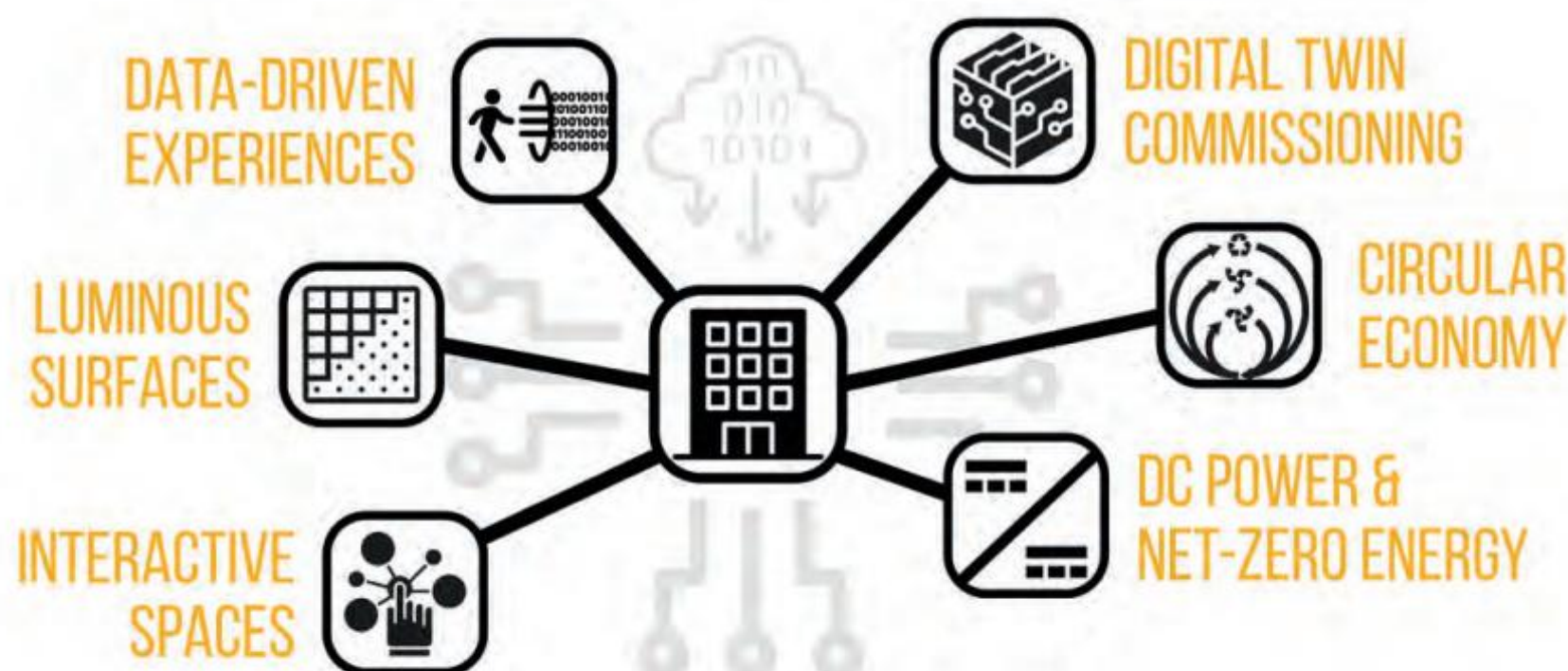
Are you a designer?
Join our
Ambassador program.



Are you a manufacturer?
Find out how to boost
your business.

Welcome to the Luminous '20s

Brad Koerner, lighting expert and founder of Koerner Design, predicts six disruptive trends in architectural lighting for the next decade.



he last decade saw incredible transformation in architectural lighting. With the turn of a new decade, the industry finds itself once again facing a disruptive wave of innovation, yet this time building upon mature LED and digital communication technologies. Let's look at how six disruptive trends will change how we conceive architectural lighting:

#1: Luminous Surfaces

Embedded lighting and digital signage become fundamental elements of contemporary buildings

LED technology now allows us to integrate lighting directly into a wall or ceiling surface, with little energy consumption, heat, or maintenance. This fusion of light and material, of embedding lighting elements directly into architectural surfaces, opens fresh new approaches to creating eye-catching spatial experiences.

Play of Briliants

Architects and interior designers have long tried to break free from the constraints of traditional objectified light fixtures, to use light as a form of fundamental building material to add visual richness to architectural surfaces. Fusing the best properties of luminosity, optical effects, material richness and graphic design, embedded lighting opens tremendous creative opportunities. Luminous surfaces will change the way people perceive, occupy and enjoy architectural spaces, particularly in hospitality, retail, and public applications.

Embedded Lighting Systems

Custom integration of embedded lighting has been difficult to specify and costly to install on construction projects, limiting broader adoption. While designers explore the creative possibilities of embedded patterns and surfaces of light, manufacturers need to develop flexible and customised product systems that accommodate

an enormous range of creative styles, along with digital technologies to speed up the design, visualisation and fabrication processes.

Animation

Digital controls add the element of time and animation to architectural surfaces. People are mesmerised by the beauty of light in motion; we are hard-wired in our brains to seek visual stimulation to refresh ourselves. As architecture becomes fully digitally controllable, with every point of light addressable as a type of pixel, custom tailored dynamic animations ranging from the subtle flicker of a candle to sparkling effects to vivid ripples of movement will become common.

Digital Signage

Beyond using luminous surfaces for general illumination, digital signage systems will be included in architectural spaces with tighter integration of design concept.

Digital signage is already becoming pervasive in architectural environments with widespread adoption in out-of-home marketing, wayfinding, menu systems, and retail branding. The steadily dropping cost of digital screens and cloud-based content distribution makes digital signage highly appealing to brands and organisations looking to quickly inject more "digital" into their physical locations. Across the next decade, design professionals need to become savvy on integrating both luminous surfaces and digital signage into comprehensive environmental experiences. Compositions can be created using digital lighting/pixels/screens of various proportions, scales and resolution with mixed visual acuity. Designers will develop sophisticated strategies to break the scale and proportions commonly associated with 'screens' and to layer luminous surfaces to create rich spatial and visually healthy experiences.

Content is King

Architectural designers must become motion graphic artists. No longer can architectural lighting be considered 'the magnificent play of volumes brought together in light', since the volumes themselves



now emit light. When every point of light in a building is effectively a digital pixel, designers need to create continuous fluid visual experiences. The concept of editing timelines at different scales becomes a critical skill, ranging from short term personal experiences, to daily cyclic patterns, to seasonal cyclic patterns.

Healthy Interior Lighting

Whatever you call it – circadian lighting, human-centric lighting, melanopic response – the implementation of ‘healthy’ interior lighting will be largely implemented through luminous surfaces. Why? Because the old fixture paradigms from the 1960s are ill equipped to provide not only the scientific quantities of the right light at the right time, but they are woefully unable to create great psychological experiences for inhabitants spending long hours in enclosed spaces. The layering of luminosity, at far greater contrast levels than designers are accustomed to interior environments, plus the inclusion of highly dynamic scene changes tailored for maximum biological and psychological response, will be critical concepts that architects, interior designers and lighting designers will need to embrace and explore throughout all the other aspects of their designs.

Impact on Design

The inclusion of luminous surfaces begs for a comprehensive design vision to create a unified experience for the occupants of a space. This will drive architects, interior and lighting designers to embrace a raft of new digital tools, such as using live-rendered photo-realistic game engines, VR experiences, video editing and motion graphics throughout their design development process. Designers will need to visualise, simulate and craft not only simple luminous surfaces, but dynamic surfaces that interconnect the digital world with the occupants of the space.

#2: Data-Driven Experiences

Architecture will become a portal to the virtual world.

We are entering a future where architectural design and its associated technology systems are more than ever focused on experience management as the primary end goal of many projects. Architectural technology systems, such as digital lighting, digital signage, and IoT-based communication systems are driving a digital transformation of physical space. Outdated preset scene control systems must transform into comprehensive experience management systems. What we presently call lighting controls will be subsumed into two primary styles of technical solutions: Media-Driven Branded Experiences; and

Data-Driven Environmental Optimisation. Such a transformation will have profound influences on how bricks and mortar spaces are conceived and designed.

Media-Driven Branded Experiences

The intention of many built environments (e.g. retail, hospitality, corporate lobbies) is first and foremost to create a branded experience. And it is impossible in our modern age to conceive of branded experiences without a strong digital presence in content and interactivity. Architectural spaces are becoming portals to the virtual world. The technical challenge in these spaces is to control a range of digital media – pixels of various sorts, from 4K screens to projection mapping to simple digitally-controlled light sources. While traditional architectural lighting controls are wholly unsuited for distributing, playing and managing modern digital media, the digital signage world has filled the gap with cloud-connected, low-cost systems expressly for distributing and playing media files on a range of equipment.

Data-Driven Environmental Optimisation

For environments that are not primarily branded experiences (e.g. commercial offices, institutional facilities, industrial sites, etc.), environmental optimisation based on live data becomes imperative. Stagnant, pre-configured scenes are simply not precise enough to satisfy modern demands for climate control, energy efficiency, and creating functionally efficient spaces for the occupants. Networks of IoT-connected sensors generating massive live-data streams, plus numerous other live data streams such as weather, operational conditions, stock market fluctuations, social media engagement, and so on, can provide live input to our environments. We need systems that take these live data streams and logically translate them across a range of environmental parameters. Such translation must be smooth, continuous, and employ learning loops (such as A.I.) to ensure that as a building ages, the live systems remain optimised.

Impact on Design

Spaces need to be conceived from the very initial sketches as live, responsive environments, not lumps of steel, concrete and glass bathed in stagnant light. Architects and interior designers need to understand the powerful potential of these new systems for branded experience control or optimised environmental control and start conceiving new programmatic goals that fully exploit their potential.

And once data-driven lighting becomes the norm, designers will look more closely at the personal scale of interactions within a space.

#3: Interactive Spaces

The right light, at the right time, at the right place

The concept of interactive lighting – where dynamic lighting or A/V gear responds to a user's touch, proximity or other activity – has held the promise of creating highly personal and dynamic architectural experiences for several decades, but adoption has been mostly limited to singular art installations.

Why Implement Interactive Lighting?

To date, interactive lighting has been so limited as to be of limited usefulness. Sensing blind occupancy offers little potential for tuning interiors, while the 'me and my shadow' approach of more sophisticated vision systems offers users no meaning or usefulness. What modalities of interaction will actually enrich an architectural space? There are at least three possibilities:



These three interactions can then be mapped across applications, such as hospitality, retail, office, healthcare, education, public spaces, etc. Within each application, multiple physical interactions can be explored to deliver the three primary modalities, including:



Impact on Design

Designers must move beyond document-based design and specification workflows. Architectural designers will increasingly adopt the tools, techniques and language of UX design professionals. Storyboarding must be routinely included to sketch out key dynamic scenarios in spaces. Designers will innovate their own tools, such as using low-cost computing ecosystems like Arduino and Raspberry Pi to create mockups and live models of interactive spaces.

As design progresses, live-rendered, fully functional virtual models integrated into BIM workflows will be required to visualise, simulate and develop the functionality of the final space programming.

#4: Digital Twin Commissioning

Live simulations in BIM will reduce onsite commissioning costs

Digital technologies in the built environment drive very real end customer value. Yet unknown risk factors, exotic consultants and expensive systems integrators push budgets sky-high for these systems. And for sure, construction sites are the most expensive place imaginable to attempt complex digital R&D projects. So how do we overcome this mess?

Project teams must focus on using cloud-based simulation and commissioning tools to remove a large factor of the costs associated with commissioning traditional lighting or media systems.

Architectural design and workflows already use highly detailed BIM models that live in the cloud. Lighting systems are now

fundamentally connected to the cloud. It is obvious that at some point, virtual project models will directly control digital lighting and signage systems.

Digital Twin Simulation

To achieve cloud-based commissioning, designers, construction teams and manufacturers must fully embrace a BIM-based design process. Lighting companies must develop sophisticated BIM plug-ins that allow specifiers to set up proper virtual models of the total lighting system (fixtures + controls + functionality), eliminating the need to translate the design intent of the lighting control system via traditional paper documentation and field commissioning.

Digital Twin Commissioning

If your digital twin/BIM model lives in the cloud and your whole lighting system is cloud-connected, simply connect the lighting system to the cloud and voilà – the virtual model can instantly control the real lighting hardware. The final programming will be transferred via the BIM/cloud model directly to the hardware on-site, reducing on-site commissioning and if done correctly, ensuring the designer's vision is not broken during construction setup.

Impact on Design

Implicit in this future is the fact that commissioning largely transfers from systems integrators to design consultants. Overall, the process is more efficient, but this still represents a large transfer of project budgets from the construction site to the design team. Designers need to properly understand this new revenue opportunity and find ways to convince clients of the value.

Furthermore, the completeness and accuracy of digital-twin model becomes a valuable asset in itself that can be utilised for novel future revenue streams, such as concepts embodied in the circular economy movement.

#5: Circular Economy

New value streams will be realised by cleaning up our act

The circular economy is a movement to stop the industrialised world's lethal habit of take-make-waste and instead to create profitable flows of products, parts, and materials in endless loops. To achieve this vision, it takes coordinated effort to rethink product design, business models, and market processes. So how will the lighting industry embrace such a future?

The Return of Common Sense

Here's an essential but difficult question to challenge any lighting manufacturer: If in ten years you received your products back to your loading docks, would they be considered financial assets or liabilities?

The current, environmentally destructive trend in the lighting industry for producing disposable fixtures simply cannot be sustained. Customers cannot bear the long-term maintenance headaches of such short-term, wretched product management, nor can the environment. Common sense product design and industry-wide hardware standards programmes like the Zhaga Consortium remain critical to enabling the repair and reuse of durable fixtures long into the future. And guess what? Repairing and maintaining commercial devices is also known as a revenue stream. Something that penny-wise and pound-foolish lighting product managers might want to consider.

Smart Maintenance Programs

IP-connected lighting systems greatly expand the range of data available. Networked controls and lighting fixtures can broadcast their component serial numbers, feature sets, on-board sensors, run time counters, and even real-time photometric light measurement. Talk about big data: A lighting manufacturer can now remotely check in on their systems anytime, anywhere.

For example, a manufacturer might automatically see that a fixture is over temp and losing light output in one of their customer's facilities, and they will automatically query the exact set of parts

that need to be replaced. Such data drastically reduces the cost of lighting maintenance. A service agent will show up with the right parts and immediately take care of the problem – potentially before an end user even recognises that there is a problem. The commodity PC industry has done this for decades. The lighting industry has the opportunity to offer much higher levels of customer service at lower costs than ever before... but who in the industry captures this value?

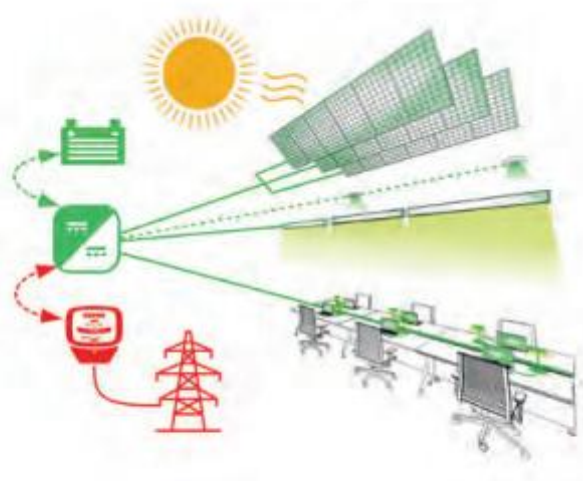
Bio-Friendly Materials

Ultra-high efficacy LEDs, with their low power and negligible thermal demands, open up opportunities for the radical redesign of traditional fixture paradigms and material selections. There are many lighting applications where basic LED technology outlives the application life, with countless perfectly-good LED lighting fixtures doomed to be scrapped before their actual end-of-life. So why do lighting specifiers continue to choose aerospace-grade materials for basic architectural lighting? Why can't the bulk of light fixtures simply compost into dirt at end of life?

We will see a growing trend for lighting systems that use innovative bio-based materials to dramatically reduce the embodied energy, reduce toxicity and reduce both production and EOL disassembly costs to create fixtures that tread lightly on our natural resources.

Impact on Design

The lighting industry needs to take responsibility for the future it is sowing today. Designers specify the future. Why do they keep specifying such toxic, energy intensive materials in their products? Why do they accept products that have no hope of even basic maintenance, much more reusability in the future? And designers need to think holistically about their projects. Are they proud of the supply chains that support their product selections? Does it do any good to have amazing bio-friendly light fixtures that are drawing their power from a coal-based powerplant? Project teams must take full responsibility for the inputs and outputs of their individual buildings.



#6: DC Power & Net-Zero Energy

Buildings will increasingly go off-grid

At their core, almost every device in a modern building uses DC (direct-current) electricity, including LED lighting, sensors, computers, IT networking and even large mechanical services. Yet since our ancient electric utility grids are AC (alternating current), every one of these devices require wasteful power converters. Ever notice how hot those power converters get? That is your electricity, money and planet being squandered as waste heat.

Net-Zero Energy Buildings

Compounding this disconnect between our AC electrical grids and our DC building infrastructures, we are now adding huge quantities of DC-generating solar panels and DC-based battery storage to make our buildings net-zero energy consumers.

Modern net-zero energy buildings will run entirely on internal flows of DC power throughout the majority of the year. They will only need extra power from the grid for small durations of the year, such as during the coldest, darkest part of the winter in northern climates.

Batteries Sold Separately

With DC-based electrical services, we can reduce power waste substantially, reduce electronic hardware and associated maintenance and e-waste issues, and open the door to advanced energy management in buildings. Advanced DC-based technologies like solid-state switching and solid-state fault interruption promise to channel, manage and measure power with more precision than ever before.

We are at the inflection point of a new revolution: DC-power 'nanogrids' are set to replace the AC-infrastructure in commercial buildings, resulting in massive energy savings while reducing hardware and providing advanced digital control of power. Researchers estimate that commercial buildings save 15% of their total power by skipping wasteful DC-AC-DC conversions.

Impact on Design

As we move towards greater numbers of net-zero energy buildings and demand more localised energy resiliency in ever more turbulent times, an interesting revolution is poised to transform our electrical infrastructure. DC power systems will increasingly reduce the costs associated with evermore advanced architectural systems. From the earliest stages of conceiving a building, solar power must be fundamentally included with as much capacity as possible. Digital twin simulations of the energy performance of a building, starting at the earliest schematic design stages, will predict the long-term energy performance of those systems and directly lead to highly tailored electrical infrastructures.

Conclusion: The Year 2030

By the year 2030, what we call architectural lighting will increasingly consist of embedded luminous surfaces, rich with digital content, smartly driven by data streams and responsive to our physical actions and biological needs in a space. Designers (architects, interior designers, lighting designers etc.) will increasingly become experience designers, using scripting, storyboarding and digital-twin simulations to craft live, responsive new experiential concepts for guests, shoppers, patients, employees, and so forth.

Despite growing system complexity, project coordination and on-site installation costs will be reduced via digital-twin, cloud-connected commissioning and sophisticated integration of BIM processes. And these projects will use DC-power systems to reduce the consumption and cost of all these digital systems while making our buildings net-zero energy consumers. The physical hardware of lighting systems will be designed to maximise new revenue streams opened by circular economy strategies, while simultaneously reducing our environmental impact.

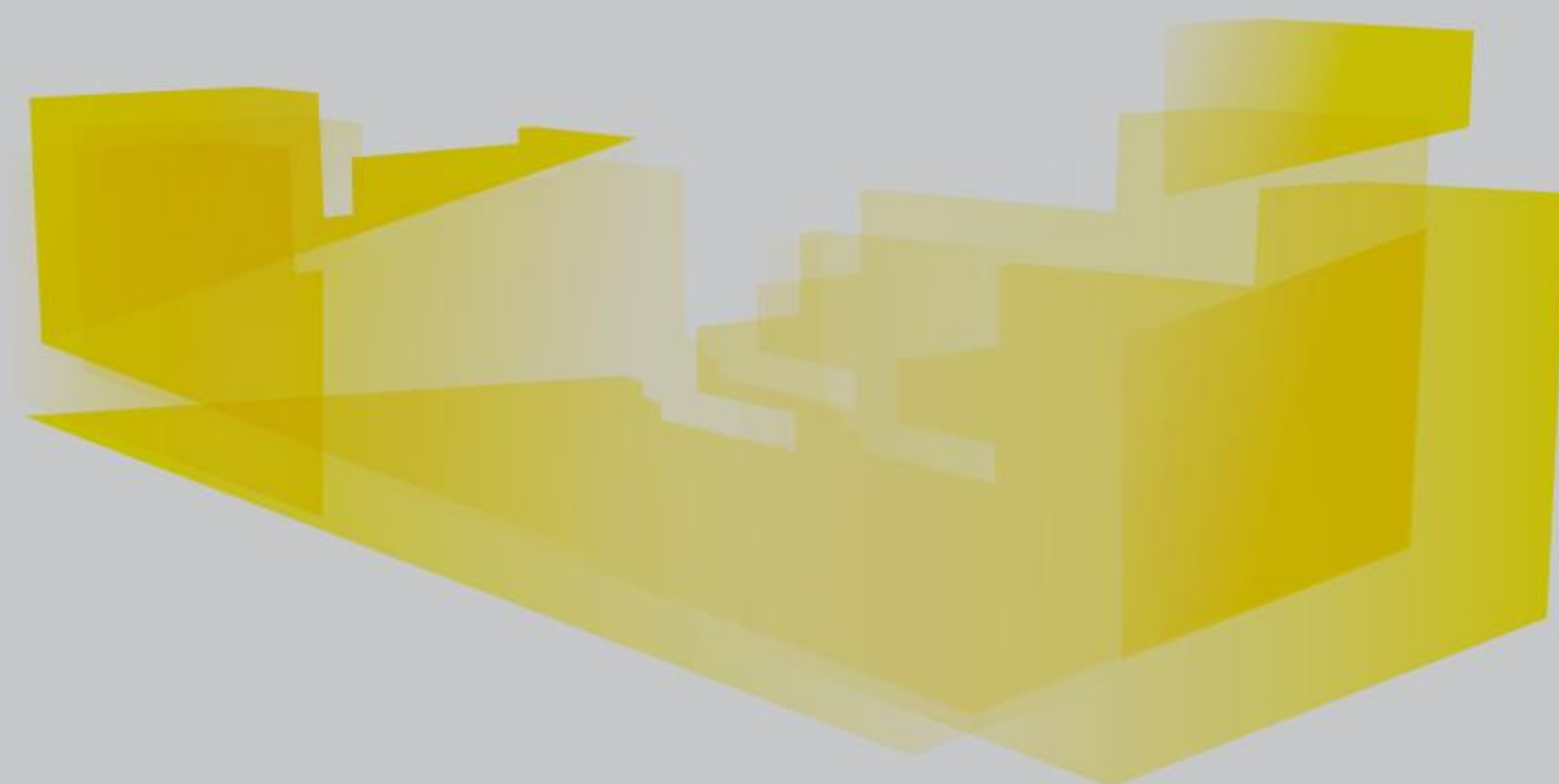
The luminous '20s indeed look to be a brilliant decade for innovation in architectural lighting systems. ■



Brad Koerner is an entrepreneurial project leader with a range of design, marketing and product management experience. Brad has spent more than 20 years in lighting design and manufacturing, developing award-winning architectural lighting projects as well as new LED lighting products and market categories that have earned in excess of US\$350m. Brad is an accomplished speaker and writer forecasting future trends in lighting design and technology.

