

*Light for Outdoor and
Architecture*



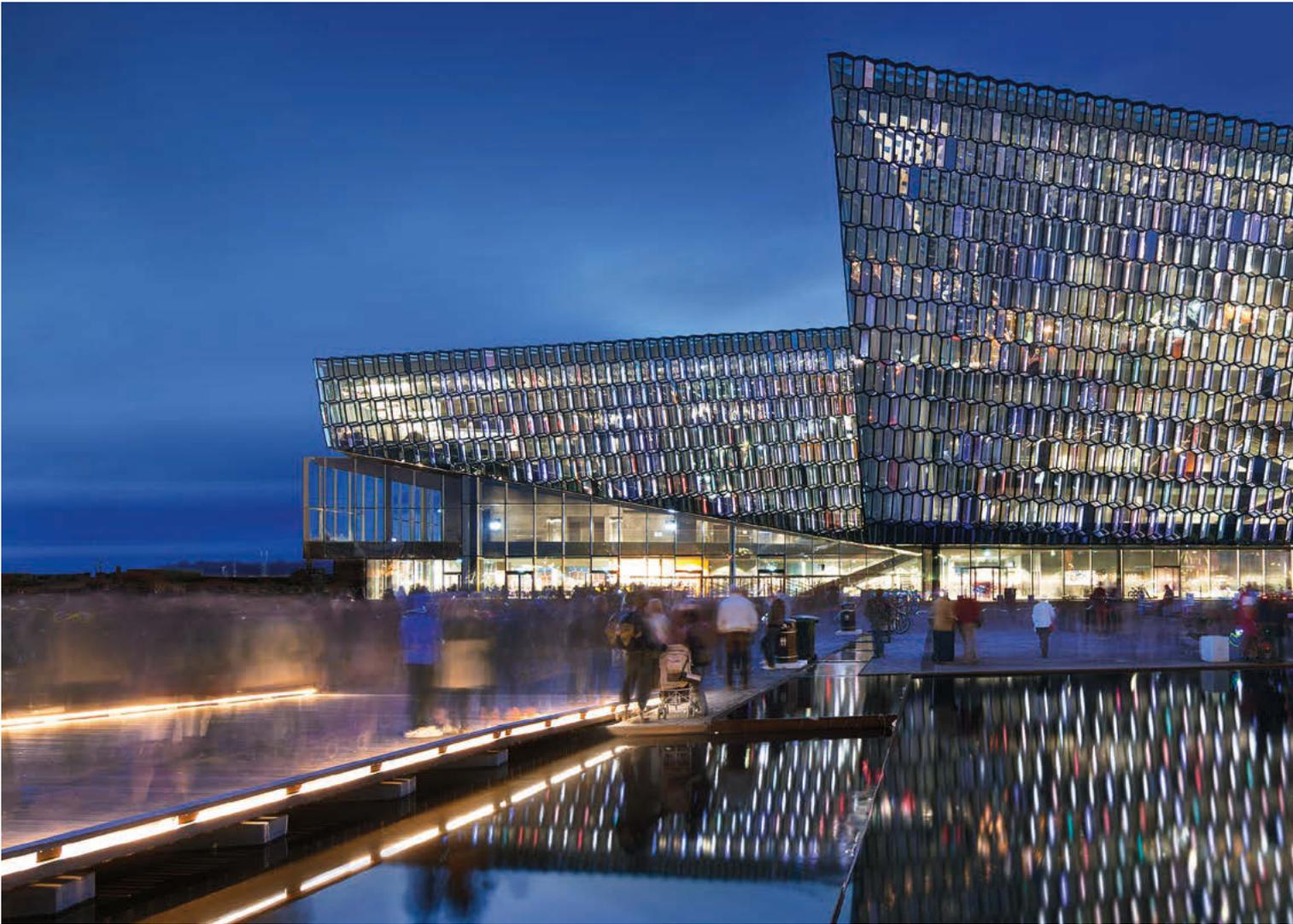


*A new time of day dawns
as darkness falls.*

As cities grow, the night-time offers a wealth of social and economic opportunities. Life goes on long after sunset and can really thrive when the urban environment caters for the ever-changing spectrum of human behaviour. Zumtobel wants to give people their nocturnal environment back by supporting the optimum quality of life and human experience. We offer a highly versatile toolbox of light, which empowers our partners to enhance outdoor spaces and architecture with thoughtful, adaptive, multi-layered lighting concepts that are tailored to human needs – solutions that model the space precisely with the right quality of light in the right place at the right time.

Active light for outdoors

Urban planners utilise the dynamic power of light.