Cariboni
group

Outdoor LED Lighting Solutions
for architecture and urban spaces



light+building

8 – 13. 3. 2020 | Hall 3.1 Booth B.61

Frankfurt am Main

Festival Season

As we kick off our round-up of festivals of light from the last twelve months, Keith Watson, Public Art Curator of Canary Wharf Group tells us about the newly-formed International Light Festivals Organisation, what it does and why it needed to be created.



Keith Watson, Chairman of the International Light Festivals Organisation



The International Light Festivals Organisation (ILO) launched at the end of last year at the event GLOW Eindhoven. It's been three years in the making, so it's good to finally see it up and running.

Our board is made up of some of the top people in the light festival business: Jean

François Zurawik, who has recently retired from curating the Fête Du Lumière Festival in Lyon, France, after fifteen editions; Gaston Zahr, who together with his wife Merav, programmes the Jerusalem Light Festival, the largest festival in the Middle East, as well as their own design practice; Carole Purnelle who manages Ocubo, based in Lisbon, one of the top light mapping companies in the world - they organised the Llumina Festival in Cascáis, Portugal, and currently have two immersive projects in Lisbon and Porto.

Closer to home we have Ann Wishart, who is Arts Development Manager at Leeds City Council and is closely involved in Leeds Light Night and the Light Up The North network, which represents six festivals in the North of England. Another Board member, in charge of Finance, is Craig Morrison, who is an extraordinary Event Producer working around the world. We also have Diana Cive who organises the StaroRiga Light Festival in Riga, Latvia, and finally Marcello Arosio who with his wife Carlotta, manage their own studio AreaOdeon and produce the Kernal festival in Italy; and of course myself. I curate the Winter Lights festival in Canary Wharf, London, which has won the [d]arc award's Event twice. From the board members alone, it's clear that the ILO is a truly international organisation.

Currently we have fifteen member festivals, but we're adding at least three a month, including Klaipeda Light Festival, Lithuania; Visualia festival, Croatia; Borealis, Seattle; Bella Skyway, Torun, Poland; Luna, Leewarden, The Netherlands; Video Mapping Festival, Lille, France; and Kronach Light Festival, Germany.

People have asked us "Why establish your own organisation?" A lot of us have been meeting at various festivals informally over a beer for years, and we always end up discussing the same things: production costs and problems, which artists are good and bad, which artist for a certain project, insurance, transport, etc. So we just thought "why not formalise these conversations, give them some context, pass on the huge amount of experience we have to others who are organising new festivals," and as members they too can share their experience. Every trade has an association - doctors, dentists, carpenters,



1. Kernel Festival: *Envisioning Beethoven*, live visual mapping, AreaOdeon, Italy 2. Jerusalem Light Festival: immersive mirrors at the Old City 3. Jerusalem Light Festival: Projection mapping at the Hurva Synagogue 4. Lisbon Under Stars (Pic: Ocubo) 5. Jerusalem Light Festival: Projection mapping at the Damascus Gate - one of the first joint ILO projects; each ILO partner festival presents a visual artistic greeting at the famous gate.

builders – and of course there's LUCI association, who represent people in the urban lighting design field. So why not light festivals? The whole light festival scene has exploded in the last ten years; technology has improved beyond belief, making it simpler for artists and designers to create ever more interesting and complex projects. The materials, LED and laser technology have become cheaper and more reliable.

We have great plans for the future – some festivals already collaborate on projects, and we want to be at the heart of that conversation – planning and co-commissioning projects between festivals, so that a project can be financed collaboratively. This could also lead to much larger projects, which could also then be made available to festivals that could not afford it on their own, and of course that has a big impact on sustainability.

We can also work on standardisation across the world, and on such common challenges as transport and insurance in different countries, which can currently be a nightmare!

Also, as the light festival scene grows – practically every week another festival launches somewhere – we have a duty to the planet; we are using a lot of energy, and that has to be offset. I'm proud of the fact that my festival, and Canary Wharf as a whole, has run on 100% renewable energy since 2012, and other cities and festivals have to aim for this too. Festivals use a lot of materials, and artists and designers are very good at re-using these, so I'm not so concerned about that aspect, but we are using materials manufactured mostly in China and we have to be aware of this and look at sustainable sources.

Currently the organisation is purely for curators, festival organisers and event producers that are working on light festivals, but later this year we will launch an artist database. I still find it frustrating that we visit festivals and it's often difficult to find out who did a certain project and even harder to find their details. It's quite apparent that a lot of time the general public don't care, which is a shame. We will also look at inviting brands to the website to sponsor the organisation but also to partner with us on a number of festivals – this must be a good thing for them to know they will have a consistent sales line, and good for us as we can negotiate a cheaper price, and having a good, consistent and regular relationship with suppliers is going to be a great thing for both sides.

We will also start an educational programme, through working groups, aimed at members, looking at different aspects of producing a festival, alongside a programme aimed at artists.

Light-art is frowned upon by professionals in the art world, but in nearly all cases, artists creating work for light festivals have a long career in making great art, they have arrived at creating light art through their own investigation, inspiration and research, just the same as any artist. They also quite often place their own ideas, sometimes political or social, and emotions into their work, just like any artist.

I think the best thing about the International Light Festivals Organisation is that it will raise creativity, educate and motivate members, artists and the public, and raise the profile of artists working in the field of light art in the future. ■

www.internationallightfestivals.org



Absorbed by Light by Gali May Lucas

London Calling

London's Winter Lights at Canary Wharf opened for its sixth year this January, bringing some much-needed warmth and brightness during the winter season.

In the dreariest of months, the annual Winter Lights festival sparked the new decade into life with a curation of work at the intersection of technology and art in London.

The unique collection of light-art featured more than 25 installations, some never before seen and some returning favourites, including a 450-metre twisting mass of digital neon tubing piercing the night's darkness, 100 circles of red strobes intrinsically weaved into a Canary Wharf landmark, vast projections of aquatic creatures, and much more. Winter Lights 2020 ran for a ten day period from 16-25 January. This year's festival had extended opening hours, and ran over two weekends, giving the opportunity to experience one of London's stand out calendar events. Winter Lights inspires the public year after year and recently claimed its second **[d]arc award**, winning Best Event for 2019's festival.

Debating from New Zealand and twisting throughout Jubilee Park was *Squiggle* by Angus Muir. The artwork is born from 450m of digital neon tubing and ventures through one of Canary Wharf's most tranquil areas. The sea of twists and



Desire by UXU Studio



Ditto by Ithaca



Affinity by Amigo & Amigo and S1T2



Squiggle by Angus Muir Design



Sasha Trees by Adam Decolight



Stratum by Studio Chevalvert

turns allowed visitors to interact with the installation by viewing it from different angles – as an abstract reflection of the multicultural world we live in.

Another Antipodean delight was *Affinity*, by Amigo & Amigo and S1T2, which allowed you to step into a series of interconnected globes representing neurons and memories in the brain. This intimate work encouraged interaction, with each touch generating colourful light streams that flow outwards into the sculpture and link to another globe.

The Clew by Portuguese artists Ottotto, weaved its way into the fabric of the estate, with 100 sharp red strobes entwined in the structure of Cubitt Steps bridge. The minimalistic design created a series of reflections on the surrounding water and structures, giving a different perspective on the architecture of Canary Wharf.

From the UK, *Lactolight* harnessed environmental conversation through the use of single use plastics.

Reimagining milk bottles as low-quality pixels, the LED artwork highlighted the decrease in the quality of our world's environment.

Another UK-based debut was *Ditto*, by Ithaca. This repeating column of light drifts above and below audiences, repeating infinitely. Sound accompanies the swirling motion, creating a visceral relationship with the artwork, while the mirrored discs reflect spectacularly both night and day.

Aquatics, by German artist Philipp Artus, is an interactive light installation in which animated water creatures swim around and interact with each other, highlighting our concerns for the ocean. Visitors were invited to design their own water creatures by making choices about their shape, colour and behaviour, which was then projected onto a wall.

Also debuting was Daisler Association's, *Mi-e dor de tine*, which means 'I miss you' in Romanian. The piece represents a special link with the



Constellations by Studio Joanie Lemerrier



Shish Ka-Buay by Angus Muir Design



The Clew by Ottotto



Mountain of Light by Angus Muir Design

Romanian Light ON festival in the city of Cluj and was installed in Canary Wharf from November as an early preview of the Winter Lights festival.

Once again, UK artist Amberlights provided a much-needed spectrum of colour through the vibrant and captivating piece, *Seed of Life*. For an immersive experience, visitors could enter this metallic rainbow and encase themselves within a kaleidoscopic world of jewel tone colours.

After lighting up smiles in 2018, *Luma Paint Light Graffiti* by Lichtfaktor and Bomber Graffiti returned. This interactive canvas was decorated with object mapping and light graffiti to create stunning light art in rapid speed.

Time & Time by UK and Thai artists, Paul & Pute, returned to reinforce the urgency of reducing plastic in our oceans, following its dazzling debut last year. The hourglass symbolised the importance of each minute and that time is running out to repair this problem before the damage to our planet is irreversible.

Sasha Trees by ADAM DecoLight, also returned to Winter Lights in the new location of 10 Bank Street. The striking neon collection created a stark contrast with the surrounding buildings, morphing the area into a magical winterscape.

Public Art Curator of Canary Wharf Group, Keith Watson commented: "Winter Lights continues to be one of the most engaging calendar moments of the year. Each year we look forward to seeing such a diverse audience visiting Canary Wharf and we hope it goes some way to inspiring the next generation." ■

www.canarywharf.com



1,9cm

m i c r o

w h e n s m a l l m a t t e r s

MICRO is the new A.A.G. Stucchi low-voltage product family born to meet the market's need of **miniaturization**.

A great focus has been placed on the **dimensions**, that are **greatly reduced** but also on offering a complete system with different track profiles, a wide range of connections, accessories and linear light modules to give the maximum flexibility to lighting projects.



8T1



8T5



8T6



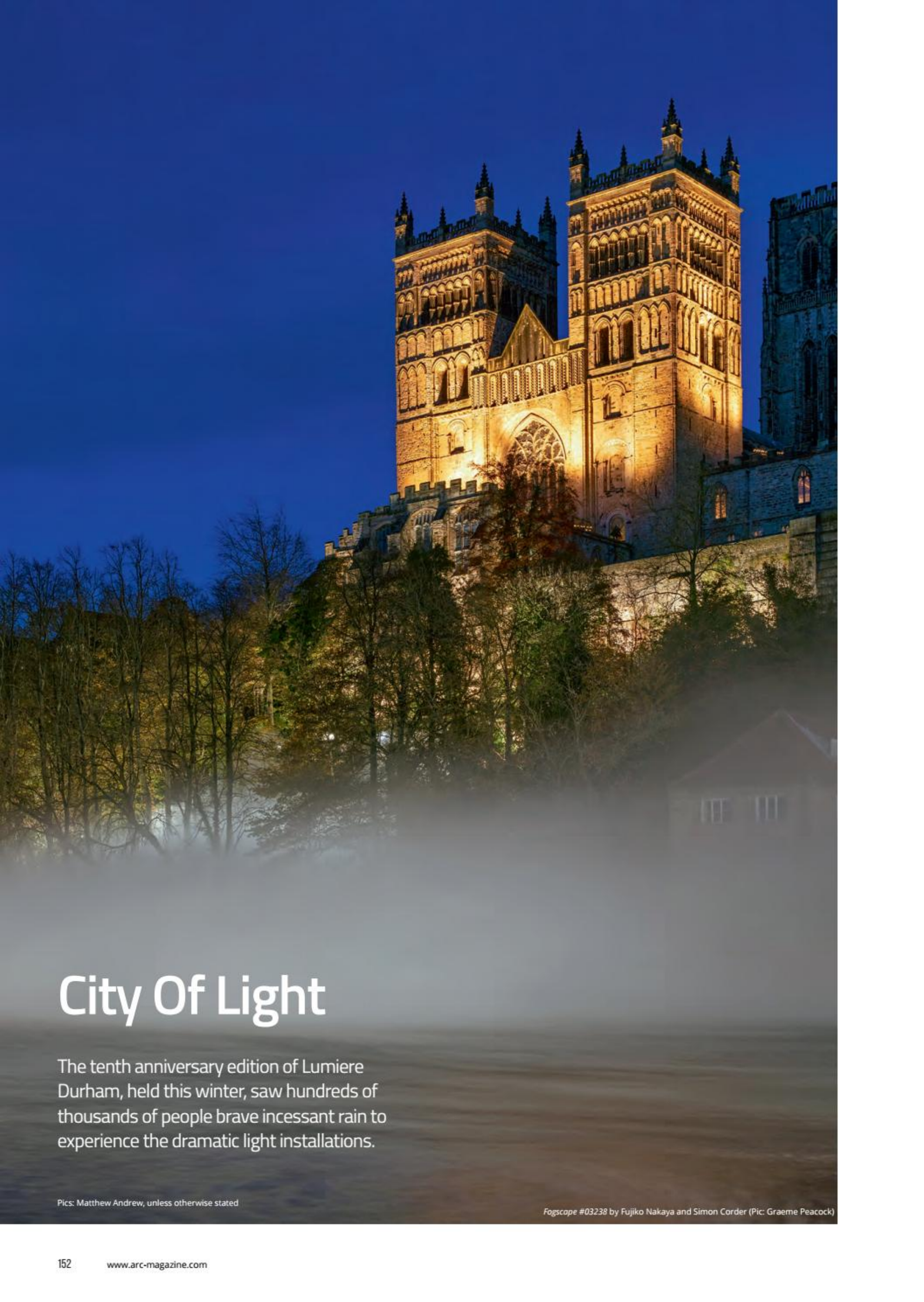
8T15



A.A.G.

STUCCHI

Follow your illumination



City Of Light

The tenth anniversary edition of Lumiere Durham, held this winter, saw hundreds of thousands of people brave incessant rain to experience the dramatic light installations.

Pics: Matthew Andrew, unless otherwise stated

Fogscope #03238 by Fujiko Nakaya and Simon Corder (Pic: Graeme Peacock)



Geometrical Traces by Javier Riera



Celestial Brainstorm by Amelia Kosminsky



End Over End by Lucy McDonnell

Produced by Artichoke and commissioned by Durham County Council, with additional support from Arts Council England, Durham University and a host of other funders and supports, Lumiere Durham is one of the UK's largest light festivals.

Its tenth anniversary edition saw visitors enjoy 37 dramatic installations and projections showcasing the creativity of both international and local artists working in the medium of light. Iconic landmarks were transformed, including Durham Cathedral, lit up from within by candlelit installation *Spirit*, whilst the public could manipulate the sound and light installation *Stones* on the historic building's exterior.

As always, the programme had a strong international element, with artists from Canada, New Zealand, Portugal and France bringing their work to the North Eastern English city. Visitor favourites included *Geometrical Traces* by Spanish artist Javier Riera, whose artwork created 3D patterns across the treeline above Prebends Bridge, and Fujiko Nakaya's *Fogscape #03238*, a ghostly shape-shifting vapour that wound its way around the trees and over the river underneath Durham Cathedral.

The long-awaited return of Jaques Rival's *giant snow globe* in Durham's Market Place, with its joyful neon affirmation "I Love Durham", drew smiles in the rain from visitors young and old alike. Another favourite was the colossal *Baleen Whale Mysticete*, by

French artists Top'la Design / Catherine Garret. Belfast-based artist Deepa Mann-Kler brightened the South Bailey streets with *Shoefiti*; her garlands of illuminated 3D-printed trainers that referenced the mysterious act of shoe-tossing. Amelia Kosminsky's *Celestial Brainstorm* encouraged audiences to interact whilst contemplating the disruptive effects of irregular brain activity, while the *Human Tiles* installation invited audiences to transform the façade of the Gala Theatre as part of an interactive video-mapping work that recalled the ornate tiles of Portugal.

Further afield, more than 150 local people aged from five to 85 took to the piano for *Keys of Light* in a series of performances with music from Shostakovich and *The Greatest Showman*, that generated an ever-changing kaleidoscope of colours and patterns across the exterior of Rushford Court with every chord.

Hundreds more locals had taken part in the preparations for this tenth anniversary festival, helping to make installations such as *Bottle Festoon*, *Friendship Tree*, and *Are Atoms Alive?*

Students from Durham Sixth Form Centre collaborated with Portuguese artists Oculo and Storybox from New Zealand to make *Are Atoms Alive?*, a short film exploring science displayed across nine shipping containers. East Durham College students re-imagined the student union building Dunelm House with new video projection artwork *Lift Off*, developed from the Apollo 50 project in Peterlee earlier this year. Dan Shorten from Guildhall School of Music



CLOUD by Caitland r.c. Brown and Wayne Garrett

and Drama, who provided guidance for this project, also presented the immersive walkway *Light Tunnel*, located in Crown Court Gardens, which proved to be another crowd-pleaser.

Once again, the programme offered four talented local people the opportunity to create a completely new piece of light art and play a central part in the festival's tenth anniversary. Lucy McDonnell's *End Over End*, a super-sized neon slinky, brightened up the Milburngate site, whilst Penelope Payne's projection *Blue Skies*, tucked under Milburngate Bridge, also brought a touch of sunshine to the festival despite the weather. Keen-eyed visitors will have spotted Mike Donaghy's playful alteration of two sets of traffic lights for his artwork *A Different View*. By contrast *Washed Up*, an assemblage work made from bright plastic objects found on the beaches of the North East, delivered a serious message, with artist Diane Watson encouraging people to look closer and consider the impact of their plastic use. *The Next Page*, a striking neon artwork displayed on the back of Clayport Library will become a permanent fixture in the city thanks to support from the Banks Community Fund. Created as part of a project with women at HMP Low Newton, following

a series of writing workshops with poet Hannah Jane Walker, it will join the existing permanent Lumiere installations *Heron*, *Lightbenches* and *Helveticloc*, also supported by the Banks Community Fund. Helen Marriage, Artistic Director of Artichoke, said: "When Artichoke created our first Lumiere festival in Durham in 2009, we never expected that we'd be celebrating its tenth anniversary. Over the years, we've brought artists from all over the world to transform Durham's cityscape, including major international figures like Fujiko Nakaya, Tracy Emin, Pablo Valbuena and Rafael Lozano Hemmer, presenting them alongside established and emerging artists all working with light. Thousands of local people have been involved in Lumiere projects during this decade and our community involvement is set to grow further."

Terry Collins, Chief Executive of Durham County Council, said: "This year, the tenth anniversary of Lumiere, has once again provided us with an unforgettable programme of installations that have lit up Durham in a truly magical way, attracting international acclaim and receiving overwhelmingly positive feedback." ■ www.lumiere-festival.com



Echelle by Ron Haselden

THE ONLY PERFECT LIGHT
IS SUNLIGHT.

WITH ONE EXCEPTION.



There is one true light that drives our emotions, our clocks, and our perceptions. Soraa® was founded to replicate this light, returning us to what comes naturally.

At Soraa, Light Matters. With perfectly rendered colours, natural white tones, and clean, crisp beams, Soraa provides a quality of light matched only by the sun.

To learn why Light Matters, visit us at Light+Building.

SORAA
SIMPLY PERFECT LIGHT

light+building

Hall 4.1 Stand H50



Across the water from *The Magical Entrance* is a glowing female statue, which stands at one of the boat entrance to the harbour



A view across the water at *Fury of Nature and Emotions*



Pics: Alette Holman

Historic Harbour

Lights in Blokzijl took place in December, held in the historic centre of Blokzijl, Netherlands, following in the footsteps of Lights in Alingsås, which celebrated its 20th anniversary last year.

The inaugural Lights in Blokzijl event began with a workshop before the exhibition was open to the public. Ten international lighting designers gathered with students from all over the world to illuminate selected sites or buildings in the city of Blokzijl.

The workshop leaders for this year's Lights in Blokzijl were Roberto Corandini; Sjoerd van Beers; Juliette Nielsen; Luciana Alanis; Korhan Şişman; Anuj Gala; Rogier Hengeveld; Kapil Surlakar; and Johan Moritz and Tina Wikström.

The workshop teaches theoretical and practical knowledge in lighting design, with the main aim to have a professional lighting designer guide the participants through the complete lighting design process of an actual full-scale project. The workshop lasted for six days and was supported by the industry with professional lighting equipment. Student electricians from the local high school were also involved in

the project by assisting the workshop participants throughout the week.

A full day of presentations and a convention were held, where the workshop heads presented themselves, their careers and notable lighting projects they have worked on.

After this full day of presentations, the Lights in Blokzijl workshop teams' students presented their work, followed by the official opening of the installations in the evening.

Johan Moritz, Tina Wikstrom, Lin H. Le and Mandy La created *A Strange Kind of Warmth*. This team wanted to bring the citizens of Blokzijl to an exotic land, while still retaining a touch of home. They talked about Wortelmarkt, a hidden place behind a historic harbour that was once open to the sea, which is where the idea of connecting exotic lands came from.

Another team also chose the same site of the Wortelmarkt, instead



Berlux's studio is one of the dancing houses along the water's edge



The Magical Entrance glows in various enchanting colours

Green light glows under a bench in *Fury of Nature and Emotions*

using the houses. In their concept they wanted to create a connection with the people that live in the city. By connecting the illuminated houses to the harbour they wanted to create a feeling of togetherness named, *A Magical Evening Where We Shine Together*.

Anuj Gala and Rogier Hengeveld's installation *Tide & Time* was based around the concept of water in Blokzijl and the wealth and brightness it brings. This positive interpretation was contrasted with the insecurity that rises when the water levels get too high. The team pictured a story of "women waiting in front of their houses while staring over the water, hoping for the safe return of their loved ones." Colour was the main focus of *Fury of Nature and Emotions* by Kapil Surlakar's team. The static installation depicts the motion of the wind through the gradual colour variation in the trees. The house is focused at the back as a safe haven, with the benches representing different emotions: green being happiness and red representing anger.

Korhan Şişman's team came up with a concept referring to nature and the benefits that spending time in it can bring. *Nature In Self*

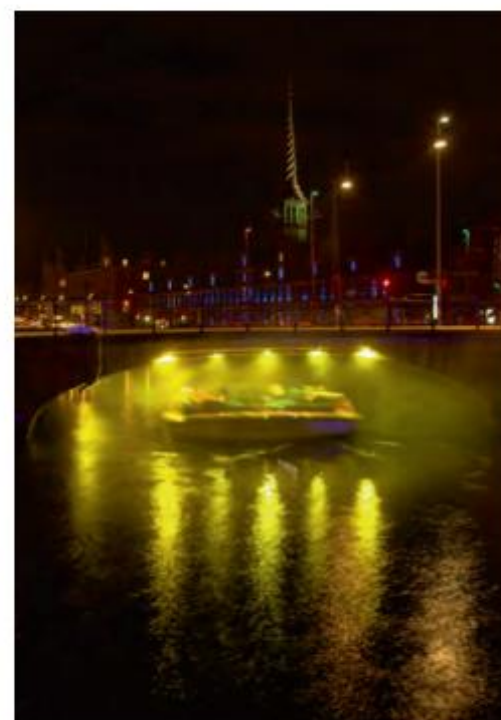
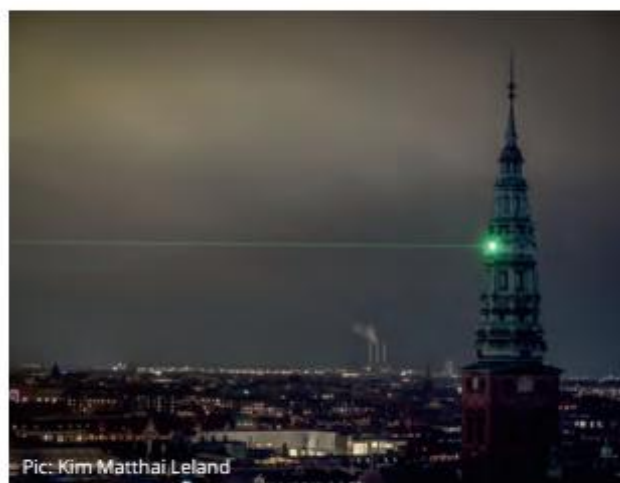
was based around the waterways, fields, trees and the ever-changing weather of Blokzijl. The team want people to see the beauty of the village and residents alongside the beauty of nature. All of these elements combined to create a range of warm, cool and unique colour combinations of light on the long waterfront.

The Magical Entrance was created by Luciana Alanis's team, which discovers the play of nature, wind blowing, water flowing and reeds waving. Their idea was to enhance the beauty of the seas and make it stand out from the darkness.

Roberto Corandini's team created the installation *A Magical Evening Where We Shine Together*. "We wanted to connect the illuminated houses to the harbour. We did this by lighting up the biggest tree on the street. We created the magical feeling of togetherness having lit up the houses in colours so they appear to be dancing in the moonlight," explained Corandini.

Lights in Blokzijl returns to the harbour city in December 2020 and is currently taking applications for students to take part in this edition. ■

www.lightsinblokzijl.nl



Green Means Go

Copenhagen Light Festival returned this February. Riding the wave of success from past editions, this year's event promised to be even more spectacular.

The Danish capital's people and its many visitors once again experienced fantastic light effects on the city's architecture during Copenhagen Light Festival this February.

February provided fabulous conditions for great light experiences along the harbour front and in old city centre, as well as oases around the town, such as Refshale Island. The festival's signature green laser beam drew a new course over the staging of the city's beautiful old buildings, architectural city squares and the canals of the medieval town, highlighting the city from Tivoli to Refshale Island and making a sharp bend inside one of the city's tallest buildings, Danhostel. The Winter in Tivoli initiative held a celebration of light during the same period as Copenhagen Light Festival, thereby contributing to a rich and voluminous light experience in the city's February darkness.

Guests were able to experience the works of light-art on the festival's guided tours by walking, cycling, sailing, on boat or kayaking. The app, Within10Minutes - Copenhagen Light Festival, gave guests the option to wander from the guided tours, but still be aided and see each light-work's

position, in relation to where they were at the time. The historical building Børsen was the chosen venue for the festival's opening, wrapped in tones of blue, with its mainly renaissance windows, while at Kayak Bar, Stromma offered tours around the canals. Throughout the whole festival, pop-up events and special happenings attracted great interest both at home and internationally. The Wave by the art group Vertigo, an impressive light installation re-emerged with a revised light and sound side on Ofelia Square and was staged by The Royal Theatre and Jeudan.

Copenhagen Light Festival was supported by the sponsorship and hosting of a wide network of artists, designers and light hosts, as well as Copenhagen's cultural and business sectors: Tivoli, Louis Poulsen, Stromma Danmark Canal Tours, Dansk Erhverv (Danish Chamber of Commerce), By & Havn (City and Harbour), BLOX, Glyptoteket, Danhostel, Refshale Island's Property Company, Kulturhuset Islands Brygge (Culture House Iceland's Wharf), City area Sundby, Sluseholmen, KBH Commerce & Culture and Copenhagen's City Council. ■

www.copenhagencitylightfestival.org

TRYKA

● ● ● L.E.D. 

Lancaster Castle, UK
Lighting Designer: Lumineer Studio Ltd



A British manufacturer, founded in 2002, that offers a comprehensive product portfolio for interior and exterior lighting applications.

Visit our booth to see our latest innovations, and learn how our tailor-made products or bespoke manufacturing can be used to meet your specification demands.

www.tryka.com



light+building

Frankfurt am Main
8. – 13. 3. 2020

Hall 4.1
Stand E80



Pics: AGB Events

Dreaming of a Light Christmas

AGB Events produced its Lights of Christmas spectacular for the tenth year in a row. It has become a Sydney tradition, and a much anticipated event for families throughout the city, and beyond.

For many in Sydney, the Christmas season doesn't start until Lights of Christmas are on. The first Lights of Christmas was established by AGB Events in 2010 with the support of the NSW State Government. The event has reflected the reality of an Australian Christmas – an imaginative representation of what Christmas means to Sydneysiders. Instead, Lights of Christmas focuses on themes that are central to the celebration: love, sharing, hope, warmth, friendship, the importance of helping others – all illustrated with compelling kaleidoscopes of light and colour. “We take great pride in creating meaningful and memorable public celebrations that draw

communities together so successfully that they become an integral part of the cultural landscape,” said Anthony Bastic, CEO and Creative Director of AGB Events. “That’s what Lights of Christmas has become. “While it’s a unique event, Lights of Christmas is representative of the kind of events we’ve created for governments and city/state councils around the world, not just Australia. Many of them have become annual fixtures,” continued Anthony. “What we do is create public events that contribute to the cultural fabric of a city and that use light and sound, digital storytelling and cutting-edge audiovisual equipment from leading suppliers to engage a diverse range of community groups.” Lights of Christmas ran from Thursday 5 December



2019 until Christmas night, and it saw AGB Events once again using the iconic St. Mary's Cathedral as its 75-metre high backdrop to deliver *Ascension*, drawing on the principles of religious architecture and depicting the Christmas story through a series of dioramas drawn from early Renaissance artworks.

Giles Westley at AGB Events lead the design team to create *Ascension*. The animated images featured nine million pixels and 256,000 lumens of brightness on the cathedral's sandstone façade with all high performance digital video projection technology and expertise provided by TDC – Technical Direction Company. The visuals are accompanied for an hour each evening by a specially-commissioned soundtrack from the St.

Mary's Cathedral Choir. Previous themes have included 'Peace, Good Will and Wisdom', 'Unity', 'The Joy of Giving' and, for the United Nations International Year of Light in 2015, 'Light is Life'. Bastic added: "All of our projects centre on brilliant illuminations, often using buildings, whole streets – or even, as we did for Halo at Townsville, a mountain range – as backdrops, and are made possible by the creativity and imagination of our design team in combining art, architecture, geometry, design, photography, and digital animation to create compelling, memorable and culturally relevant experiences that make a difference to those who witness them." ■

www.agb.events



FESTIVALS OF LIGHT

Pics: Bart Van Overbeeke Photography

1 *Sunflowers for Van Gogh*. In the light-artwork by Hugo Vrijdag the world-famous paintings by Vincent van Gogh are brought to life. In reference to how Van Gogh often described his Sunflowers as lanterns, illuminated sunflowers have been made from paper using traditional Chinese techniques.

2 *Diving in the sea of colours*. The installation is an oversized, accessible and visitors are able to experience a world of colours, created by analogue PANI projection.

The surreal world, which spreads throughout three locations on the GLOW route, allows visitors to feel the effects of colour - bathe in it, perceive it, feel it, but don't be surprised if it evokes a mix of emotions.

3 Light artist Ivo Schoofs' team collaborated with the street artists from Studio Giftig to create *Open Minded*. The Karel Vermeerenplantsoen was the canvas for an enormous mural that constantly changed its guise. Through the use of light, they revealed the intrinsic and optical layers in the artwork.

4 For his 8th participation, Eindhoven light-artist Michel Suk made *Contour*. Multiple lasers allowed visitors to discover the extremely refined structure in a different way. The connections between points, lines and shapes were captured in the play of colour and movement.

Glowing Reputation

GLOW Eindhoven completed its fourteenth edition in November 2019, where the theme *Living Colours* attracted 770,00 visitors over eight days.

This year's five-kilometre route took visitors through Eindhoven's city centre via each specially-curated light installation. It also saw multiple original artworks from GLOWlabs for the first time. GLOWlabs are creative sessions in which companies, artists, technicians, designers, institutions and residents worked together on a certain theme to create an innovative light-artwork, with the idea to have as many projects as possible made in Eindhoven.

This year, Signify, ASML, GXE and Weschap De Dommel, among others, provided an intrinsic contribution in collaboration with Eindhoven designers and students.

GLOWlab installation *PING*, by Gijs van Bon and ASML, was a wireless network, which incorporated 250 linked beacons, creating an intelligent system through which information could flow. The information was transferred between each beacon with light and sound.

The project *The Light Cathedral* by Ellen de Cries was one of this year's 'try-outs' on the sidelines of GLOW's route. In a shop on the Nieuwe Emmasingel, the brainwave activity of a wide target group was measured during a virtual reality experience in a fictitious cathedral. During the exploratory study, researchers played with the influence and power of light on health in public spaces. They researched the effects of light colour, form and light distribution. In the 2020 edition of the festival, this project will be expanded in a GLOWlab, in collaboration with students from the University of Jönköping, so that

the research into what light does in public spaces can be performed on a larger scale. The result will be on show on the 2020 route.

Together, with its founders Signify and the municipality of Eindhoven, this year's GLOW festival took further steps to ensure sustainability was factored into the annual event.

Following *Colour Symphony*, a piece of projection artwork on the Witte Dame, Signify and artists from the festival created a six-minute audio interval titled *Light is life*, a story of light, where a grandfather tells the grandson about light, darkness and sustainability, acting as an appeal to visitors of GLOW to be more economical with lighting.

Director Ronald Ramakers commented: "We are not focusing on growth, but on balance. GLOW wants to become energy-neutral, but also combat waste in a broader sense, with the focus on recycling. We are looking at how Eindhoven companies can save energy for GLOW throughout the year, for example by switching off lights a minute earlier.

More importantly, this is a statement that raises awareness.

Fortunately, more and more light artworks employ LED light, which is much more energy-efficient than incandescent lamps. Light beacons used for previous editions will be reused differently next time. This is an integral part of our constant search for innovation and balance, without this becoming a bore." ■

www.gloweindhoven.nl



REDEFINING SKYLINES, ILLUMINATING SKYSCRAPERS.

Enabled by **INFINITY® Technology**, 1000 feet of **HL-DL Monochromatic** luminaires adorn the elegant curves of Pacific Gate Condos in San Diego, USA.

gvalighting.com



Dancing In The Moonlight

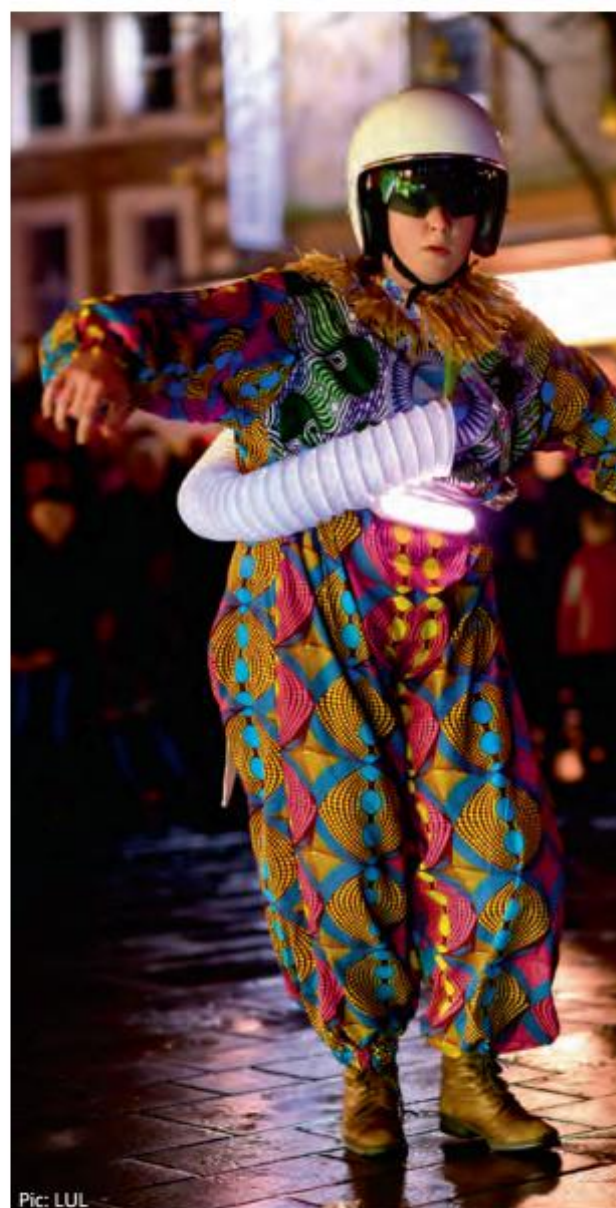
Thousands descended upon Lancaster to enjoy this year's magical two-night festival of light and art in the city.

Organised by Lancaster Arts City, Lancaster City Council and Lancaster BID, the city's seventh Light Up Lancaster event celebrated the 50th anniversary of the moon landing with this year's theme of *Into the Skies*.

Lancaster's heritage buildings, public spaces and community corners were transformed through art commissions, video mapping, music and performance as local and national talent rubbed shoulders with international artists.

This year's programme saw the artwork *Museum of the Moon* by Luke Jerram take centre stage. With a diameter of seven-metres, the artwork featured 120dpi detailed NASA imagery of the moon's

surface and was hosted in the medieval Lancaster Priory Church with a fusion of lunar imagery and moonlight with an enveloping soundscape by BAFTA and Ivor Novello award-winner Dan Jones. Further cosmic-related highlights of the 2019 edition included *Lightscape* by Italian arts company, *mammasONica*, presenting an immersive multi-layered experience, in the captivating setting of Lancaster Castle, and the newly commissioned *Sun* by Alex Rinsler and Prof. Robert Walsh, which dominated Sun Square. As in previous years, visitors could seek shelter from the wintry weather by exploring an array of more intimate pieces inside Lancaster's museums and public buildings. *The Storey* invited visitors to



Pic: LUL



Pic: Alex McCartan



Pics: Robin Zahler, unless stated otherwise



Pic: LUL

lay back and journey into the skies in a specially commissioned film of Lancaster's sky at night with *Heavens Above* and *Imitating the Dog*, presented by Lancashire Electric with archive footage of Lancashire.

Lancaster University fielded a team of committed staff to present a wide range of exhibits at Lancaster Library. Families could explore the *Aurora*, immerse themselves in planetary sounds and sights, learn about our atmosphere, discover just how important seabirds are, and get to grips with coral reefs through *Minecraft*.

Saturday daytime offered a programme of family-friendly craft workshops, after which the festival finale – the annual Fireworks Spectacular – was

launched from the grounds of Lancaster Castle, attracting thousands from across the district to view the uplifting display.

Tony Johnson, Lancaster BID Manager, said: "We were delighted to be one of the core partners involved in Light Up Lancaster again this year. Once again, it was great to see the city centre bustling with both locals and visitors to the city. Footfall in the city centre throughout the Saturday was up 30% on the week before with the busiest period showing a 200% increase and I was delighted to hear the positive feedback from businesses." ■

www.lightuplancaster.co.uk



Pic: Petri Anttila



Pic: Superreel



Pic: Otso Kähkönen

Helsinki Highlights

Helsinki's courtyards, parks and architectural gems were transformed into unique urban art installations when Lux Helsinki lit up the city for five days.

The official route for the latest edition of Lux Helsinki stretched from Helsinki Cathedral to the shoreline of the Tokoinranta river and was comprised of nine installations.

The theme of nature was highlighted in several of this year's installations. *Mirrorowl* (*Bubo speculus*) by Jere Suontausta is a sculptural light installation that hoots from a tree branch, casting its stare on the verge of climate catastrophe and mass extinction.

Magic Mirror by artist Meri Ekola in turn was inspired by its location: surrounded by water at the Tokoinranta boat dock, which led her to think about our eternal attraction towards mirrored images.

The Lux Architecture series showcased the buildings in Helsinki, and this year it shone the light on the Helsinki City Theatre. The installation *day and night* at the end of the official route, transformed the façade of the building into a landscape that recalls the beauty of nature. The installation was designed by Eero Helle from Visual45 and featured music by Kimmo Pohjonen.

Environmental values were promoted in the arrangements for the festival: Lux Helsinki compensated for the CO₂ emissions of all the installations during the opening hours of the event. This was done through the Finnish Compensate Foundation, which compensates emissions through forest planting and protection projects. In this instance, more CO₂ was compensated than actually created;

according to estimates for Lux Helsinki, this equates to 575 planted trees, 0.2-hectares of protected forest and 39-tonnes of CO₂ removed from the atmosphere.

In addition to the light-art along the official route, Lux Helsinki presented six satellite installations and groups of installations stretching from Hanaholmen in Espoo to Itäkesus. The satellite installations made it possible to present light-art indoors and in very exceptional environments, such as at Helsinki Zoo on the island of Korkeasaari.

The evening of the Lux Helsinki Opening Club was held at Valkoinen Sali, and began with *Bring Your Own Beamer* (BYOB), where anyone could project their own light-art. In the past, art that has first appeared at BYOB has later been presented along the official Lux Helsinki route. The evening continued with live music and a mystical atmosphere created by Quadrivium and the experimental sounds of the Cleaning Women, a group that makes music out of clothes drying racks.

Lux Helsinki Eat was a food event organised in connection with the light festival in which more than 20 restaurants participated, offering specially created servings and menus. Finally, Lux Morning presented specially selected installation on the last morning of the festival to cheer up commuters and early birds. ■

www.luxhelsinki.fi

Chameleon



Transformed to transform

The new CHAMELEON family of 100mm downlights by BOLD Lighting will transform your perspective on how light is specified and experienced in an ever-changing world.

CHAMELEON downlights offer a unique interchangeability of optics, accessories, trims, and reflectors which can be easily modified at any point in the design process, including after the fixture has been installed. As an added feature, the adjustable luminaire comes standard with a zoomable lens, giving specifiers even more flexibility to transform a changing environment.

CHAMELEON is available in fixed, wallwash, and adjustable luminaires with a wide range of lumen outputs, optics, trims and finishes to blend in with any space ... **transformed to transform.**

Come & visit us

@ LEDucation booth GB 410

@ Light+Building Vice booth Hall 4.2 K65

Atlanta, Georgia, United States | (833)-265-3187 | 833-BOLD-1-US

www.boldlighting.us

bold
lighting
quietly bold

guangzhou international lighting exhibition

25th

The most influential and comprehensive lighting
and LED event in Asia

9 – 12 June 2020

China Import and Export Fair Complex
Guangzhou, China

www.light.messefrankfurt.com.cn

Contact

Messe Frankfurt (HK) Ltd

Tel: +852 2238 9969

Fax: +852 2519 6079

light@china.messefrankfurt.com



光亞 - Guang ya

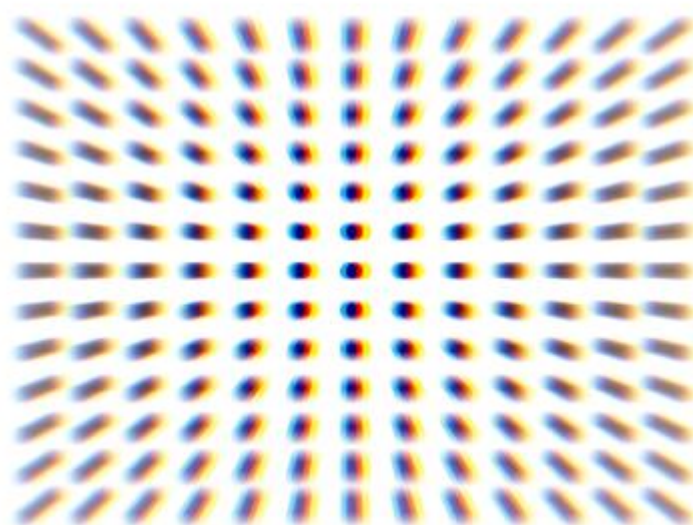


messe frankfurt

Light Symposium

Connecting health research with lighting practice

Asst. Prof. Dr. Karolina M. Zielinska-Dabkowska IALD, IES, CIE, MSLL, RIBA, looks at the interdisciplinary initiative Light Symposium Wismar 2020 and its historical development.



LIGHTSYMPOSIUM WISMAR 2020

Figure 1 The Future of Daylight and Artificial Lighting in Healthy Built Environments will be discussed at the 2020 Light Symposium Wismar (LSW 2020) held from 14-16 October 2020 in Wismar, Germany. © LSW



Thanks to state-of-the-art medical and environmental research, our current understanding about the impact of light and lighting is improving at a rapid rate (<http://bit.ly/2OD9RvN>). While the evolution of lighting technologies offers promising design possibilities, it also poses new challenges to planners and the general public. This is further complicated by the fact that today's modern indoor lifestyle means we can be completely disconnected from nature and natural light. Instead, we live under artificial skies in man-made environments (<http://bit.ly/3bgHhu5>). To answer the need for cross-disciplinary talks and in order to bridge the knowledge gaps in the field of architectural lighting design, in 2007, the concept of a Light Symposium emerged at the Professional Lighting Designers Convention (PLDC) in London. Michael F. Rohde, a German lighting designer and professor at the Hochschule Wismar (HSW) in Wismar, was inspired to create an interdisciplinary event where light and health could be holistically addressed and connected with research and practice.

In 2008, the first event, called the Light Symposium Wismar (LSW), was held in Germany, in conjunction with the 100th anniversary of the HSW, University of Applied Sciences: Technology, Business and Design. Soon after, Professor Jan Ejhed, a Swedish lighting designer, professor and head of the Lighting Laboratory at Royal Institute of Technology (KTH), Stockholm, joined forces and a new partnership

was formed. It was proposed that the event should take place every two years on a rolling basis in Wismar and Stockholm. Since that first event in 2008, another five symposia have taken place in 2010, 2012, 2015, 2016, and 2018, where well known architects, interior designers, lighting practitioners, physicians, biologists, colour psychologists, ergonomists and other experts from Europe and overseas presented their experiences in lectures and workshops, and together with the numerous participants, created a lively discussion forum. Associations, universities, media partners and the lighting industry now regard this event as the benchmark for international education on the impact of lighting on health.

Due to the enormous interest in the fifth LSW in 2016, presentations were directly streamed online for the first time, allowing those who couldn't physically attend, to participate in the event. All of these talks can still be watched free of charge at: <http://bit.ly/2GUfcKU>. Another element that was introduced was a follow-up book called: *New Perspectives on the Future of Healthy Light and Lighting in Daily Life*, which features best lighting design practice, lighting research and related aspects, as well as potential issues connected to medical science and lighting in man-made and natural settings. This publication includes contributions and research originally presented at LSW 2016. It is a valuable and vital reference source for students, researchers, academics, the lighting industry, lighting planners and policy makers. This book can be downloaded free of charge at the symposium website (<http://bit.ly/2ODoAqJ>).