HARPA Reykjavik Concert Hall, Reykjavik | IS

1 Human experience

Interactions with social and spatial surroundings shape our everyday life. Light makes these exchanges possible, even at night. The demands placed on outdoor lighting are just as diverse as people and their routines, changing depending on the time and the place. User-orientated outdoor lighting accompanies people through the night, enhancing the city landscape with an emotional element and thereby turning creating real urban experiences.

2 Sustainability and sensitivity

Sensitive lighting design combines important ecological factors with accurate and finely tuned directional lighting. This approach helps avoid light pollution and finds the right blend of light and darkness. A well-balanced combination of horizontal and vertical light not only reduces energy consumption, but also strengthens spatial perception to ensure improved orientation in the city.

3 Adaptability and identity

A strong identity is the key to ensuring stronger emotional attachment to cities and urban environments. The character of a location is certainly not static – very much like the pulse of modern city life, which beats incessantly around the clock. Light is capable of turning public spaces into unique places. This requires a versatile lighting toolbox that can be used to combine a tailored lighting solution with consistent and integrated design.



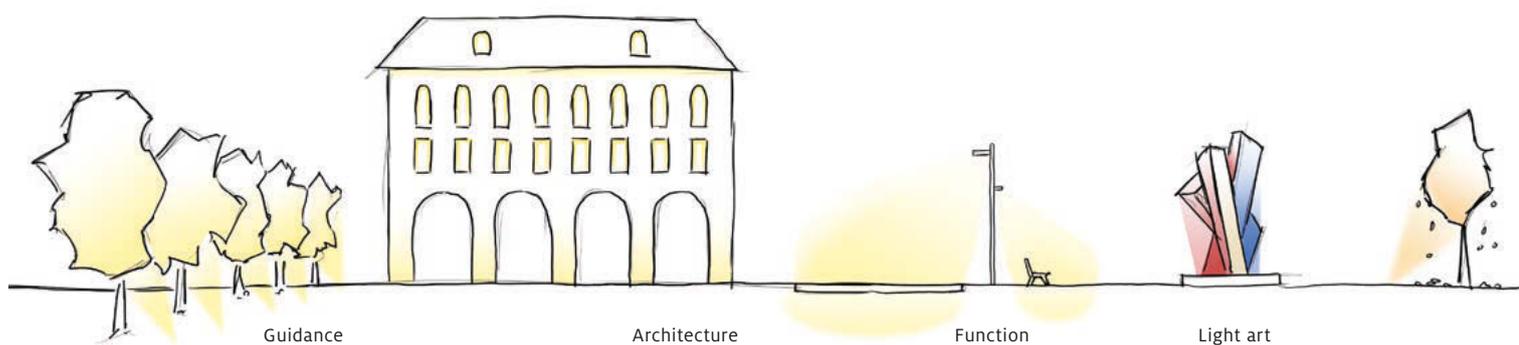
“Light is fundamental to all social life, yet public lighting can often focus on prescriptive design standards, rather than designing with social relevance for the way that humans interact in a modern 24-hour city.”



Florence Lam
Global Practice Leader for Lighting Design at Arup, London | GB

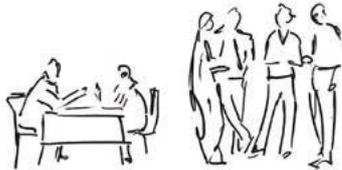
Active light: The scenario and its players

The human scale of lighting design reflects the time and the location to truly focus on the individual.



Periods of time defined by human expectations and activities

The requirements for outdoor lighting change with the number of people present and the activities that they are engaged in. The night can be divided into four typical time periods.



Early twilight

The working day draws to a close. Many people have time to go for a stroll through the city or along the promenade, stopping for a drink, buying something from the shops or catching up with family and friends.



Late evening

Energy is in the air. People move around the streets in high spirits, meeting and flirting. However, the feeling of safety should be a constant companion.