PROGRAMME

Please register at:
lightsymposium.de

Wednesday, 14 October 2020

- 14:00 Registration
- 18:00 Welcome Party

Thursday, 15 October 2020

- 08:00 Registration
- 09:00 Opening - Welcome
Prof. Michael F. Rohde
Rector of the HSW
Dean of the HSW, Faculty of Architecture

DAYLIGHT DESIGN PRACTICE

- 09:45 **Dr. George C. Brainard [Keynote Speaker]**
Philadelphia University + Thomas Jefferson University/US
- 10:45 Coffee Break
- 11:15 **Giovanni Traverso**
Traverso-Vighy architetti/IT
- 11:45 **LSPC20 Speaker: TBD**
- 12:15 **Assoc. Prof. Marie-Claude Dubois**
Department of Architecture and Built Environment,
Lund University/SE
- 12:45 Lunch Break

DAYLIGHT RESEARCH & RELATED ASPECTS

- 14:15 **Prof. Dr. John Mardaljevic**
School of Architecture, Building & Civil Engineering,
Loughborough University/UK
- 14:45 **Dr. Ahmet Çakır**
ERGONOMIC Institute/DE
- 15:15 **LSPC20 Speaker: TBD**
- 15:45 Coffee Break
- 16:15 **Prof. Dr. Marilyne Anderson**
Laboratory of Integrated Performance in Design,
École Polytechnique Fédérale de Lausanne (EPFL)/CH
- 16:45 **Dr. Jan de Boer**
Fraunhofer-Institut für Bauphysik/DE
- 17:15 **Panel discussion**

Friday, 16 October 2020

- 08:00 Registration
- 09:00 Opening - Welcome
Prof. Michael F. Rohde
Asst. Prof. Dr. Karolina M. Zielinska-Dabkowska

ARTIFICIAL LIGHTING DESIGN PRACTICE

- 09:15 **Mark Major [Keynote Speaker]**
Speir + Major/UK
- 10:15 Coffee Break
- 10:45 **Anne Bureau**
Wonderfulight/FR
- 11:15 **LSPC20 Speaker: TBD**
- 11:45 **Prof. Michael F. Rohde & Asst. Prof. Dr. Karolina M. Zielinska-Dabkowska**
Hochschule Wismar University of Applied Sciences Technology,
Business and Design/DE, Light4Health Erasmus+ grant
- 12:15 Lunch Break

ARTIFICIAL LIGHTING RESEARCH & RELATED ASPECTS

- 13:45 **Catherine Pérez Vega**
The Free University of Berlin & Leibniz Institute of Freshwater
Ecology and Inland Fisheries/DE
- 14:15 **LSPC20 Speaker: TBD**
- 14:45 **Prof. Dr. Eva Scherhammer, MD**
Medical University of Vienna, Center for Public Health/AT
- 15:15 Coffee Break
- 15:45 **LSPC20 Speaker: TBD**
- 16:15 **Dr. John Barentine**
International Dark-Sky Association (IDA)/US
- 16:45 **LSPC20 Speaker: TBD**
- 17:15 **Panel discussion**

Friday, 16 October 2020

- 19:00 Drinks Reception
- 19:45 LSPC20 Awards Ceremony

LSW 2020 will also be hosting the final of the young designers' and researchers' speaker competition: The Light Symposium Paper Competition (LSPC20). Six young talents will be competing for the first prize on 15th and 16th October in the final stage. The winner will have the opportunity to present her/his paper at the 12th edition of LEDforum in São Paulo, Brazil in 2020.

- 20:00 Party



LSW Special Event Saturday, 17 October 2020

- 10:00 Early Career Researchers' meeting

This meeting will provide current master degree students and doctoral candidates the unique opportunity to present their work and receive feedback from, and engage in a stimulating open discussion with well-established researchers from LSW 2020 partner universities.

FUTURE OF DAYLIGHT & ARTIFICIAL LIGHTING IN HEALTHY BUILT ENVIRONMENTS

FUTURE OF DAYLIGHT & ARTIFICIAL LIGHTING IN HEALTHY BUILT ENVIRONMENTS

FUTURE OF DAYLIGHT & ARTIFICIAL LIGHTING IN HEALTHY BUILT ENVIRONMENTS

Figure 2 LSW 2020 Programme, with international speakers from various fields including: architecture, lighting design, engineering, biology, environmental and medical sciences. © LSW

Light Symposium Wismar 2020

The approaching Light Symposium Wismar 2020 (LSW 2020) is a three-day forum that will bring together the latest insights into the future of daylight and artificial lighting in healthy built environments with respect to research, theory, technologies, design and applications.

It aims to deliver state-of-the-art discoveries and breakthroughs that explore how daylight and artificial light affect the mental and physical health of humans in natural and built environments. The symposium is an occasion for researchers, students, and practitioners who wish to keep up-to-date with recent findings. The interdisciplinary structure of LSW 2020 promotes future-oriented discussions on the importance of light and the lighting design profession. There are fourteen renowned speakers from fields such as: architecture, lighting design, engineering, biology, as well as

environmental and medical science. Experts from Germany, US, Canada, Switzerland, Italy, Austria, Sweden, and UK will present their talks in four different thematic tracks: Daylight Design Practice, Daylight Research and Related Aspects, Artificial Lighting Design Practice, Artificial Lighting Research and Related Aspects. This year, confirmed keynote speakers include neuroscientist Dr. George C. Brainard from Philadelphia University and Thomas Jefferson University, and Speirs + Major principal Mark Major. (Figure 2). LSW 2020 is already financially backed by ten lighting manufacturers including: Bega, ADO Lights/TTC Timmler Technology, eldoLED, LED Linear, Lucifer Lighting, Osram, Siteco, Technolight Leuchten, We-ef and XAL. But organisers of the event welcome other lighting manufacturers who want to present and discuss their lighting products to the conference participants via a display booth (Figure 3).

"LED is rapidly changing the world of lighting and lighting design. The dynamics of the technology ask for masters to control light for the best use in our habitat. Therefore, education in the form of the Light Symposium and the interdisciplinary collaboration of industry and lighting designers is the basis for all future developments. For us, it is important to make a significant contribution to this advancement."

Dr. Michael Kramer, CEO of LED Linear

"I had been curious about Light Symposium Wismar due to its content and the difficulty finding useful information on the presented aspects. I was very much impressed with the presentations and the quality of the speakers, and congratulate the organisers for this wonderful opportunity to gain knowledge."

Birgit Walter, Founder and Creative Director of BMLD, Co-Founder of APDI

Light Symposium Paper Competition 2020 (LSPC20)

LSW 2020 will also host the final of the young designers and researchers speaker competition. There are four topics: Fundamentals, Architecture, Health and Design. Six young talents (three Master's students and three PhD students) will compete at the final stage for the prize on 15 and 16 October. The speakers will be judged on the quality of the content of their papers and the professional quality of the presentation itself. The jury, supported by independent experts, will decide on an overall winner, which will be announced on Friday 16 October during the LSPC20 Awards Ceremony. The call for papers will be released next month. The symposium's comprehensive supporting programme is also designed to stimulate discussion and debate – and the following activities all contribute to enhancing LSW 2020's reputation as a quality lighting event: a guided tour to visit the UNESCO heritage old town of Wismar, a Welcome Party, and the LSPC20 Awards Ceremony.

The Future is Bright

Modern lighting technologies and design should address and, if possible, be based on evidence gathered by scientific studies. The implementation of new technologies such as LEDs is already changing the future of lighting design and will continue to do so. The impact of this, and the opportunities that exist are hard to define right now, which is why they are the subject of discussion. No wonder human health and wellbeing are areas of increasing interest and concern.

Furthermore, today and in the future, architectural lighting design needs to better acknowledge the need for interdisciplinary collaboration between scientists, medical researchers, the lighting industry and lighting designers.

This is why the Light Symposium plays a unique and integral role in continuing education, building on its foundation to enable developments in the field of lighting design as a discipline and profession. ■



Figure 3 Impression of the LSW 2016. In this year's event sponsors will have a chance to present and discuss their innovative lighting products to conference participants. © G. Hundt



Asst. Prof. Dr. Karolina M. Zielinska-Dabkowska is a chartered RIBA architect and an award winning practicing lighting designer. She is also an Assistant Professor at the Faculty of Architecture, Gdansk University of Technology, Poland, and co-founder of GUT LightLab, where she conducts research on various aspects of light and lighting in the built environment. She is actively engaged in the work of international organisations such as the International Association of Lighting Designers (IALD), the Illuminating Engineering Society (IES), and International Dark-Sky Association (IDA), providing guidelines and sharing best practice for nighttime illumination in the built and natural environment. She has participated in a number of international conferences, and has written articles for national and international publications. Karolina joined Women in Lighting (WiL) in March 2018 as an Ambassador for Poland.



lightfair®

The premier annual event in
architectural & commercial lighting.

Connect with leaders & companies in the commercial lighting industry like never before. As we return to Las Vegas, we're introducing exciting new experiences, partnerships, lounges & more to LightFair 2020. Registration opens January 2020.

Learn more at Lightfair.com

Conference
May 3-7, 2020

Trade Show
May 5-7, 2020

Las Vegas Convention Center
Las Vegas, NV



IALD

#lightfair

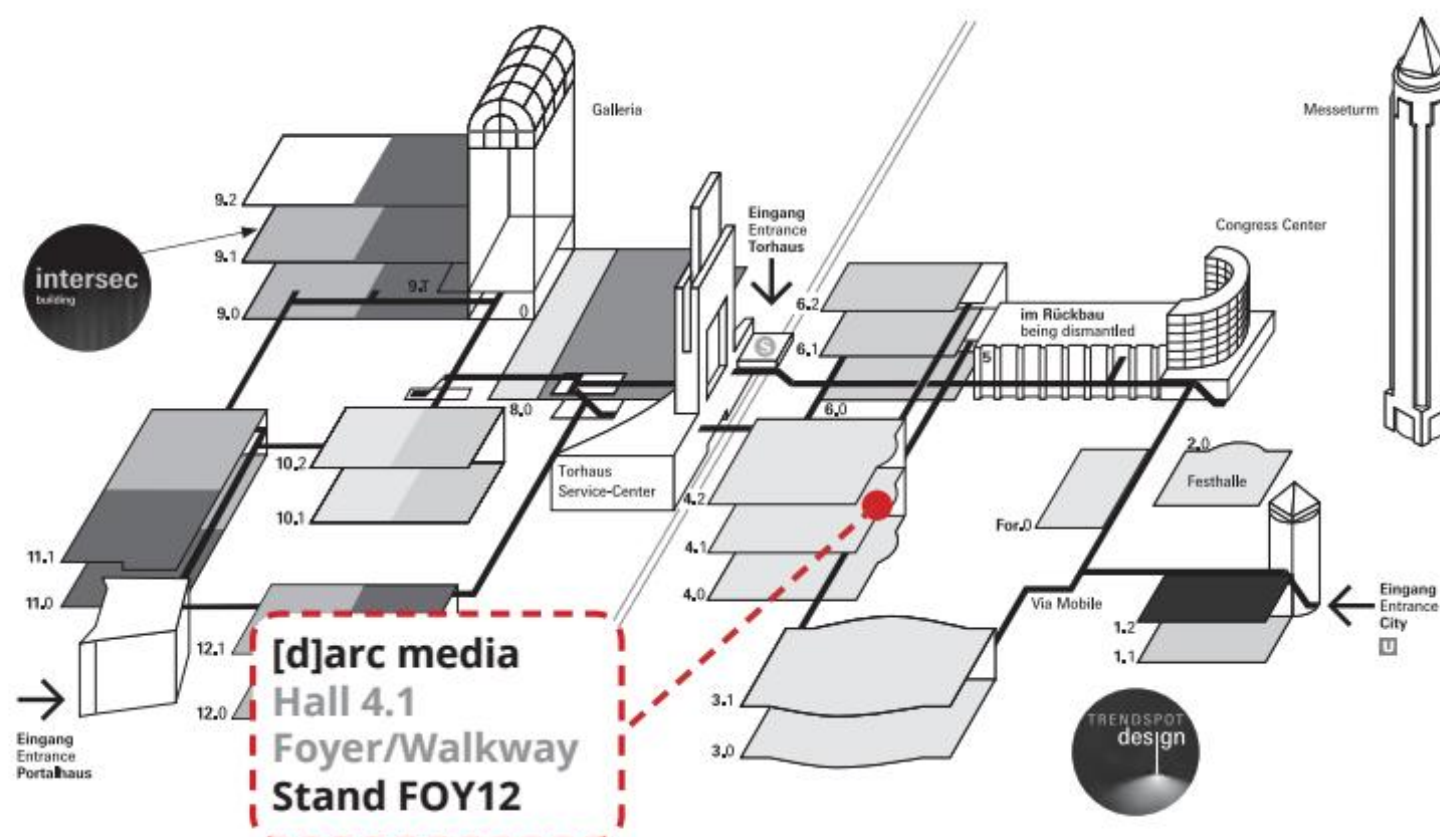


The future. Illuminated.

Guess Who's Back

After two years, we're heading back to Frankfurt for Light+Building 2020. The show is always a flurry of activity, with every exhibitor looking to show off their newest wares.

Here, we take a look at some of the new products that will be on show across the Messe Frankfurt come March 8.



When the Messe Frankfurt last opened its doors for Light+Building back in 2018, the show once again broke records for visitor numbers, with more than 220,000 industry professionals from 177 countries making the pilgrimage to the German city to discover the latest products, solutions and trends offered in the fields of lighting, electrical engineering and home and building automation. The lighting industry may have changed somewhat in the following two years, but event organisers are expecting another high turnout to see the latest offerings from the 2,700 exhibitors that will be presenting their newest products and services. With this in mind, we've put together a comprehensive preview looking at just some of the new products that will be on display to help you beat the crowds in Frankfurt this March. More importantly though, is where we'll be! As ever, **arc** will be at the show all week, alongside our sister publication **darc**, with our very own **[d]arc media** stand. Located in the usual spot on the busy foyer walkway outside hall 4.1 (FOY12 to be specific), we'd like to invite you all to stop by and say hello! You'll be able to pick up extra copies of this very issue, alongside our hot-off-the-press ILDS 2020. Light+Building will be the first opportunity to get your hands on this year's edition of the ILDS - they're sure to go fast, so make sure that you get in there early and get one while you can. No doubt we'll be running around the show floor attending meetings, checking out new products (and having a few complimentary drinks) throughout the show, but if you're lucky you may even spot us taking a much-needed rest at the stand too, so make sure you say hi if you do. If not, our wonderful Marketing Manager Mo will be on hand to answer any questions you might have

about the magazine, the **[d]arc awards**, **[d]arc room**, or indeed any of the wonderful work that we do here.

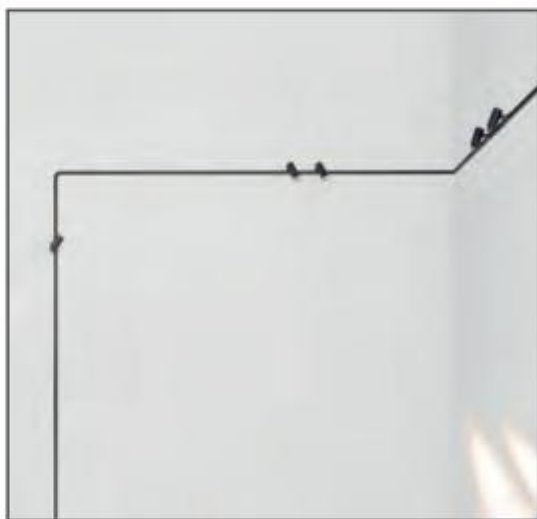
With a strapline this year of "Connecting. Pioneering. Fascinating.", the show will once again look to offer a comprehensive overview of the current lighting market.

One of the major areas of emphasis this year will concern the current design trends in the lighting market. As such, a whole host of exhibitors will be showcasing their innovative ranges of design-oriented lamps and luminaires for both commercial and domestic premises. This will be complemented by a large selection of technical lighting components and accessories.

Light+Building 2020 will also be host to the Light+Building Trend Forum. Held across the duration of the show in Hall 6.2, the Forum will be showcasing trends in three scenarios - Organic Sculptures, Studied Masterpieces and Inventive Collages - and innovative lights and luminaires will play a central role here. The three trends are being researched and put together by the prestigious Stilbüro bora. herke.palmisano.

Elsewhere, Light Collective is bringing the International Lighting Design Family Tree to Frankfurt. After months of putting it together, Light Collective will have a physical version on show on Ligan's stand (Hall 4.0 Stand E21), which will demonstrate the entangled mesh of practices, countries and designers. Visitors will be able to add themselves on the stand. Light Collective will also be hosting a happy hour from 16.30-17.30 each day, when the ILDFT will be live. As ever, the bi-annual Luminale Light Festival will also take place during Light+Building. This time featuring an all-embracing theme of *Digital Romantic*, the festival runs from March 12-15, offering some light relief away from the exhibition grounds. ■

www.light-building.messefrankfurt.com



Minimal Track **Arkoslight**

Minimal Track is a low voltage (24V) surface track system, where miniaturisation reaches a new paradigm. Its ultrafine design is perceived as a minimalist line on the ceiling, creating a trimless visual effect. The system is composed of a matte black anodised aluminium profile and a flexible rectangular-section conductor that merge into total visual uniformity. Measuring 15mm wide and 10mm high, its surface application is practically imperceptible, with no connections, fastening elements or connection tracks in sight.

Hall 3.1 Stand C91 •
www.arkoslight.com



Cobra IP66 **formalighting**

Cobra is an elegant, modular, serpentine system, which smoothly wraps around rounded or non-linear surfaces, lending itself perfectly to the seamless illumination of elegant architectural elements and surfaces. Cobra IP66 is the ideal solution for sophisticated architectural illumination in outdoor environments. Available in a variety of configurations to provide bespoke lengths for any project requirement, it works on constant current drivers at very low temperatures to maximise the system's lifespan.

Hall 3.1 Stand B20 •
www.formalighting.com



Krill **L&L Luce&Light**

Krill is a family of compact projectors with a pared-down design for lighting inside shop windows and display cabinets in the retail and museum sectors. Krill can be installed in variety of ways, so it can always easily reach the details that need emphasising. It has seven different accessories, including a magnetic plate and a double-jointed arm in different lengths that can be adjusted by up to 180°. The projector has a version with a fixed focus, available with either six optics, or a zoom lens with which the angle of the light beam can be adjusted and adapted as the objects on display change.

Hall 3.1 Stand D25 • www.lucelight.it



Stacko **Precision Lighting**

Stacko is the latest luminaire to join the award-winning Miniature Accent Lighting range from Precision Lighting. The new Minipoint system allows luminaires to be plugged and unplugged in seconds. Build unique lighting arrangements by 'stacking' components together, giving full control over the number of light engines, lumen output, beam width, finish and adjustability. High CRI and instant adaptability makes the Stacko collection perfect for any display application, including retail, museums and galleries.

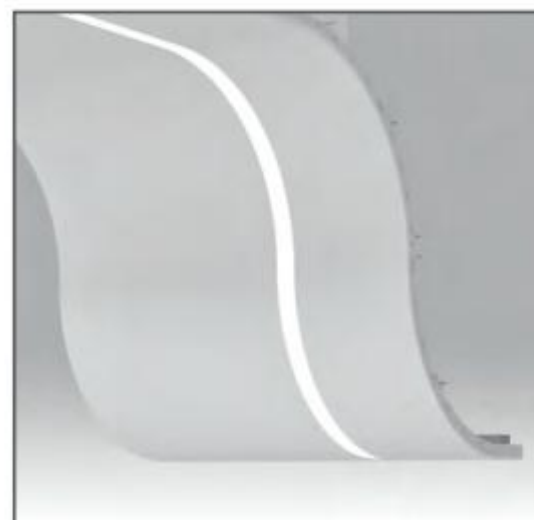
Hall 4.2 Stand A40 •
www.precisionlighting.co.uk



Aerial **Soraa**

Soraa Aerial combines unprecedented colour and optical performance with a classically proportioned cylindrical design to deliver beautiful and precise lighting that integrates seamlessly into architectural environments. Available as a surface, pendant or track-mounted luminaire, the range has been designed with the circular economy in mind and features a removable light module and control gear. Soraa Aerial is offered with a variety of beam and colour temperature options, and can be ordered in both standard and custom finishes.

Hall 4.1 Stand D30 • www.soraa.com



Tracker **Intra Lighting**

Inspired by the soft and fluid forms from nature and architecture, Tracker bends with the ceiling beyond the horizontal movement. Its clean, spine-like look makes it fit every standard construction element. It can discretely blend in and support the creative choices of the architects and lighting designers. It's a trimless luminaire with a seamless light curve that gives out homogenous light with the high light output.

Hall 3.1 Stand D20 •
www.intra-lighting.com

THE STACKO COLLECTION

A NEW **TRULY FLEXIBLE** LUMINAIRE COLLECTION
FOR EVER-CHANGING DISPLAY SPACES

light+building

STAND A40 | HALL 4.2

8TH - 13TH MARCH 2020

MESSE FRANKFURT



8 DIFFERENT LIGHT MODULES TO
BUILD, CREATE & ADAPT
THE PERFECT LIGHTING SET-UP

PRECISION | LIGHTING

PRECISIONLIGHTING.CO.UK



Rubber 3D Bend Optics Linea Light Group

The flexible and foldable polyurethane body is characterised by a micro optical system with a high precision light beam, which transforms the strip into a linear articulated bar, with an excellent wall grazing effect. It is available in three sizes and colour temperatures and two finishes: black and white. The black strip has excellent glazing control and very clear emission, with greater distinction in the initial part of the beam that softens as you go up. The white strip illuminates more at the beginning of the beam and is suitable for walls that need uniform light in the lower part.

Hall 3.1 Stand E91 & E95 •
www.linealight.com



Sans Serif Cariboni

Sans Serif is a line of LED floor-washers, ideal for the lighting of pedestrian walkways, ramps, corridors and the external perimeters of buildings. With essential forms, the Sans Serif line stands out for its considerable visual comfort obtained thanks to the total-dark-light optical system. The light distribution is wide and even. The design and engineering of the product, combined with the use of LED technology, have allowed the depth of all three versions to be limited to just 26mm.

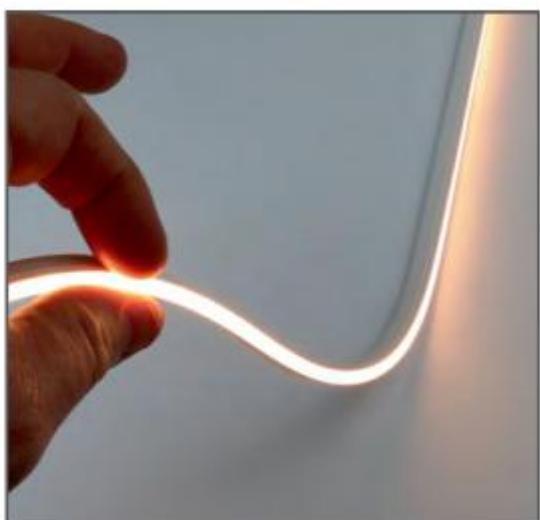
Hall 3.1 Stand B61 •
www.caribonigroup.com



Vesta Flex Bridgelux

Vesta Flex is a family of dual channel LED drivers and control modules designed to reduce the cost and complexity of connected tunable white luminaires while delivering the flexibility required for project-based lighting installations. This specification-grade, future-ready solution is smart, interoperable, programmable, and flexible; compatible with control protocols including Wi-Fi, Bluetooth, DALI2 and 0-10V. Optimised to work with Bridgelux Vesta tunable white light sources, this unique turn-key solution from one supplier ensures compatibility and functionality out of the box.

Hall 8.0 Stand G38 • www.bridgelux.com



Groove Flex KKDC

The new ultra slim Groove Flex from KKDC is a thin (6mm) homogenous diffused linear light source that enables precise, fine architectural detailing possibilities for both indoor and outdoor applications. The tough IP67 'side-bending' flexible silicone exterior houses KKDC premium quality LED technology, with CCT available in 2300K, 2700K, 3000K, 3200K, 4000K and colour consistency to complement the KKDC product range. Designed to be flush mounted via stainless steel mounting clips.

Hall 4.2 Stand H81 • www.kkdc.lighting



DIVA Free Feelux

A slim linear LED, with spot free output with AC connection, DIVA Free does not need transformers anymore. Endless Maximum connection per power is the key strength. Feelux's Diva series always guarantee luxurious lighting with high CRI and slim LED. Among the Diva series, the new NDFree is the most useful and innovative version.

Hall 4.2 Stand G81 • www.feelux.com



Blanco GAP Lighting

Blanco is a series of architectural surface mount wall lights suitable for interior and exterior spaces. Highly manufactured with one piece of pure aluminium and finished in matte white or graphite grey, Blanco will blend seamlessly with any space and lighting scheme. Engineered with tool-less adjustable levers which allow you to create artistic effects and select your optimum beam angle.

Hall 4.1 Stand G31 •
www.gaplighting.co.uk

PHOS
ENGINEERING LIGHT
Introducing our NEW ORBA Range



The Perfect All Rounder

www.phos.co.uk

+44 208 492 7633 | sales@phos.co.uk

Unit 2, The IO Centre, Hearle Way, Hatfield, AL10 9EW, UK.



VON Modular System Climar

A complete range of miniaturised architectural lighting tools offering precise light with excellent glare control and maximum adaptability, the VON Modular System is composed of mini-spotlights, pendant tubes, glass globes and direct light modules, all blending discreetly into the system. Lighting modules can be easily installed and switched from position thanks to a reliable magnetic fixation. A pre-wired structural profile ensures full integration of all lighting modules.

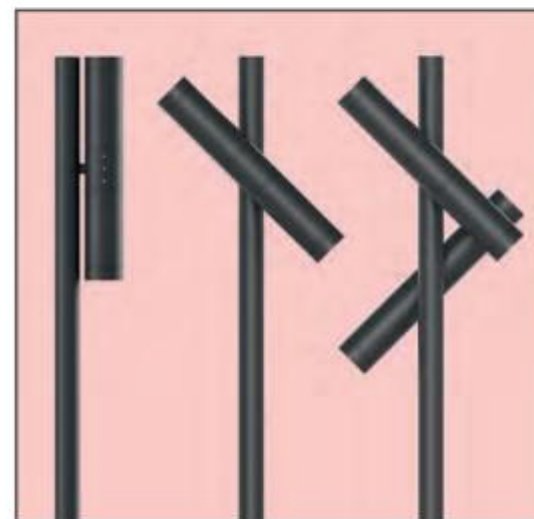
Hall 1.1 D02 • www.climarlighting.com



Ilona-Zoom Ledil

Ilona-Zoom is a patent pending optic enabling an adjustable beam from thirteen to 48 degrees in a compact package. The unique hybrid optical technology enables a zoomable beam without axially moving parts, which allows for simpler, low profile and cost-efficient luminaires. Ilona-Zoom is compatible with LEDil Hekla connectors. With excellent tunable white capabilities Ilona-Zoom is suitable for a wide range of applications, including retail, showrooms, museums, and theatres.

Hall 8.0 Stand C18 • www.ledil.com



Nebula Collection Neri

Nebula is the new urban lighting collection designed in collaboration with American architects SOM - Skidmore, Owings & Merrill. The collection is composed of a lighting system, bollards and path lights. Including three luminaires, four column heights, multiple distributions, numerous lumen packages, colour temperatures, controls and finishes to choose from, Nebula provides powerful flexibility for achieving ambitious and efficient lighting plans. Designed to elegantly complement any public space, it blends seamlessly with contemporary as well as historical surroundings.

Hall 4.0 B41 • www.neri.biz



Nano Oxo Beneito Faure

Nano Oxo is a recessed spotlight with square and round base with finishes in matte black and white. It is a very small projector that fits in the palm of a hand and it is extruded in aluminum. It has an UGR >19, CRI >90 and with its 4W it reaches up to the real 380Lm, making it ideal to illuminate works of art, as well as a switch technology with the following lighting temperatures: 2700k, 3000k and 4000k.

Hall 4.2 Stand H65 • www.beneito-faure.com



Radar Madrix

Madrix Radar is the complete toolbox to manage, configure, and monitor all RDM lighting fixtures in a single software application. Set up important settings remotely. Use automatic fixture patching. Take advantage of fully automatic 24/7 device monitoring and automatic email notifications. Build a database of past sensor data and see trends of device parameters, such as temperature and operating hours. Quickly see the results in graphical overviews. Transform the way you run your lighting projects.

Hall 8.0 Stand K61 • www.madrix.com



aplis/down 60 Kreon

Kreon aplan/down 60 is a new range of round and square-shaped recessed downlights with an aperture of 60mm. Equipped with the newest Bartenbach faceted RMJ reflector in a fixed downlight or wallwash luminaire they offer optimal efficiency and uniformity. Combined with a <UGR19 wide flood optic they are the perfect tool to bring general lighting in an office space. With the additional choice of superspot, spot, flood, wide flood and wall washer, it provides a truly versatile lighting tool.

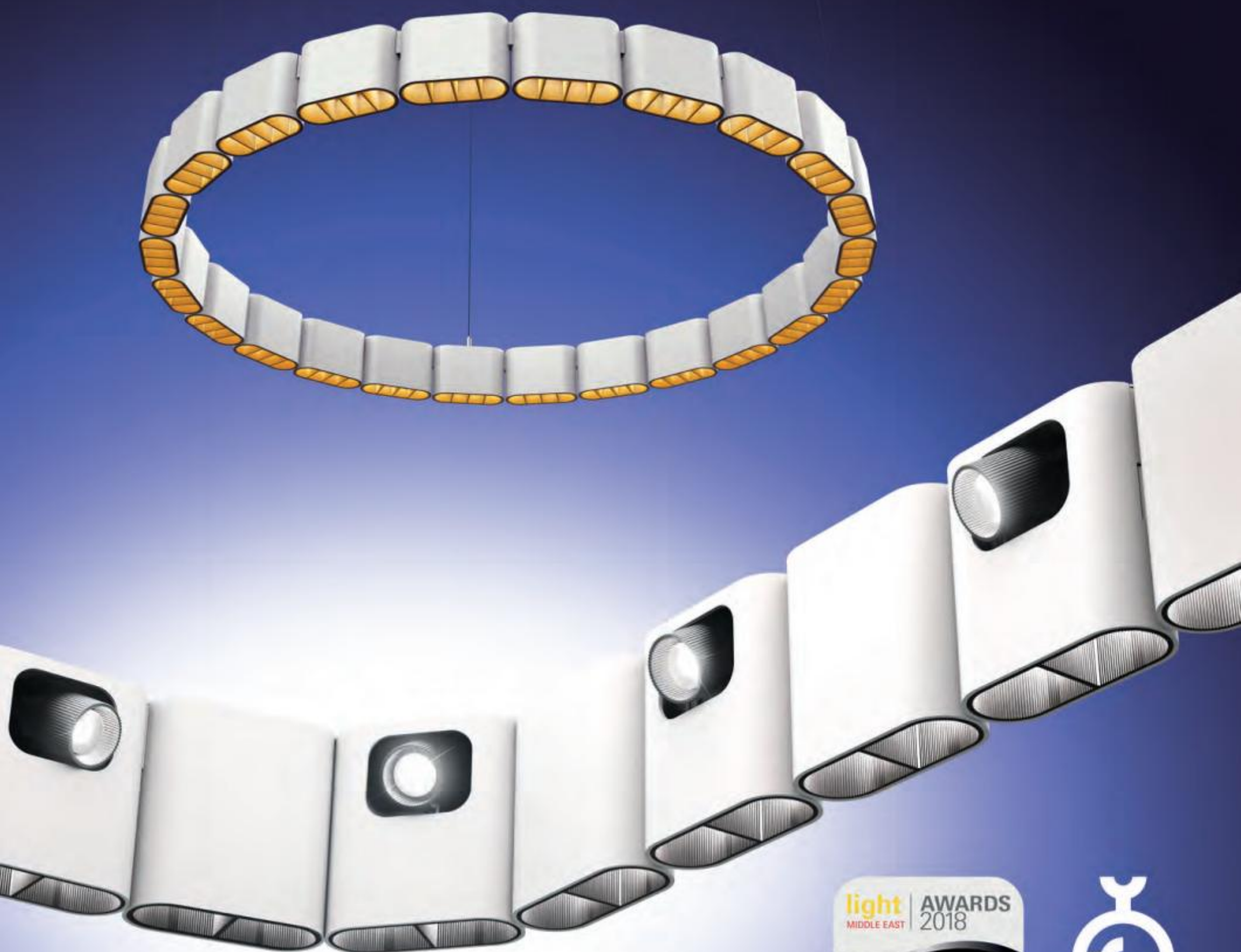
Hall 3.0 Stand B61 • www.kreon.com

RADIANT

ARCHITECTURAL LIGHTING

light+building

Stand A16, Hall 4.2 | 8 – 13 March 2020 | Frankfurt AM Main



Centura System
Flexible or fixed-shape modular LED linear pendant lighting system IP20
Downlight, uplight and aimable side-light options. Up to 5,500 Lumens per Mtr.



DRX1 Variable Beam & Tunable White RCL

RCL has added LensVector variable beam technology and a tunable white light engine to the latest flagship model of the popular DRX1 spotlight. Motorised positioning, seamless adjustment between a beautifully warm 2200K and a crisp, cool 4000K, and full beam adjustability from 15°-53° all combine to put full control in the users hands. It is compatible with a range of control protocols including RCL's new iPad controlled wireless mesh network, RCL Control, to create the ultimate luminaire.

Hall 4.2 Stand A40 • www.rclighting.com



ZTA Stoane Lighting

ZTA is a range of lighting equipment offering total flexibility. The platform has been designed to allow freedom in choice of light source, beam control, finish and with a wealth of options for mounting. It's designed to last, be repaired, be upgraded, minimise waste generated, to be manufactured local to Stoane's HQ in Edinburgh so far as possible and eventually recycled. Stoane Lighting takes its responsibilities seriously and its impact on the environment is front and centre with this product range.

Hall 4.2 Stand J30 • www.stoanelighting.com



Oz Targetti

New light modules have been added to the many elements that already made up Oz, reaffirming the concept of modularity on which the entire system is based. Starting from the two 25x25x50mm and 50x50x50mm fixed modules, a whole range of light points has been developed, including adjustable and multiple modules. A new electrical joint has also been added, in order to allow connecting two installed rails installed on orthogonal planes. The new joint allows the system to develop freely on different surfaces in continuous installation from wall to ceiling.

Hall 3.1 Stand D60 • www.targetti.com



Xeon floodlight on Strium column GHM Eclatec

Eclatec's Strium process is an innovative process available for a wide range of columns and street furniture. Creating a unique feature, Strium brings an original and very contemporary decorative dimension to a city setting. Meanwhile, the Xeon floodlight meets all the needs of urban developers with many options, such as RGBW, GOBO, CCTV and sound systems.

Hall 4.0 Stand E17 • www.ghm-eclatec.com



Ikar LED Luks

Ikar is characterised with a ring light, making it a fascinating alternative to conventionally-shaped luminaires. The luminaire's design comes in two sizes (65, 127mm) and in ceiling, recessed and track mounting versions. Different mounting options makes the luminaire interesting not only from the aesthetics point of view, but also for its applicability in various lighting projects, like for hospitality buildings, reception areas, exhibitions, residential, public areas, and similar applications.

Hall 4.2 Stand C61 • www.ledluks.com



Fama Out Bright Special Lighting

Bright products offer new dimensions in lighting design, with its products equipped with the latest in LED technology. Bright's IP-rated product range covers a wide variety of lighting characteristics, offering appropriate solutions for a large number of lighting requirements. Their adjustable light beam allows for uniform illumination, providing the designer with a range of lighting tools for efficient visual comfort where required. The light is focused and intense, providing a precise and powerful beam of light directly onto the desired focal point.

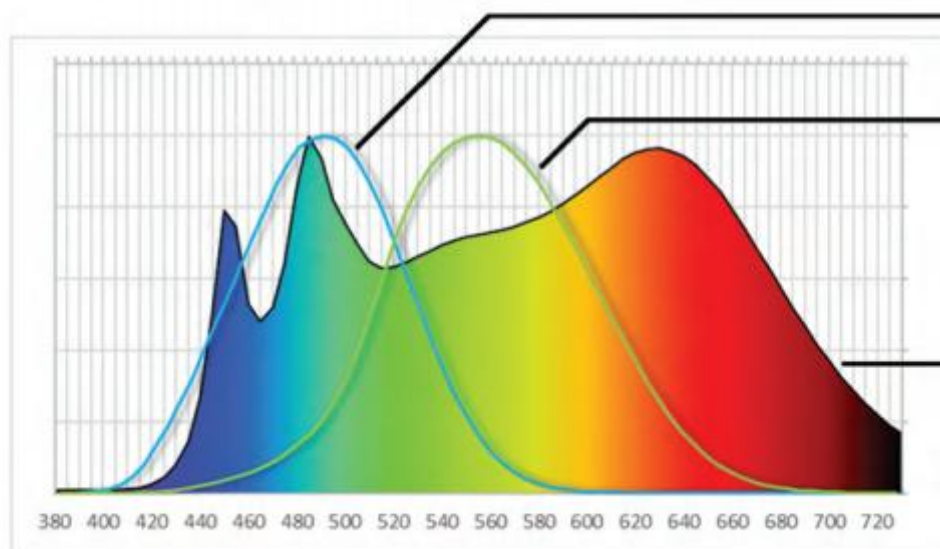
Hall 3.1 Stand A21 & 26 • www.bright.gr

Feel Human Centric Lighting Experience Salud™

Feel Energized, Productive and Alert

Salud LEDs for Physical and Emotional Well Being

You are invited to experience Salud at Light+Building Hall 8.0 Stand C10



Melanopic (circadian) response curve

Photopic (vision) response curve

Salud technology spectrum with enhanced cyan for higher M/P ratios and enriched 660nm content for high R9 and natural skin tones





sunDial quad Artistic Licence

The new DMX/Xicato controlled trailing edge mains dimmer from Artistic Licence, received the 2019 Gold PLASA Award for Innovation. With outstanding dimming performance and advanced safety features, sunDial quad works 'out of the box' with all dimmable replacement LED bulbs. Performance is further optimised through the selection (via RDM) of one of four editable dimming curves on a per-channel basis. With four channels, each providing 250W, the product is also suitable for legacy dimmable incandescent or CFL sources.

Hall 8.0 Stand A79 •
www.artisticlicence.com



Eclipse Erco

With Eclipse, Erco is presenting a new generation of lighting technology for high-quality exhibition lighting and retail. The new Darklight lenses guarantee highest visual comfort and project precise light beams. The ray tracing from one light point achieves an evenly illuminated surface. The new spotlight programme is a modular system – five sizes enable illumination from display cabinet to atrium. Eleven light distribution accentuate precisely – from narrow spot and changeable zoom optics all the way through to homogenous wall washing.

Hall 3.0 Stand A10 & A11 •
www.erco.com



Jeny Technilum

Technilum has developed a new triangular aluminium profile, and designed Jeny : an evolutive lighting structure. Equipped with LED luminaires (dimmable and programmable), Jeny also benefits from Technilum's clever technical grooves, which allow to easily mount any accessories or additional lighting fixtures. In tribute to the artist Jenny Holzer, Technilum has developed LittleWords: an LED screen directly integrated into the lighting structure which allows to share little words and coloured animated images inside the public space.

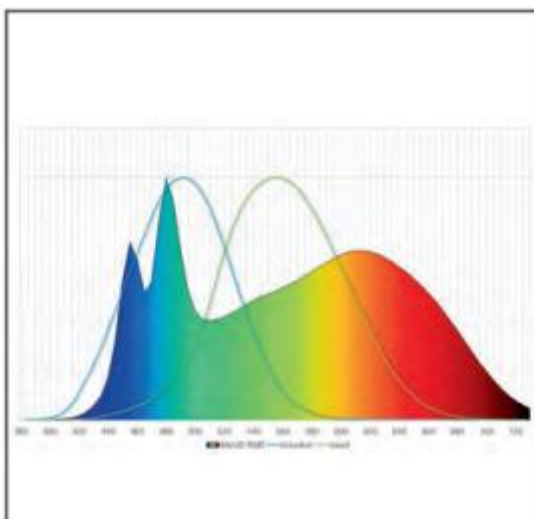
Hall 4.0 Stand B71 •
www.technilum.com



Torus Concord by Sylvania

Torus is a new flagship product in the Concord range that enables wireless adjustment of light levels, pan and tilt, beam angle and colour temperature. Answering the demands for increased rotation of displays and exhibits; Torus is aimed at high-end retailers, museums and galleries, empowering users to rapidly change a lighting scheme through its app. Building on Concord's reputation for cutting-edge technology and build quality, Torus offers unrivalled performance plus considered design details for display environments.

Hall 4.1 Stand E31 •
www.sylvania-lighting.com



Salud 3030 Luminus

Luminus Salud 3030 midpower LEDs have a unique engineered spectrum with melanopic/photopic (M/P) ratios to maximise circadian stimulus in human centric lighting applications. This makes them ideal for daytime lighting applications in offices, schools, factories, hospitals, and any place where people need to feel energised, alert, and productive. Salud steps-up your quality of light with 90CRI minimum, specified melanopic ratios, and warm CCTs from 3000K to 5000K, so they provide light that is invigorating, comfortable, and renders true colours.

Hall 8.0 Stand C10 • www.luminus.com



Varee Unilamp

Varee is a family of LED underwater luminaires that are suitable to be installed on the ground, recess in a concrete wall or surface mounted. The marine-grade 316 stainless steel material and advance polymer housing guarantees corrosion free appearance throughout the product's lifetime. Operating with high lumen output LED from 2700K, 3000K and 4000K with high CRI in three steps SDCM. It is available in various types of light distribution. Varee is pre-wired with underwater cable and humidity-stop device.

Hall 4.0 Stand E81 • www.unilamp.co.th

Are you ready to thrive?



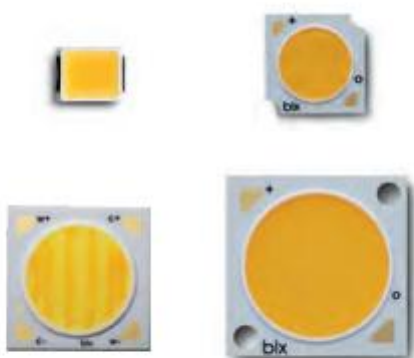
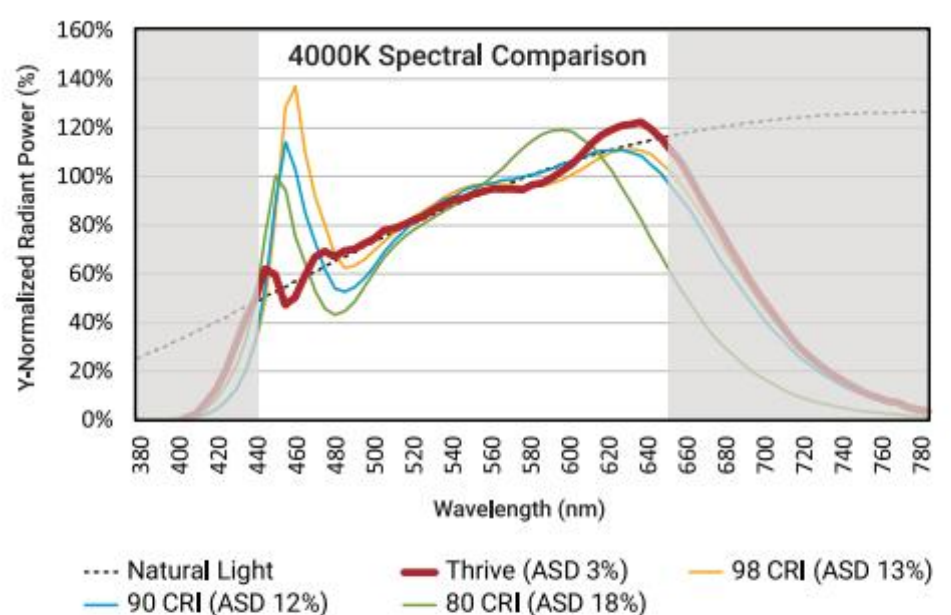
Smooth, full spectra light sources with reduced blue emission and no violet peak, engineered to match the spectra of natural light.

Bridgelux has pioneered a new metric that takes the guesswork out of comparing LED light sources to natural light. The Average Spectral Difference (ASD) averages the difference between two spectra over the visual wavelength range.

Bridgelux Thrive has the lowest ASD in lighting, delivering the closest match to natural light. By comparison, other LED light sources have ASD values 100% to 500% higher than Thrive.

Available in multiple product configurations and CCTs, including tunable white COBs and modules, Thrive is the industry's best daylight spectrum human centric light source.

Are you ready to Thrive?



CCT	ASD	TM-30		Typical CRI and CRI R Values																
	440-650nm	Rf	Rg	Ra	R1	R2	R3	R4	R5	R6	R7	R8	R9	R10	R11	R12	R13	R14	R15	
2700K	7%	94	102	98	98	99	95	94	97	99	98	98	93	97	92	92	99	96	98	
3000K	6%	94	104	98	98	99	95	93	97	99	96	97	97	98	92	93	98	96	97	
3500K	5%	95	98	98	98	98	97	98	98	98	98	97	93	97	97	95	98	97	98	
4000K	3%	97	101	98	99	98	96	98	99	98	98	98	95	95	97	94	99	97	99	
5000K	4%	96	101	98	99	98	96	97	98	96	97	97	92	94	97	92	98	98	99	
5700K	4%	94	98	98	98	98	97	95	98	97	96	95	92	97	96	96	98	98	97	
6500K	4%	96	100	98	98	98	98	98	97	96	99	99	96	98	98	91	98	99	97	



Talea Range
Roxo Lighting

The Talea range was inspired by a combination of dynamic and purist design in order to achieve a custom and exclusive light space. The minimalistic tubular design and the 270° of light combined with up to 3-metre, one piece luminaires makes Talea a unique solution. The continuous lines solutions can be done easily by the seamless body connector and the CLIP-IN system (no tools required). The Talea range can be installed as single or continuous lines on a surface, in suspended or wall mounted applications.

Hall 4.2 Stand G21 •
www.roxolighting.com



D Series
Schnick Schnack Systems

With the D Series, Schnick Schnack Systems is addressing lighting designers as well as architects, as this video-controlled RGBW series is equipped with high quality, efficient RGB LEDs, as well as white LEDs, with excellent colour rendering features. The LED modules of the D Series are easy to control with video sources. An internal colour processing takes care of the pixel-perfect conversion from RGB to RGBW. The white LED is automatically included in the colour rendering, but can also be controlled separately via a fourth channel.

Hall 8.0 Stand E71 •
www.schnick.schnack.systems



FLC220 LED Profile Projector
We-ef

Thanks to LED technology, the quality of exterior lighting has been taken to a new level, making completely new, dynamic and individual lighting design possible. The FLC200 projector series has been specially designed for the specific requirements of architecture and urban spaces. As a new variant, the FLC220 LED profile projector has now joined the modular FLC200 series. Each unit comes as a zoom spot projector for producing sharply defined circles of light, a frame projector for illuminating polygon surfaces, or a gobo projector for projecting gobos onto surfaces.

Hall 3.0 Stand A61 • www.we-ef.com



453sixty
Specialty Lighting Industries

453sixty appears as a small aperture downlight; with the tap of an app, the housing fully descends below the ceiling line thereby transforming into a surface cylinder or a fully automated spotlight. Featuring 340° of rotation, 180° of tilt, dynamic beam shaping (10° to 60°), 453sixty can be equipped with RGBW or tunable /single colour white and all controlled wirelessly from a single app.

Hall 4.2 Stand D31 •
www.specialtylightingindustries.com



Flexia
Schröder

Ask a designer to light up a city and each one will have a different idea. Flexia gives designers the flexibility to design their own original aesthetic luminaire. This state-of-the-art LED modular platform can be endlessly customised with an array of options to reflect a city's character and community. Fitted with Schröder's human-centric FlexiWhite solution, it adapts the lighting to create engaging spaces while protecting our skies and local wildlife.

Hall 4.0 Stand D21 • www.schreder.com



Cylinder One HQ
Acclaim Lighting

Cylinder One HQ is a flexible downlight solution, with an output >12,000 lumens and total aperture of 150mm. It features an internal 100-277VAC power supply, onboard DMX+RDM driver, and each unit includes Acclaim's Aria wireless control technology as a standard feature. Cylinder One offers several quick-change reflectors, as well as various mounting configurations, including surface mount, NPS pendant mount, aircraft cable mount and wall mount configurations.

Hall 4.1 Stand K50 •
www.acclaimlighting.com



Our 1 Year Anniversary at **light+building** 2020

The week commencing March 8th 2020 marks the one year anniversary of the global launch of Light Collective's, Women In Lighting project.

INTERNATIONAL WOMEN'S DAY

On Sunday, March 8th join us for a Women In Lighting 'High Tea' from 3pm - 4pm at the formalighting booth B20A, Hall 3.1, to unite the Project supporters, activists and Women In Lighting!

To celebrate all the remarkable achievements the Project has influenced in just one year, and to announce all the exciting initiatives and activities planned for WIL 2020...

**Light Collective, formalighting and Archifos proudly
invite you to the WIL Anniversary Party on**

Tuesday, March 10th 2020

from 6.30pm

at the formalighting booth **B20A, Hall 3.1 at Messe Frankfurt's
Light & Building Exhibition.**

To RSVP for the event, please email federica@formalighting.it, for return confirmation and wristband collection required for entry.

NETWORK WITH WOMEN IN LIGHTING

From Monday, March 9th to Thursday, March 12th, daily between 1.30pm - 2.30pm, Light Collective and WIL Ambassadors will be waiting to meet with you at a dedicated WIL area at the formalighting booth B20A, Hall 3.1

We hope you will JOIN US!

#IAMAWOMANOFLIGHT #INSPIRATIONISGENDERBLIND

www.womeninlighting.com

**LIGHT
COLLECTIVE**

formalighting

**ARCHI
fos**



Incline Reggiani

Incline is a new range of linear lighting that combines miniaturisation and performance. It offers different options with diffusers, micro reflectors and wall washer optics for general, controlled and vertical illumination. Controlled and glare-free micro reflector with UGR < 19 can be integrated with a wide variety of technical and decorative accessories for unique flexibility to design. High power options feature 400, 800 and 1600lm output. Incline is a unique micro solution for three-phase track applications completely integrated inside the aperture of standard tracks.

Hall 3.0 Stand E81 • www.reggiani.net



Lita Midi Tryka

The Lita Midi is a minimalistic light fixture available in IP20, IP54 or IP67 variants for internal or external use. Lita Midi is made from an anodised aluminium body and stainless steel trim, with either springs or coils for recess mounting. It is also available as an inground. All fittings can be produced with a customised trim for different metal finishes, including a HE30 aluminium option that can be anodised, metallic plated or RAL painted to suit the project requirement.

Hall 4.1 Stand E80 • www.tryka.com



Eclipse Bold Lighting

The Eclipse lighting system has a futuristic design that allows a high flexibility in beam adjustment, while maintaining outstanding visual comfort. Eclipse is an adjustable indirect illumination downlight; its reflector simply slides, aiming the light beam in the exact needed direction, and a simple twist of the reflector adjusts the beam width. Eclipse totally hides the source of light from direct view. Its precise optics allow an outstanding beam control and a quiet transition between horizontal and vertical illumination with adjustability up to 45° tilt.

Hall 4.2 Stand K65 • www.boldlighting.us



Snail Khatod

This lens enables illumination of windows and doors by emphasising the frame structure with an excellent blade-shape beam, executed in any colour you desire. The extraordinary small size and unique snail shape make it the most sought-after LED lighting lens for architectural applications, both indoor and outdoor. Mounted at the centre of the bottom or top, or side edge of windows or doors, it creates a great graphic lighting effect. Made of silicone, it ensures great IP and IK resistance degree.

Hall 8.0 Stand C03 • www.khatod.com



Font Platek

The latest product range from Platek is Font - a family designed by the architect Marco Acerbis, which enriches the range of outdoor poles. The essentiality of the volumes and the shape makes Font an elegant and timeless item. Equipped with lenses that are completely engineered by Platek, it is available both in bollard and pole version, becoming the perfect product for the outdoor areas in the centre of which man is always placed.

Hall 4.1 Stand G70 • www.platek.eu



LEDSFOCUS Stanley Electric

Stanley Electric, while maintaining the firm share in the automotive lamp industry, is celebrating its 100th anniversary as a company this year. A new line-up has now joined its series of landscape lighting products, which have illuminated some of the world's famous landmarks including Niagara Falls and the Eiffel Tower. It provides a better quality of light with even narrower angles of light distribution.

Hall 4.1 Stand D10 • www.stanley-ledlighting.com

WE ALWAYS MAKE THE EARTH CONNECTION.



We care a great deal about the planet - plus, half of it is always dark which means plenty of places to light. So, we build our products to last, designing them with simple, timeless elegance that will always outlive fickle fads. Our lights are handmade from sustainable materials in our resource-conscious factory in Scotland. And they're engineered to be upgraded then eventually recycled. To find out more please visit stoanelighting.com



**LIGHTING
DESIGN
AWARDS 2019**
WINNER

STOANE LIGHTING

EQUIPMENT DESIGN + MANUFACTURE



light+building
Hall: 4.2 Stand No: J30

Good Things Come in Small Packages

David Morgan was keen to take a closer look at Stoane Lighting's diminutive Pipien spotlight after it took home the KIT Exterior trophy at December's [d]arc awards.



When a company grows over a 25-year period, from the proverbial garage start-up in Edinburgh to an international architectural lighting brand that now employs 45 people, there is an interesting story to be told.

Stoane Lighting was founded in 1995 by Mike Stoane, he produced custom-machined

aluminium and steel luminaires in his garage for local lighting designers in Edinburgh. Early products included low voltage halogen rod systems and chandeliers. The first major spotlight project was for the Benson + Forsyth 1998 extension to the Museum of Scotland, with lighting design by Kevan Shaw. The resulting luminaire was the iconic twin cylinder MLX design with the LV transformer housed in the top cylinder.

When Mike Stoane retired in 2014, the company became an Employee Owned company. Stoane Lighting's EO model is an Employee Ownership Trust (EOT), meaning the majority of the company's shares are held in a Trust for the benefit of the employees.

The company continues to produce a variety of high specification luminaires based on machined aluminium and steel components and one of the latest additions to the range is the diminutive Pipien IP65-rated spotlight. It is understood that requests from lighting specifiers prompted the company to develop Pipien as an IP65-rated version of the interior-rated Surf Type S spotlight. A number of the functional design features of the Surf Type S luminaire in terms of adjustability, lockability, durability, changeable optics and re-buildability are incorporated in Pipien. Apparently some of the design principals used to achieve the IP65-rating for Pipien emerged during the design of the Stoane Bulwark luminaire for a Lighting Design International project for Oyster Yachts.

With a body diameter of only 16.5mm, Pipien incorporates a single Osram Oslon Square LED, which produces a high quality of light output with a clean distribution. The maximum drive current is 500mA, giving a lumen output of 71 lumens with an LED power consumption of approximately 1.5W. Pipien requires a remote constant current driver and a number of luminaires can be run in series from a single driver. Using remote drivers can cause issues in some situations with long cable runs causing volt drop, but this approach does result in a miniature luminaire design, while also simplifying the construction.



David Morgan Associates, a London-based international design consultancy specialising in luminaire design and development and is also MD of Radiant Architectural Lighting.
Email: david@dmadesign.co.uk
Web: www.dmadesign.co.uk



All the mechanical components are made in machined aluminium with an anodised satin black finish. The quality of the machining and anodising is very high with a pleasing surface finish. Rotation and aiming angle for Pipien can both be locked securely with an Allen key.

The lenses are designed to be changed by the installer or end user, but this would not be advisable after installation in an outdoor situation, as dirt or moisture could get trapped inside. The glass window is neatly bonded to the machined front ring with a back printed detail to hide the adhesive area. The cable entry seal at the back of the spotlight is nicely detailed with a machined compression ring.

The knuckle joint is machined separately from the body and fixed with a couple of small stainless screws. All of these mechanical details are executed with a clean accuracy, which gives the luminaire a high perceived quality.

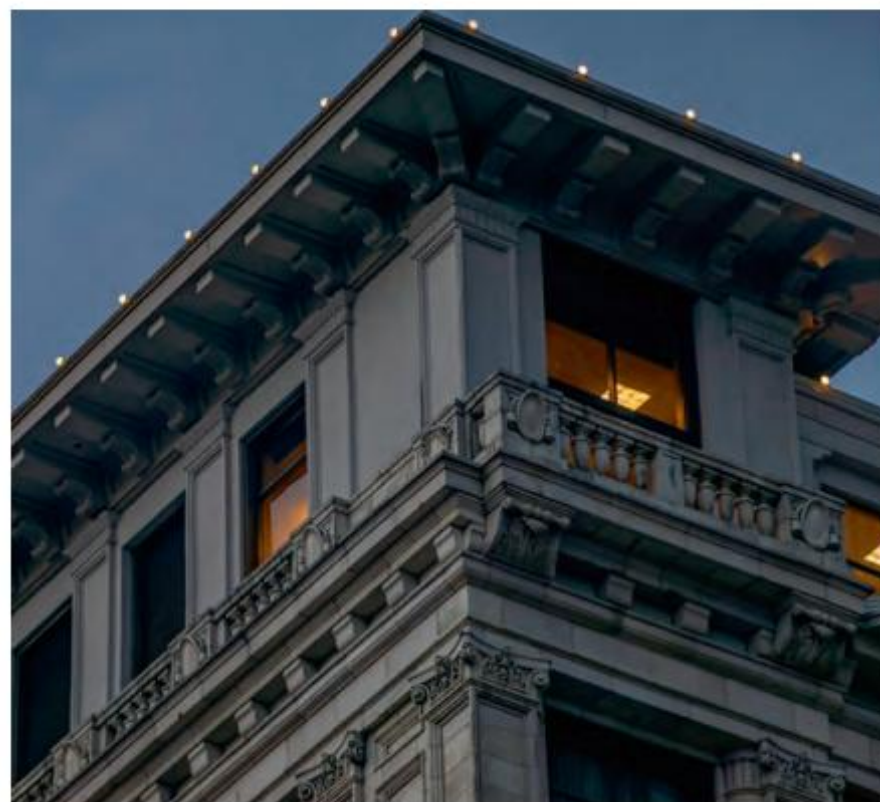
Stoane Lighting's commitment to the green agenda is evident as they make a point of designing their products for easy re-use or recycling. Pipien follows this approach. The only components that are bonded in place are the window and the light engine PCB, both of which could be disassembled at the end of life or if damaged.

The aluminium LED light engine PCB is bonded to the heat sink body with a phase change adhesive so that in theory it could be replaced on site, although Stoane Lighting recommend this is done at their factory under controlled conditions.

The miniature size of the Pipien is evidence of a continuing trend among manufacturers to develop smaller luminaires for many applications. This development is partially in response to the ongoing increase in LED efficiency but also the desire to produce more complex lighting schemes. Small luminaires now have far greater light outputs than in the past, but the important trick is to ensure that the quality and efficiency of the smaller optical system still produces a pleasing lit effect. The mechanical and optical design of the Pipien works very well in this respect. It will be interesting to see how long this design trend can continue and how practical it will be to develop ever smaller luminaires.

The miniature size of the Pipien will enable it to be used in a very wide range of exterior detail accent lighting applications. The mechanical design is simple, straightforward and well executed, while the light output is more than adequate for likely applications and the beam quality is pleasing. ■

www.stoanelighting.com



Connecting the Dots

The Saint Paul Hotel brings grace, warmth and hospitality, and now sparkle to the Minnesota capital's skyline with a new lighting system that accentuates the building's Italian Renaissance Revival architecture.

Today, Minnesota's Saint Paul Hotel maintains its charm by combining early 20th century elegance with the convenience of modern 21st century amenities. However, until recently, the exterior lighting specification wasn't up to the standards of the trademark style and sophistication of the AAA 4-Diamond multiple award-winning Minnesota hotel. The property was planning to use an antiquated incandescent lighting that was certainly historic, but not flexible and efficient.

Ken Wieber, Director of Property operations at the Saint Paul Hotel, said: "The original specification was for a string type of lighting product to meet our needs. Upon testing of the product, the results were underwhelming, with low light output and not true white colour."

To find a better lighting system, the hotel worked with Mlazgar and Associates for the initial design development, specification, project management and system commissioning.

Wieber and Strafelda had three major criteria. They wanted the new lighting

system to produce a true white colour, appropriate brightness, and the ability to quickly programme colour changes. The team tested AL Dot AC RGBW fixtures, a direct view, RDM/DMX node, developed and designed by Acclaim Lighting for low resolution dots of colour and dynamic visual effects for the entire top of the building. AL Dot AC features an internal DMX driver, 120° beam angle, and Acclaim's Spectrum Technology, which allows for true dedicated whites alongside colour changing options. Wieber said: "The AL Dot AC RGBW test fixtures with their control device worked very well, exceeding all of our selection criteria. The construction of the light nodes was very high quality and inspired confidence in our specification and purchase."

According to Wieber and Strafelda, the team liked AL Dot's RGBW colour changing ability with the option to be at 3000K, which will be the "standard" colour used by the hotel on most days. The colour changing ability enables The Saint Paul Hotel to set and change scenes throughout the year.

Viking Electric Supply provided 160 AL Dot

AC RGBW nodes, which were installed by Aid Electric Corporation, around the top of the building. The project was managed by Aid Electric's President Brian Kovar and Project Manager Kevin Vanderlinde. The direct view, RDM/DMX node comes with a multi-pin with five connectors for DMX lead conductors.

A mounting system that enables for single fixture replacement without disturbing any of the building's architectural integrity was designed to maintain the historic façade. The IP66-rated AL Dot AC has an aluminium housing that does not attract dust and provides protection in water. The fixtures operate in temperatures between -4 to 123°F and maintain 70% of their lumens at 150,000 hours for efficient operations in the extreme Minnesota environment.

As part of the lighting project, a controller was programmed with several pre-set lighting scenes, commissioned at the hotel's request. The lighting scenes are switched with the touch of a button from a wall switch or phone app. ■

www.mlazgar.com

www.acclaimlighting.com



HARVARD LAUNCHES NEW CASAMBI-ENABLED LED DRIVERS

In a partnership with Holders, UK distributors for Casambi, Harvard is launching a full range of their **high specification CLi Series LED drivers with built-in Casambi**.

Harvard have integrated a Casambi node into its full range of CoolLED PRO CLi Series LED drivers whilst retaining all their high specification features in their **ultra-compact size** – the drivers are half the size of other lower technology drivers. The key advantage of the smaller case size of Harvard LED drivers is that they fit through relatively small 40mm or 56mm holes in the ceiling, making them ideal as a **fast-fit solution** for use with LED downlights.

The CoolLED PRO CLi Series of Casambi-enabled LED drivers are available in 15W, 25W and 40W versions and are **programmable** from 100 to 1400mA. Specification rich, the CLi Series LED drivers provide **smooth flicker-free dimming down to 0.1%**, particularly desirable for aesthetic & display applications, whilst also allowing **smooth Soft-On & Soft-Off functionality**, offering enhanced comfort for interior and architectural applications.

Mark Needham, Managing Director of Harvard Power Systems



commented, "We are delighted with our partnership and the resulting range of Casambi-enabled drivers particularly because we know that customers will be assured of the best possible customer service in the way of technical support and advice to achieve the best solutions for their lighting schemes. Mat Hanson, Sales Director for Holders added "This great development marries **best-in-class Bluetooth technology**, in the form of Casambi, with the **deepest dimming, flicker-free technology** from Harvard. Bringing together these two exciting technologies, the Casambi-enabled Harvard CLi15 and CLi40 LED drivers are ideal for the demanding specifications of residential, architectural, hospitality and retail projects where exciting dynamic control of LED lighting is required, without compromising the quality of light being delivered. Please contact Harvard Power Systems for more information about CoolLED PRO CLi Series Casambi-enabled LED drivers.

Tel: +44(0)113 880 5405 | Email: sales@harvardps.com | www.harvardpowersystems.com

CLEAR
LIGHTING

Flexglo™ F10

An architectural grade slimmed LED Neon, lightsome and exquisite like the soaring towers in Gothic style.

light + building

Mar. 8th – 13th, 2020
Stand: 10.1 C59

www.clearlighting.com



Lighting With a Twist

Designed by Bjarke Ingels Group, The Twist is the latest addition to Norway's Kistefos Sculpture Park. Within the striking structure, lighting fixtures from Erco create a calm, homogenous environment.

Around an hour's drive from Oslo, Christen Sveaas opened the Kistefos Sculpture Park in 1999. The site is now considered to be the most important sculpture park in Scandinavia, and comprises 46 works by Norwegian and international artists, including Tony Cragg, Olafur Eliasson and Anish Kapoor. The newest addition, "The Twist", inaugurated in September 2019 was designed by Bjarke Ingels Group BIG architects. The 60-metre wide constructive bar that rotates through its central axis by 90 degrees bridges the gap between the lower south bank

and the higher north bank of the river. It also serves as a gallery building with three exhibition areas of around 1,000sqm. Within the complex construction, the architects intended to create an impression of space that was as homogeneous as possible. Walls, ceilings and floors are coated in a uniform white. All technology is concealed for visitors behind cladding of white wooden slats, a reference to typical Norwegian construction methods. The lighting installation consists of white Parscan lens wallwashers from Erco and spotlights have been installed on white track in precisely milled sections within this cladding, appearing as an integral component of the interior. The Parscan spotlights can be equipped with different optics and can thus be flexibly adapted to the specific artworks of the temporary exhibitions. Lighting Designer Thea Collett made sure that the Parscan lens wallwashers were mounted to extra-short sections of track to make sure they're never moved into the wrong position. In combination with the ceiling-integrated, functional general lighting of the museum, the Erco LED lighting tools illuminate the spaces and the objects and paintings they accommodate harmoniously and almost completely evenly – with only little directional light targeted onto the exhibits

themselves.

Morten Jensen, Country Manager at Light Bureau Norway, created very well-lit exhibition spaces by selecting a 4000K neutral white light colour. By placing the focus on wallwashing they achieve a lighting effect that is as uniform as possible and that optimally emphasises the architecture. Carefully supplemented and aligned spotlights bring the very best out of the textures, shapes and colours of the exhibits. The decision to install Parscan spotlights and lens wallwashers for the new museum was taken not only because of their precise and flexible lighting technology, which places architecture and art at the centre of attention – their very good glare control also ensures a high level of visual comfort for visitors. In addition, several sizes are available, alongside high lumen packages of 2779lm, as needed for example for vertically illuminating the nine metre-high southern gallery. The Erco products also managed to win over the lighting designers and architects of The Twist from an aesthetic point of view: the minimalist design, with its simple cylindrical form, means that the different types of luminaires within the Parscan range adopt a highly uniform, discreet appearance in the spectacular exhibition spaces. ■

www.erco.com



light+building

HALLE 4.0 Stand A11

NEW SERIES: LARC68
Highly resistant
architectural lighting

LARC68

WIBRE

Visit us from 8 to 13 March 2020 in Frankfurt



High grade selected
V4A stainless steel 316Ti



IP68 - Permanent function
and tightness under water



Pioneering LED and
lighting technology



100% quality management
and innovative construction



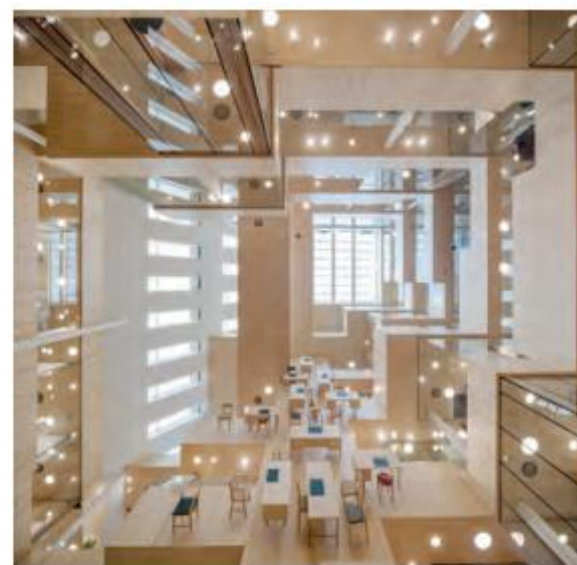
100%
MADE IN
GERMANY

Development and
manufacturing in Germany

**WHAT WOULD WATER BE
WITHOUT LIGHT?**

FOR US UNIMAGINABLE!

With the CENTUM^{oo} series your water
will shine constantly at the highest level.
More at www.wibre.de



Homely City Hall

Intra Lighting's lighting solution for Bodø, Norway's City Hall highlights the modern city hall by creating an inviting and spacious Citizen's Forum.

The new City Hall in Bodø, Norway, combines the original city hall with a former natural stone bank. They are bound together by a new limestone-clad building with a six-storey high atrium. The three buildings are now merged into one flexible plan, designed to flow around a central atrium, which serves as a Citizen's Forum, or a public square with meeting rooms and accessible public services. The crystalline geometry of the building catches the dramatic changing light conditions north of the arctic circle, so during the wintertime it can be seen throughout the day and night. This transcends on the inside of the building, where circular luminaires in three various sizes are randomly dispersed, mimicking the skies far beyond its walls. But behind their

composition is a masterful amount of work. The architects, together with lighting specialists Atelier Lorentzen Langkilde, created a beautiful and efficient light composition with very low energy consumption. Such a design called for the creation of new Intra Lighting luminaire, Nola. Its minuscule appearance, but high visual comfort, and ability to discretely follow both the rhythm of the architecture and its natural surroundings, create a pleasant ambiance where it is inspiring to work.

This natural transition of bringing together a resourceful citizen's hall under the northern skies is also accentuated by a number of art pieces. The staggered balconies, setback atrium fronts, and varied floor heights refer to the Piranesi drawing. The art piece *Poem for the Bureaucracy* by Per Kristian Nygård

adds an unpretentious feeling to the atrium. The up and down dimmed luminaires, in combination with the faceted façade further throw light onto uniquely shaped walls, capturing their silhouette. The brightening features of the glass ceiling and a modern rooftop canteen mean that the natural light of the building's various lines is caught, while ever-changing shadows create a unique play of light. Rounding up the idea of the City Hall to become the Citizen's Forum is the Scandinavian Hyggelig feeling. It makes this atrium, with its wooden veneer ceilings and warm glow as the result of lighting, the feeling of a large Scandinavian living room. There, metaphorically, communion and services are accomplished in an easy, homely and cozy manner. ■

www.intra-lighting.com

NERI



Nebula

Nebula is the new urban lighting collection designed in collaboration with American architects SOM, Skidmore, Owings & Merrill. The collection is composed of a lighting system, bollards and path lights. Including three luminaires, four column heights, multiple distributions, numerous lumen packages, colour temperatures, controls and finishes to choose from the Nebula lighting system provides powerful flexibility for achieving ambitious and efficient lighting plans. Designed to elegantly complement any public space, Nebula collection blends seamlessly with contemporary as well as historical surroundings. www.neri.biz



Wonders of Worship

Lighting from L&L Luce&Light showcases the splendour of the Grand Camlica Mosque - Turkey's largest and most impressive mosque.

Located in the Asian quarter of Üsküdar in Istanbul, and inaugurated in May 2019, six years after work commenced, Grand Camlica Mosque is one of Turkey's largest and most impressive mosques. This new symbol, a building with modern connotations in which the interior spaces have been designed according to the various needs, houses not only the area dedicated exclusively to worship and prayer but also an art gallery, a library, a conference room, an art studio, and the Museum of Islamic Civilisation, which contains artefacts from Turkish Islamic culture. This tradition is reflected in the architecture of the structure itself, which evokes the mosques built in the Ottoman and Seljuk architectural styles. The mosque, which is visible from all parts of the city, is rich in details that attract the attention of visitors as they approach it from a distance: its six imposing minarets, which mark the building's perimeter, represent the six pillars of the Islamic faith. The mosque's main dome stands 72-metres

high to symbolise the 72 nationalities that live in Istanbul. And the main door, which measures 5 x 6.5-metres, is the largest opening of any place of worship in the world. The mosque can hold up to 37,500 people: a capacity that requires a delicate balance between the number of people in the spaces and the need for safety in the event of one of the severe earthquakes the area is prone to. The mosque has been referred to as "a classic project that uses modern tools" and cutting-edge techniques in its construction, and is built to the highest standards, making it "one of [the world's] most robust buildings against earthquakes". Grand Camlica Mosque is exceptional, not only in its construction but also as a result of the L&L Luce&Light outdoor lighting systems chosen by the Lighting Planner Utku Baksir. The Rio 2 diffuse-light recessed outdoor linear profiles featured are drive-over up to 5000kg and have a customised construction, enabling them to be mounted on a square outer casing. They have been installed in the large front courtyard, the esplanade and

to the right of the mosque, and mark out the wide paved surface in a strict geometric pattern. The light emitted by the profiles brings the large area to life without occupying any physical space: they leave the way free while interacting not only with the faithful but also with tourists and visitors. The squares of light have taken on an interactive function that was completely unexpected, as they create a sort of luminous podium perfect for selfies and photographs against the stunning background of the magnificent mosque. A number of Siri projectors, with rounded angles and anti-glare recessed optics, have been used to light the trees in the garden to the left of the mosque, giving volume to the green foliage: a very moving effect, in perfect symbiosis with the atmosphere of the place. This ambitious lighting project has achieved its objective of creating a significant experience not only inside the space dedicated to silence and prayer but also outside. ■

www.lucelight.it

RADAR

Fully automatic 24/7 device monitoring.

Automatic e-mail notifications.

Unleash the full potential of RDM.

MADRIX
LIGHTING CONTROL

Architainment
Art

“ light is the instrument to enrich and
valorise architecture “



Truong Tien Bridge (Hue City, Vietnam)



graphics: Wilfredo Maria Ricci - © 2019 Studio Due

STUDIO DUE light s.r.l.
01100 Viterbo (Italy)
t. +39.0761.352520
f. +39.0761.352653

marketing@studiodue.com

www.studiodue.com



Studio Due
emotion and creativity in light



Going to the Chapel

New lighting from Megaman has improved the aesthetic perception and general experience within Hong Kong's 100-year-old Sacred Heart Chapel.

The Sacred Heart Chapel, built and managed by Canossian Daughters of Charity in 1907, is a Grade I listed historic building in Hong Kong. Since its opening, it has been expanded twice, in 1937 and 1980, and has recently undergone an interior lighting renovation.

This renovation saw the implementation of Megaman's smart control technology, meaning that new lighting scenarios could easily be controlled and managed by the building's owners and users. The need to preserve the original appearance of the chapel meant that there were serious constraints for electrical wiring and possible installation surfaces. The original lighting approach was therefore studied before the design started, to avoid structural and cabling alterations – the chapel's fifteen-metre high gabled roof was an area of particular consideration.

Through tinted glass and large apertures along the hallway, daylight had been the dominant source of illumination within the chapel, but after dark it had always been a challenge, especially with wide beam floodlights installed in both direct and indirect ways. The new lighting design re-interprets the interior by highlighting architectural features, including its gable roof and the altar, with specific choices of Megaman luminaires.

Linear lights were added to bearing columns to bring out aesthetic

contrasts, and spotlights at the top of these columns were replaced with narrow beam luminaires, intended to target the altar with a modern look. Linear washers with increased lumen output were installed around the cornice, creating a continuous light line, forming a crown in the chapel, bringing out the colour of the roof. Reflected light from inclined surfaces fills the entire hall with an ambient glow, where visual contrasts are recognised at the same time. An assorted use of narrow and wide-beam spotlights have been added above the cornice to compensate illumination at reading level. Meanwhile, halogen spotlights aimed at the statues are now replaced with LED spotlights, with better colour rendition and a slightly cooler colour temperature.

Elsewhere, a private section of the Canossian convent and the chapel's school lighting will preserve its humble and practical atmosphere for internal masses and regular purposes.

Despite an improved lumen output of luminaires, cautious optic controls were demanded. The new lighting was rendered via professional light simulation software, ensuring an accurate, desirable outcome in terms of illuminance and luminance, aesthetic perception, and an improvement in the general experience throughout the chapel. ■

www.megaman.cc



IKAR

Ø
65 | 127 mm

Characterized with a ring light, IKAR is an excellent combination of aesthetics and functionality for various lighting projects, like hospitality buildings, reception areas, exhibitions, residential, public areas, and similar applications. The completely adjustable head can be freely rotated through up to 360° as well as to ±90° direction for an optimum adaptation of light on different objects.

ceiling

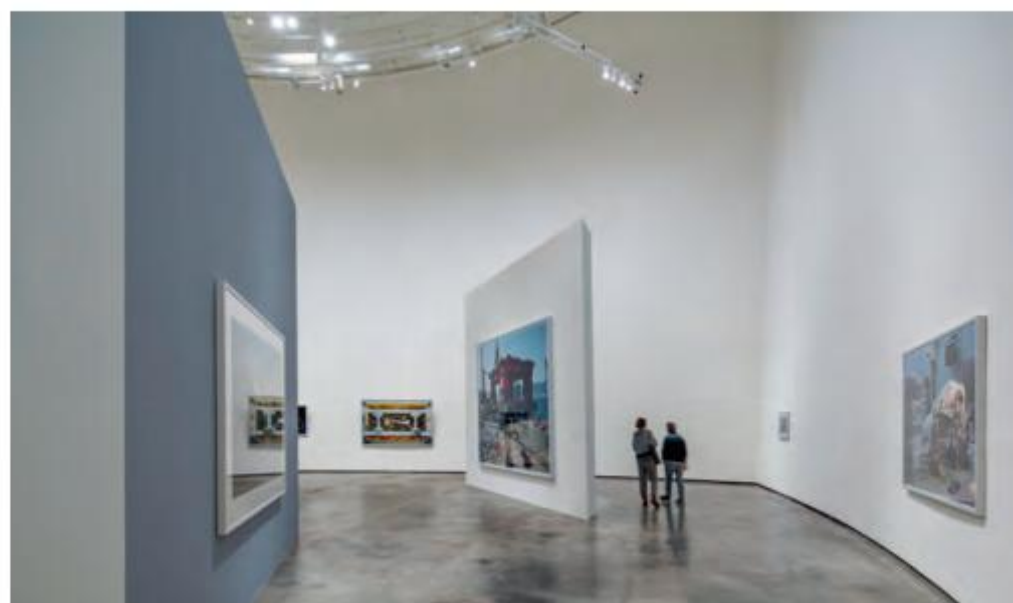
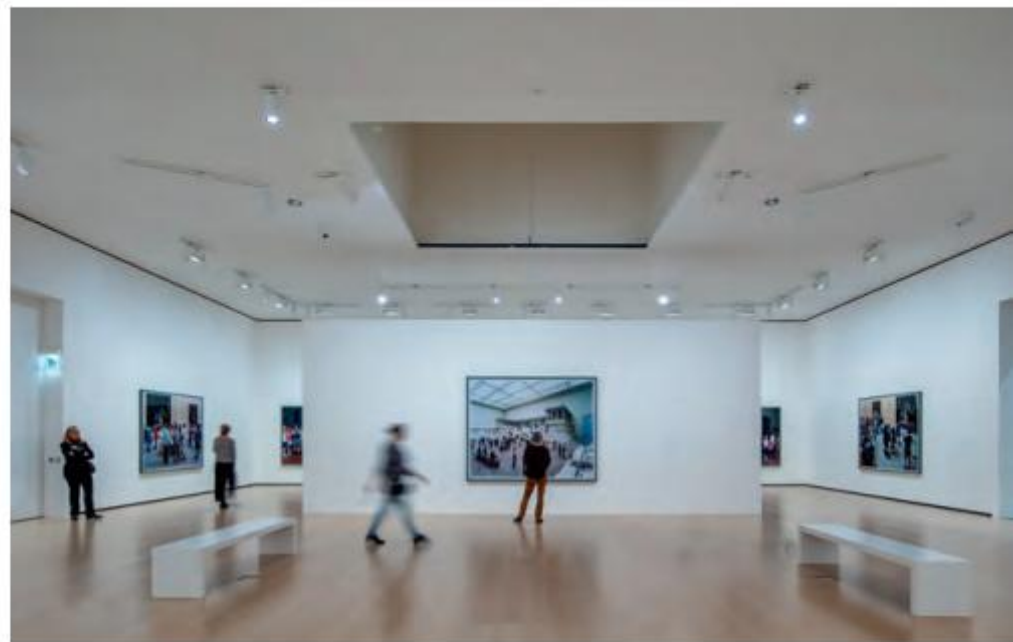


recessed



track





Masters at Work

Zumtobel has developed a special lighting solution for Frank Gehry's iconic Guggenheim Museum Bilbao, giving the exhibition spaces a new lease of life.

The imposing building of the Guggenheim Museum Bilbao has stood on the banks of the Nervión River since 1997. To keep the priceless artworks from the museum collection in their original condition, and display them appropriately, the lighting system has now been refurbished and features a specially developed Zumtobel luminaire.

The museum was designed by architect Frank Gehry in the deconstructionist style: a modern, avant-garde style of architecture characterised by slanting walls, intersecting building elements and sloping or rising ceilings. The impressive 9000sqm exhibition space holds works of art in the form of paintings, sculptures, installations and video art.

Following the refurbishment of the lighting system, the exhibition spaces have been given a new lease of life, thanks to an LED lighting solution from Zumtobel. Replacing the previous lighting system and achieving new levels of efficiency and light quality, to meet the museum's technical and financial requirements, Zumtobel developed a custom-made product that can be used as a wallwasher, spotlight, very narrow spotlight and projector.

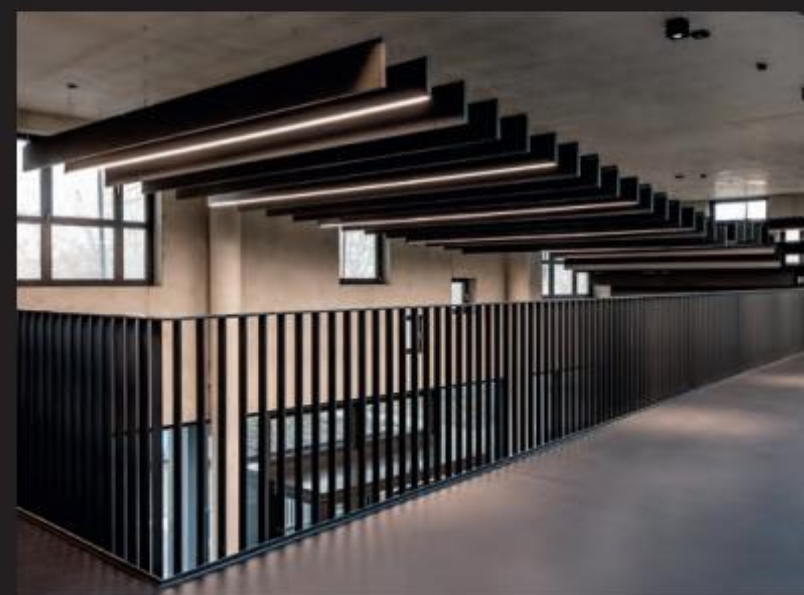
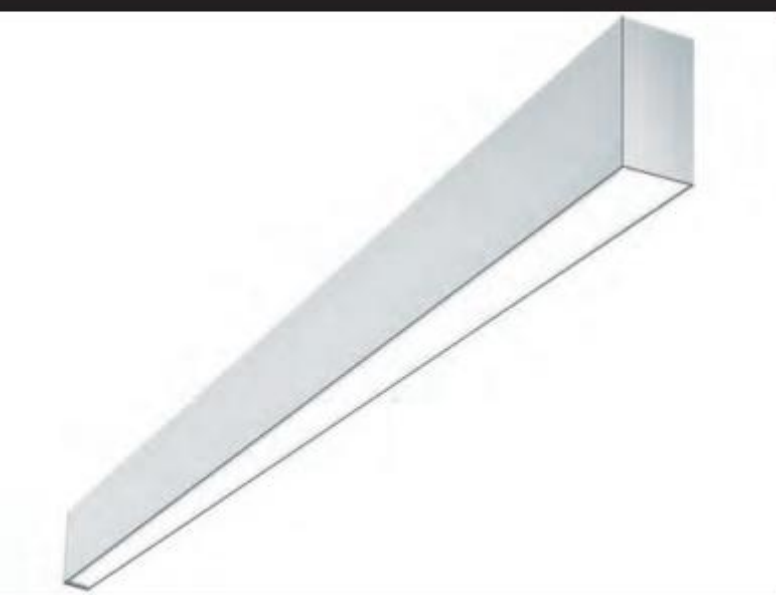
The most important lighting task in the museum is to perfectly highlight of the essence or shape of an exhibit. The performance of Zumtobel's wallwasher spotlight in particular impressed the Guggenheim Museum Bilbao: in the exhibition areas, with ceilings

up to 12-metres high, the luminaire offers the perfect mix of finely accented and large-scale lighting, together with uniform light distribution throughout, and outstanding colour rendering. Additional spotlights illuminate the artworks sensitively and precisely.

UV- and IR-free light protects the exhibits, and the three colour temperatures, 3000K, 3500K and 4000K, showcase the artworks perfectly. In addition, a special filter can be used to create diffuse light and oval light distribution.

With the help of rotationally symmetrical Fresnel lens optics available as 6° and 8° versions, the Very Narrow Spot spotlights offer particularly precise, sharply contoured lighting. The Projector spotlight also comes with a special zoom for focussing the light, with four different lenses, 14°, 25°, 35° and 50° to help achieve this. Zumtobel's custom-made lighting solution helps to bring the exhibits to the fore – enhanced by lighting and the museum architecture. Thanks to the LED technology, the special lighting solution also enables a significant reduction in energy consumption compared with the previous museum lighting, which was a requirement by the museum. Bluetooth makes maintaining the lighting solution particularly easy. Zumtobel has installed more than 1000 special luminaires at the Guggenheim Museum Bilbao. ■

www.zumtobel.com



.....

Individual LED solutions – for interior and exterior matching the architecture

above: LED-ERIS – tracking spots

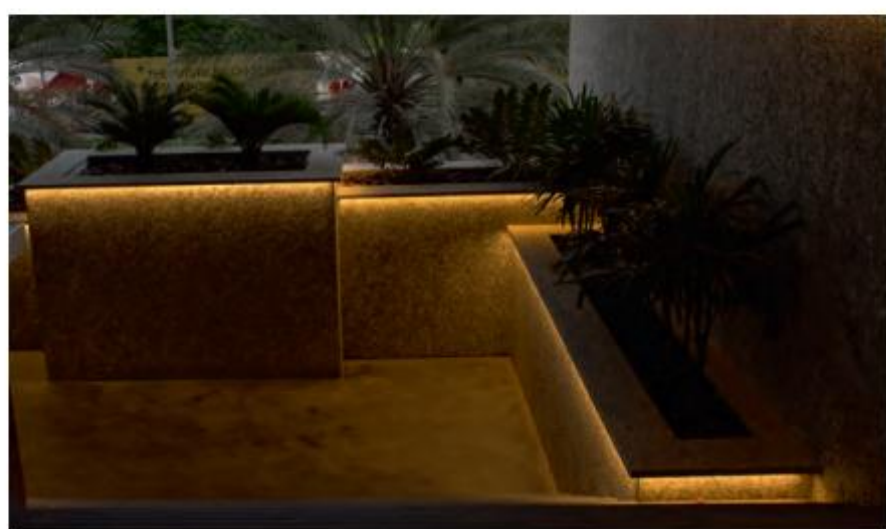
below: LED-LINARGO – direct/indirect light separately controllable and dimmable,
pendant, recessed and surface mounted versions + acoustic baffles

.....

ADO ®
by TTC Timmler Technology

T +49 2255 921 200
E info@ado-lights.com

www.ado-lights.com
www.led-luc.com
www.ttc-technology.eu



Beacons of Wealth

Linea Light Group has provided façade lighting for The Exchange, a new project in Dubai's International Financial Centre.

The Exchange is a new project in Dubai with façade lighting provided by Linea Light Group. Building 11, inside the Gate Village, is the primary international financial centre in the MENA and South Asia regions, known as the Dubai International Financial Centre (DIFC). As it stands, the building cost £40m to build, and caters for offices, banks and financial institutions, business spaces with high-end art galleries, restaurants and shops. Surrounding are green public areas known as the Exchange Square. The project required collaboration between architects, contractors and consultants to complete the entire façade of the building. This allowed them to emphasise the modern and elegant architecture of the building, and make a unique mark on the Dubai skyline. Light was used in an indirect way to describe and highlight the layout of The Exchange. Outside, the Archiline linear profile is used for three different applications: the first and second are on the walkway opposite the entrance and at the top floor on the outdoor path, and both have wall washer optics with a colour temperature tending towards warm white. The third, in RGBW, was applied to the external lift, resulting in a spectacular backlit effect. Other light points are provided by Vedette: a square light fixture with a minimal and modern design, single or dual emission, which allows

for suggestive light play. The powerLED source, with four power levels, guarantees reduced consumption and a very warm light. Its blade optics also allow for further aesthetic emphasis of the details. The profiles of the terraces outside are outlined with the Thin66 linear profile. Due to the 3000K colour temperature, this provides a restful and non-invasive warm white colour. On the large external terrace, the Nicro uplights with blue LED create a celestial ceiling that can be walked on. Around the seating area, Archiline is found once again and, for a contrasting scenic effect, all the green located on the perimeter of the terrace is lit with 9W and 25W Gardener anti-glare, outdoor swivel spotlights. Completing the lighting scheme is the Admiral with blue LEDs, and the Vigilant. The Admiral is submerged uplight, specific for pools and underwater environments, and is characterised by the AquaStop technology, an anti-intake system for the power cables which are thereby protected from humidity and water. The Vigilant in RGB version, is a submerged spotlight in AISI 316 stainless steel, highly versatile and with good design flexibility thanks to the availability of a vast selection of optics and temperature colours and to the tilting bracket feature. ■ www.linealight.com

The Peaceful Revolution

SCHNICK
SCHNACK
SYSTEMS

For the 30th anniversary of the fall of the Berlin Wall:
Hundreds of monochrome pixels remind of
thousands who were fighting peacefully for
the German Reunification.

#LEDmadeinGermany
#LEDplayedinLeipzig

Design by Philippe Morvan, Photo by Andrecht Moss



CREATE
DIFFERENT
LIGHTING
EXPERIENCES
WITHIN
THE SAME
SPACE



SMART SYNC

Smart Sync is GAP Lighting's innovative lighting system which allows you to create multiple zones and synchronise your lighting at the touch of a finger. Easy to set up and simple to use; you can create your own dynamic lighting scheme. You can choose from a range of multi zone controllers or simply download the GAP Light app to control unlimited lights from wherever you are.

info@gaplighting.co.uk | +44 (0) 1322 620 100 | www.gaplighting.co.uk

light+building
Hall 4.1 Stand G-31



Pinpoint Precision

Furniture design company Davidson incorporates Reggiani's new precision LED lighting system throughout its showroom.

Reggiani's Yori Evo fittings were chosen when Davidson wanted to change its LED lighting system throughout its showroom at the Design Centre in Chelsea Harbour. The family-run company designs, manufactures and installs bespoke high-end furniture and works with interior designers, architects, project managers and private clients to provide elegant, unique pieces worldwide. The original lighting system incorporated wide-beam spotlights that created unwanted glare on the furniture on display and didn't show the pieces to their best potential. Lighting Design International (LDI) was approached with a brief to find the right specification of spotlight to eliminate the glare issues and show the space in a new and better light. LDI chose Reggiani's Yori Evo Box system for its CRI, a good range of beam angles and the assortment of accessories to choose from to achieve the perfect illumination via honeycomb louvres and softening lenses. Working closely with Reggiani, LDI devised a system using a mixture of narrow and medium-beam matt black spotlights that would 'pinpoint'

and highlight each piece of furniture and decorative artefact on display to make them stand out and provide real impact throughout the showroom. Using a three circuit track clip-in system in two and three-metre lengths, the medium-beam spots were interspersed between narrow spots over the furniture specifically arranged to highlight each individual display area within the showroom. Spotlights equipped with a softening lens were used on the wall art with some spotlights fitted with honeycomb louvres for other areas in the showroom to diffuse any glare. Emily Bedwei, Senior Designer at LDI, commented: "We reviewed many lighting systems but Reggiani's Yori Evo ticked all the boxes thanks to its high CRI and the wide range of beam angles and accessories available, which we knew would allow us to get the right illumination. Reggiani's Major Projects Manager also assisted us with valuable input. The showroom could only be closed for one day for refurbishment, so our lead time and getting the system onsite were tight, but Reggiani was able to accommodate this." ■

www.reggiani.net



Kingfisher Lighting

Part of the LUCECO_{plc} group of companies



Distinctive Products, Outstanding Service

01623 415900 | sales@kingfisherlighting.com

www.kingfisherlighting.com



The Grand Old Lady

The Cathedral of Our Lady in Antwerp, Belgium – a masterpiece of Flemish Brabant architecture, shines in a new light thanks to new lighting from We-ef.

To mark its 500th anniversary, Antwerp's Cathedral of Our Lady – a UNESCO World Cultural Heritage site – has been given an impressive new illumination. Designed by Susanna Antico and using fixtures from We-ef, the new scheme is part of a wider public lighting master plan, which will see the modernisation of lighting fixtures across the Belgian city.

For the cathedral's new lighting scheme, the previous high-pressure sodium lamps have been replaced with modern LED luminaires. Although the number of luminaires has increased significantly, the energy consumption of the entire system has been reduced by around 40%.

A key factor for this energy reduction was the repositioning of numerous projectors that had previously been installed on the surrounding buildings, which meant that light hit the cathedral from a great distance.

Antico explained: "We have brought many luminaires very close to the cathedral. This means lower luminous flux is sufficient, and we achieve a much more precise lighting effect. Stray light is greatly reduced and glare is prevented – despite the many different angles from which the cathedral can be viewed."

However, when installing the new luminaires, Antico encountered a number of challenges, most notably that minimal interference to the historic fabric of the building was permitted, while the Monument's Department demanded that luminaires installed on the cathedral be "quasi-visible".

As a result, a number of restrictions applied to the installation of the luminaires. "Nonetheless, in order to achieve the precise lighting effects desired, the great variety offered by We-ef's FLC projector series was very useful," Antico continued.

Across the project, large numbers of the manufacturer's FLC230, FLC240, FLC260 and FLC141 projectors were installed. These are used

with different lumen packages and light distributions, from wide to extremely narrow beam. In some cases, they are fitted with additional flood or wall wash lenses. As a result, all areas of the cathedral, as well as the many details and decorative elements, are clearly illuminated. Antico added: "Despite the very different dimensions, it was important to achieve a harmonious light distribution."

The complexity of the project became apparent quickly, from Antico's detailed explanation of the solutions for each individual section of the building: the extremely narrow distributions for the gilded tower clocks, the illumination highlighting the delicate columns of the bell chamber, the gentle shimmer on the dome of the crossing tower that contrasts greatly in colour and shape with the rest of the church, and the precise tracing of the buttresses on the naves and apse are just a few examples.

Many of the pillars, as well as columns and sculptures, are illuminated with We-ef's in-ground luminaires. ETC130-GB and ETC140-GB are installed around the cathedral very close to the façade. Here too, the We-ef range offered the right lumen packages and light distributions for every lighting task.

The end result is a harmonious lighting solution for Antwerp's landmark. In the evening and at night, many architectural details of the cathedral are now clearly visible, and are depicted much more vividly. The look of the church at night is now more closely integrated with the surrounding streets, alleys and squares, as Antico also planned and realised new street and façade lighting. The overall ensemble sees finely balanced light levels that define plausible hierarchies, with a blend of warm and cool white light. The high quality of the new lighting for the cathedral has already seen the project receive recognition with an IALD Award of Excellence in 2019. ■

www.we-ef.com

www.anticos.eu

Ghm

ECLATEC

Lighting



RGBW



GOBO



Fixed
CCTV



PTZ
CCTV



Sound
system



XEON 3 floodlight
STRIUM decorative column

www.ghm-eclatec.com

light+building

Hall 4.0 Stand E17



Selfie Portrait

TM Lighting illuminates the anniversary display of Rembrandt's masterpiece *Self-Portrait with Two Circles*, at English Heritage Kenwood House.

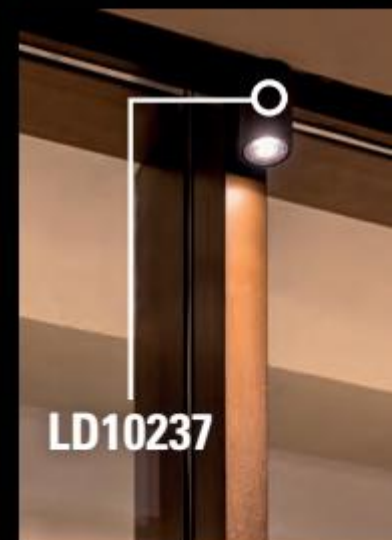
TM Lighting recently worked with English Heritage to provide specialist art lighting for its milestone display 'Rembrandt #nofilter' at Kenwood House in Hampstead, London. The display commemorated 350 years since Rembrandt's death and celebrated the artist's *Self-portrait with Two Circles*, a painting widely acknowledged as one of the artist's defining images and regarded by some as one of the world's greatest works of art. The painting was recently on loan to Gagosian gallery for its exhibition in partnership with English Heritage, *Visions of the Self: Rembrandt and Now*. Rembrandt #nofilter will see *Self-Portrait with Two Circles* displayed in relative isolation, alongside a new digital photomosaic of its own likeness. Rembrandt reinvented the genre of self-portraiture and was incredibly prolific in this regard, making around 80 during his career. This new digital artwork will be comprised of 'selfies' taken by visitors to Kenwood, pitting Rembrandt's timeless self-portrait against the ephemeral images of the 'selfie age' and positioning it as an exemplar of how

old masters can still communicate in a powerful way with contemporary audiences.

For this commemorative display, TM Lighting used its high colour rendition LED Slim Light Pro Picture Light to illuminate the self-portrait, ensuring the painting is evenly lit, the colours are rich and vibrant, and the medium is conserved. The TM Slim Light Pro is housed in a minimal 19mm diameter body and is complemented by excellent glare control. The targeted light distribution allows the use of a smaller body than that of larger, traditional style picture lights, without compromising on optical performance, comfortably lighting canvases of 4-metres in height.

The self-portrait is a highlight of Kenwood's Iveagh Collection. In 1925, Edward Cecil Guinness, 1st Earl of Iveagh, bought the house. Four years later, he stipulated that Kenwood should be open free of charge to the public, including the display of 63 of Lord Iveagh's Old Master and British paintings. ■ www.tmlighting.com

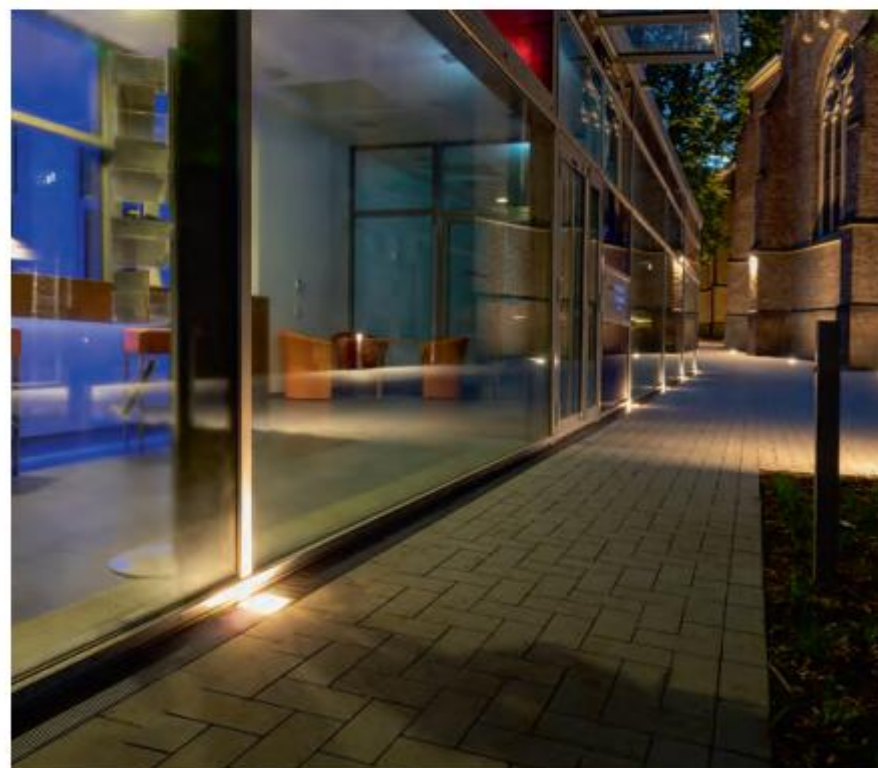
CUSTOM LD47



LightGraphix
Creative Lighting Solutions
Visit www.lightgraphix.co.uk for more info

Design: Lighting Design International
Project: Four Seasons Astir Palace Hotel, Athens, Greece.

Photography by: Gavriil Papdiotis



Pics: Von Pigage



An Illuminated Guide

The TTC Drainlight from ADO Lights helps orchestrate a new plaza of peace and quiet at St Marien's Parish in Bad Godesberg.

ADO Lights has used the TTC Drainlight within the re-design of the churchyard at St Marien's Parish in Bad Godesberg. The stainless steel draining channels were used to mark out a public meeting space, as according to the brief provided, as well as provide a pedestrian pathway and link to downtown Bad Godesberg. The TTC Drainlight is a combination of high-end stainless steel drainage channel and linear cross gratings by TTC Timmler Technology, whilst the LED lighting are provided by ADO Lights. To achieve the desired illumination, the linear LED lights are integrated at different angles. To this end, the façade drainage channel features a stainless steel grating cover and integrated

surface lights on the mullions that surround the parish. The length of the TTC Drainlight is equal to that of the façade. Meanwhile, the churchyard features the TTC Drainlight with an open slotted channel and linear LED light. For the linear filigree gratings, the architects had to choose between stainless steel, aluminium, bronze or black versions. As with the TTC Drainlight on the façade, the colour of the LED lights are dimmable and can be controlled. Discreet stainless steel slotted channels, which blend in elegantly with the cobblestones in the churchyard, are inlaid for drainage purposes, and a steel strip with integrated LED light guides visitors along in the right direction. ■

www.ado-lights.com

LIGHTING
YOUR WORLD

ROXO lighting

light+building

8 - 13 MARCH 2020
Frankfurt am Main

4.2 | G21
HALL | STAND



www
• roxolighting
• com



Cofinanciado por:
**COMPETE
2020**





Smart Solutions

BIS Econocom turned to Sylvania when installing lighting in its new Wonderful Audio-Visual Experience (WAVE) building in Mechelen, Belgium.

BIS Econocom's new Wonderful Audio-Visual Experience (WAVE) building showcases how lighting and technology can come together to provide highly productive and comfortable working environments. Each room is carefully crafted with furnishings and includes state-of-the-art audio-visual and IT technology such as video conferencing, collaboration tools, LCD touchscreens and wireless presentation options, all of which work intuitively for its users and without technical support. In answer to the various challenges, Sylvania provided BIS Econocom with a range of smart lighting options. As energy saving was one of the main objectives, the lighting had to be linked to daylight and presence detection. From a technical perspective, with all of the audiovisual technologies present in the building, interference had to be avoided and the flicker rate needed to be as low as possible. Furthermore, Sylvania had to provide full integration of the smart lighting technology with BIS Econocom's KNX/DALI system in the meeting rooms. "We required a fully integrated smart lighting system that not only integrated with our audiovisual and wide variety of IT solutions, but also created the perfect working and meeting environment for both employees and visitors alike," says Philippe Hostens, BIS Econocom. In high movement spaces such as the corridors and concrete staircase, RANA Linear luminaires were selected to offer a minimalistic light. Owing to the transient nature

of these spaces, Sylvania selected SylSmart integrated sensors in order to light these areas at appropriate times of the day, not wasting energy in lighting spaces with no occupants.

For the meeting rooms, BIS Econocom opted for DALI fixtures with presence detection, which were installed into the KNX system for AV integration. For this, Sylvania's Optix recessed fixtures with ultra-low glare optics were installed to deliver the lighting desired. Recessed into the ceiling, the white finished luminaires blend inconspicuously into the background.

The office workspaces feature acoustic modules, which prevent excessive noise propagation and thus help with concentration and productivity. Sylvania developed a customised version of its low glare Optix recessed fixture in a black finish to blend in with the acoustic modules. In addition, customised black suspended Concord linear Mini Continuum fixtures were installed throughout the office, creating long lines of continuous light, giving the space an open feel. Lastly, Sylvania SylSmart integrated sensors were deployed for maximum energy saving combined with ultimate lighting comfort.

"Thanks to Sylvania's smart lighting solutions, we were able to achieve a perfect blend of stylish, clean lighting integrated with smart technologies that have enabled us to showcase the innovative possibilities we can all benefit from in the future office," concluded Hostens. ■

www.sylvania-lighting.com

SNAIL – SILICONE LENSES WINDOW and DOOR ILLUMINATION

for 2x2mm white and color LEDs



Innovative Design – L 72.00mm x W 45.00 x H 27.15mm - Blade-Shape Beam - Unique Graphic Lighting Effect

light+building

Come see us at L+B 2020
Booth # 8.0, C03

KHATOD
100% MADE IN ITALY

100% Made in Khatod, Italy
www.khatod.com

Assistant Lighting Designer

We are currently seeking a creative, enthusiastic and self-motivated Assistant Lighting Designer to join our talented and experienced design team.

Our current portfolio of work includes lighting masterplans, commercial, prime residential, retail, hospitality and cultural development projects.

A passion for design and the ability to communicate your ideas through drawings, sketches and 3D visualization software is essential. Experience in the use of AutoCAD, Revit and Photoshop is preferred. A willingness to learn and the ability to work under your own initiative is necessary.

We offer a competitive salary and structured career progression in a pleasant working environment in central London.

If you are motivated by challenge and excited by the prospect of developing your career within a leading lighting design practice, please apply in writing enclosing a current CV together with examples of your project work to Keith Miller.

keith.miller@giaequation.co.uk

gia
EQUATION



17 Risborough Street | London SE1 0HG | Tel: + 44 (0)20 3772 2760 | www.giaequation.co.uk

The leading international magazine for lighting in architecture



Subscribers benefit from:

- Reviews of the most exciting projects in the world
- In-depth profiles of leading figures from the lighting design and architecture profession
- Special features on stand-out products and collaborations
- Coverage of international exhibitions and conferences
- Bonus subscription to International Lighting Design Survey

www.arc-magazine.com/subscribe/

ADVERTISERS INDEX

A.A.G. Stucchi.....	151	GVA Lighting	163	Neri	195
ADO Lights	201	Hacel Lighting.....	6, 7	Nexo Luce	27
Alto.....	93, 95	Harvard Power Systems.....	191	Nicolaudie	29
Applelec.....	137	Huda Lighting	13	Orluna	111
Archiproducts.....	140	IALD	22	Phos.....	177
ArkosLight.....	47	Illumination Physics.....	25	Precision Lighting.....	175
Bega.....	3	Indelague Group	211	Proled	17
Beneito Faure	69	Insight Lighting.....	127	Radiant Architectural Lighting.....	179
Bold Lighting.....	167	Intra Lighting	63	RCL.....	55
Bridgelux.....	183	John Cullen Lighting.....	19	Recolight	217
Bright Special Lighting.....	121	Khatod Optoelectronic	213	Reggiani.....	33
Cariboni Group.....	145	Kingfisher Lighting	205	Schnick-Schnack-Systems	203
Clear Lighting.....	191	KKDC	99	Schreder	105
Climar	57	Kreon	117	Seoul Semiconductor	11
CLS-LED	10	L&L Luce&Light	53	Snappy NingBo/XiChu Lighting	12
Colors	14	Lamp.....	75	Soraa.....	155
Concord by Sylvania Lighting	43	LED Linear.....	220	Specialty Lighting Industries.....	2
Delta Lighting Solutions	215	LED Luks.....	199	Speirs + Major	215
[d]arc room.....	8	Ledil	23	Stanley.....	24
Ecopac Power	20	Lightfair International.....	172	Stoane Lighting	187
Encapsulite.....	16	LightGraphix	209	Studio Due	197
Erco.....	39	Ligman.....	81	Targetti	31
Feelux	115	Linea Light Group	45	Technilum	21
Forge.....	18	LKD - Licht Kommunal Digital.....	89	Tryka LED	159
formalighting.....	4, 5	Lumascap.....	125	Unilamp.....	15
Gap Lighting.....	203	Luminus	181	Vexica Group	219
GHM-Eclatec	207	Madrix	197	WE-EF Lighting.....	9
GIA Equation.....	214	Megaman	85	Wibre	193
Guangzhou Lightfair	168	Modular.....	51	Xicato.....	131

ADVERTISING ENQUIRIES SHOULD BE MADE TO JASON PENNINGTON.
TEL: +44 (0) 161 476 8350 EMAIL: J.PENNINGTON@MONDIALE.CO.UK



Senior Lighting Designer Dubai, UAE

- Work with top-tier architects on international projects
- Be a part of an award winning and talented team
- Strong career growth and earning opportunities

We are looking for a passionate and highly creative lighting designer who is able to manage a design team and deliver the design on a wide range of projects. The designer will work as a part of a larger design team and will be involved in some of the world's most interesting projects.

ABOUT DELTA LIGHTING DESIGN:

We are a multi award winning architectural lighting design consultancy founded in 2001 with offices in Dubai and London. Our international design team of 15 people focuses on creating exceptional lighting projects ranging from luxury hotels and resorts, public realm projects, master planning, retail and mixed use projects throughout the Middle East, Asia, Africa and Europe. People enjoy working in our design studio because we have an informal and supportive atmosphere yet we remain very focused and serious on creating exceptional work.

YOUR WORK/ DUTIES

The senior lighting designer position is a design leadership position. You will design and manage projects and interact directly with our clients. You will report directly to the company principal and the design director. Your duties will include a wide mix of items including:

- Guiding and mentoring other team members
- Conducting internal design charrette sessions.

- Guiding the in-house visualization, AutoCAD and BIM teams.
- Completing all deliverables for all RIBA stages.
- Ensure to follow the company's quality control processes.
- Coordinate and complete mock up reviews and on site testing.
- Design and development of bespoke light fittings.
- Complete all post contract deliverables including site coordination, shop drawing reviews, snagging, supervision of aiming and adjustment of lighting and programming of controls.
- Produce and update project delivery programs.
- Manage all client meetings and work shops and issue meeting minutes and next steps.
- Complete commercial tasks including invoicing, submitting claims and contract reviews.

SKILLS AND EXPERIENCE:

- Degree in a relevant design field and/or a degree in lighting design.
- Proficient in, Dialux, In design, Photoshop, AutoCAD, Primavera or Microsoft project.
- Fluent in English.
- Experience in designing hospitality, retail, public realm, museum, mixed use and master planning projects.
- Experienced in managing a design team and client coordination.
- Very strong technical knowledge of lighting.
- Highly organized and able to manage multiple project simultaneously.

HOW TO APPLY:

Send your resume, portfolio and cover letter to career@deltalightingdesign.com

SPEIRS + MAJOR

Designers wanted...

Speirs + Major are independent, award-winning international designers who use light and darkness to enhance the experience of architecture and the wider visual environment.

We are looking for designers with a passion for light to join our London team. We're innovative designers who work on ground-breaking projects. We offer creative and technical training, a great working environment, and competitive salary and benefits.

You must have excellent design and visual communication skills, be able to hand sketch and ideally be an experienced user of Photoshop, AutoCAD, Revit and a 3D software package.

Previous experience of architectural lighting design is preferred but is not essential.

All applications must include a cover letter, CV and examples of work that demonstrate your thinking, your visual communication skills and your interest in light. Please refer to our website for further guidance on portfolio requirements.

If you are interested in joining our team, please contact:

Contact: Karina Armburg Jennings
E-Mail: opportunities@speirsandmajor.com

UK work permit essential.

Strictly no agencies. Speirs + Major are an equal opportunities employer.

「光」に興味のあるデザイナー募集中

Speirs + Major (スピーアーズアンドメイジャー)は「光と働くデザイナー集団」です。これまで数多くの賞を受賞し、国際的に幅広く活動しています。

光に興味のある優れたデザイナーを東京スタジオで募集しています。

下記に当てはまる応募者を優遇します。

- a) 2 - 3 年間の照明デザインの職歴がある方
- b) 英語の語学力が高い方 (基本的に英語の仕事になります。中国語が話せる方尚優遇)
- c) デッサンが得意な方
- d) Photoshop, AutoCAD, Revit, その他3D デザインソフトウェアが使える方

給与は経験及び能力を考慮の上、相談により決定します。

興味のある応募者の方は履歴書とポートフォリオをEメールで担当者宛てにお送りください。書類審査の上、担当者よりご連絡いたします。

担当者: Karina Armburg Jennings
Eメール: japan@speirsandmajor.com

日本で就職できる方のみ募集しています。外国人の方は就労ビザが必要です。

www.speirsandmajor.com



Event Diary

Industry events where you'll find **arc** in the months ahead

EXPO LIGHTING AMERICA

25-27 February

Mexico City, Mexico

www.expolightingamerica.com

LIGHT + BUILDING

8-13 March

Frankfurt, Germany

www.light-building.messefrankfurt.com

LEDUCATION

17-18 March

New York, USA

www.leducation.org

PROLIGHT + SOUND

31 March - 3 April

Frankfurt, Germany

www.pls.messefrankfurt.com

ARCHIPRODUCTS

20-26 April

Milan, Italy

www.milano.archiproducts.com

LIGHTFAIR INTERNATIONAL

3-7 May

Las Vegas, USA

www.lightfair.com

GILE

9-12 June

Guangzhou, China

www.guangzhou-international-lighting-exhibition.hk.messefrankfurt.com

LED EXPO THAILAND

24-26 June

Bangkok, Thailand

www.ledexpo-thailand.com

INTERLUMI

25-27 July

Panama City, Panama

www.inter-lumi.com

LEDFORUM.20

20-21 August

São Paulo, Brazil

www.ledforum.com.br

[D]ARC ROOM

17-19 September

London, UK

www.darcroom.com

TRENDS IN LIGHTING

22-24 September

Bregenz, Austria

www.forum-trends.lighting

PLDC

8-10 October

New York, USA

www.pld-c.com

LIGHT SYMPOSIUM WISMAR

14-16 October

Wismar, Germany

www.lightsymposium.de

IALD ENLIGHTEN AMERICAS

22-24 October

Palm Springs, USA

www.iald.org

More than just compliance

Join the WEEE scheme that
sets the standard for the lighting industry.



TRANSPARENT CHARGING

Charging is per lamp or luminaire sold which means you have no hidden costs and can accurately forecast what you will be charged each month. No need to worry about national targets, market shares, or compliance fees.



LARGEST COLLECTION NETWORK FOR LIGHTING

You and your customers have access to the UK's most comprehensive free of charge recycling service network for lamps and luminaires.



LIGHTING WEEE SPECIALIST

We lobby to get the regulations right for lighting. Members of LIA, ILP, Eucolight and elected chair of WEEE Scheme Forum



NOT FOR PROFIT

We operate as non-profit, minimising costs to our members, so that we can provide your customers with a free recycling service for all WEEE lighting.



BIGGEST RECYCLER

To date we have recycled more WEEE lighting than **all UK compliance schemes** combined.

info@recolight.co.uk
www.recolight.co.uk

Recolight
WEEE? GOT IT.

020 8253 9750

#14 Unolai Lighting Design

Curated by **LIGHT COLLECTIVE**

"You cannot depend on your eyes when your imagination is out of focus."

Mark Twain

What:

Interstellar travel.

Where:

Outer space.

How:

Space travel has always been one of my biggest dreams since I was a child. As the commercial space shuttle becomes more realistic, I hope that one day I can take it to another planet and see our earth from outside.

When:

I think the commercial shuttle will be ready by 2030.

Why:

We were born and raised on Mother Earth, everything we have received and learned is what the Earth has. Our vision is limited by staying only on this planet. If one day, I can see the earth from the universe instead of looking up at the sky, this will definitely inspire and renovate my vision/value.

Photo: NASA - www.nasa.gov

Flexi-Line-T3

New flexible top view
LED strip with 3 sided
illumination

LED LINEAR™
lighting solutions

GAME CHANGER!



INVINCIBLE BY SKILL.
INVISIBLE BY DESIGN.

ULTIMA - the smallest & most powerful lighting fixture in the world.

Come and be amazed!
light+building

Hall 4.2 | F61

For more information about ULTIMA IP40 please visit our website www.led-linear.com