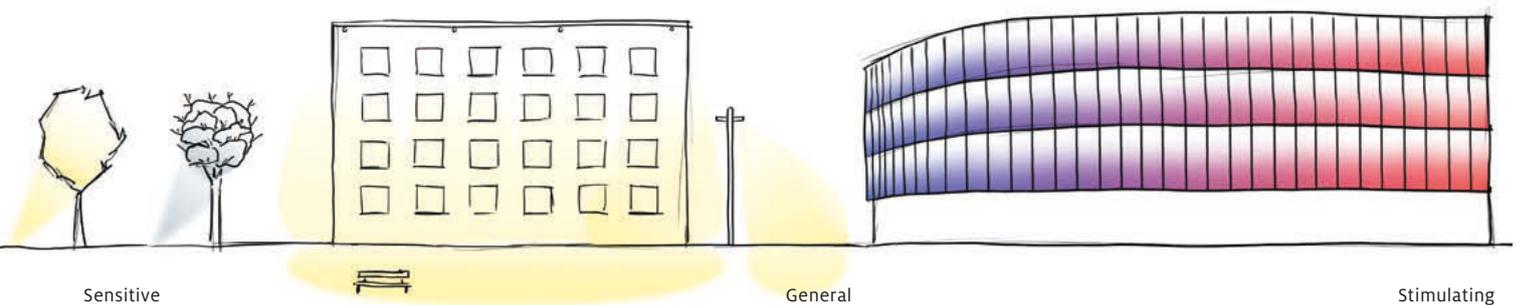


Middle of the night

Most people are asleep - but not everyone. Some are cleaning the streets, while others are on their way to start a night shift or to find the next bar. Discreet lighting adapts to the quiet night hours.

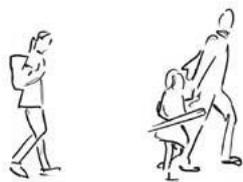
Layers of light

The night is just as rich and varied as the day. A lighting system that accompanies people through different activities at night therefore adapts chronologically to specific needs by shaping the particular outdoor space and enriching the night-time experience.



The type and sequence of lighting scenes are defined in a kind of script. Just like on stage, lighting concepts skilfully harness the different layers of light to deliver the greatest effect. Merely illuminating horizontal areas is certainly not enough. The human line of vision primarily orientates towards vertical areas, which helps us to appreciate a space in all three dimensions. Another aspect is the right balance of shadow and light.

Architectural lighting emphasises the design of a building, improves the perception of urban objects and draws attention to decorative elements. General ambient lighting increases the feeling of safety. By contrast, light for orientation is directed at prominent objects, trees or vertical areas, helping to ensure safe navigation through the urban space. Sensitive light components react to changing environments by adjusting their colour and intensity in line with the current circumstances. Light has a stimulating effect and supports positive emotions. It brings people together, encouraging them to stay a while in a certain place. Dynamic and interactive lighting scenes combine with works of light art to carry out these functions.



Just before sunrise

The city awakens. School children and commuters leave home as the first market stalls are set up. Life begins to increasingly pulsate with every passing minute.

The intensity, colour and interaction of individual light layers shape the way we experience a space.

Toolbox of light

Urban outdoor lighting components

The wide range of Zumtobel lighting tools caters for every layer of a lighting concept. Diverse optical systems are offered with simple and flexible mounting. Designers can call on a vast range of options to create flexible lighting concepts, blending precision with high levels of visual comfort and maximising the three-dimensional aspects of a space by utilising both horizontal and vertical light components. Another feature of the solutions from Zumtobel is the consistent and integrative design language that permeates the whole portfolio. Lighting management systems offer future safety and guarantee sustainability. In addition, controls enable light to really become a dynamic and responsive companion for individuals.



“To fulfil the complex and varied lighting demands within ‘nocturnal urban development’, we need lighting tools that are designed as a family, but versatile enough to meet basic illumination standards whilst simultaneously delivering dynamic lighting scenes. Multi-layered user scenarios play with changing brightness levels, colour temperatures and light atmospheres.”



Uwe Belzner, Prof. Dipl.-Ing. TU
Light Design Engineering AG, Eschen | LI
LDE Belzner Holmes, Stuttgart | DE



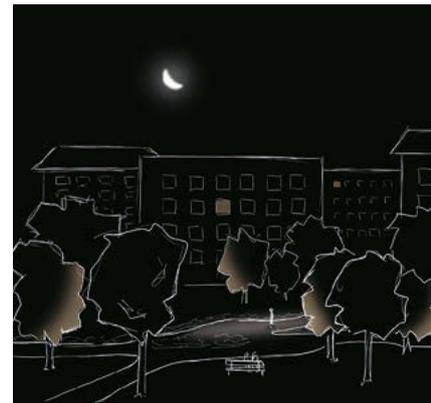
Active light scenario: Station and park

Need for safety and orientation

Green areas in towns and cities are extremely popular when it comes to relaxing or getting close to nature. Even commuters who travel by bus or train like to use parks as a pleasant shortcut to reach their destination. These so-called “non-places” are characterised by an anonymous atmosphere and relatively little interaction. The right light can encourage social exchanges and increase the feeling of safety.



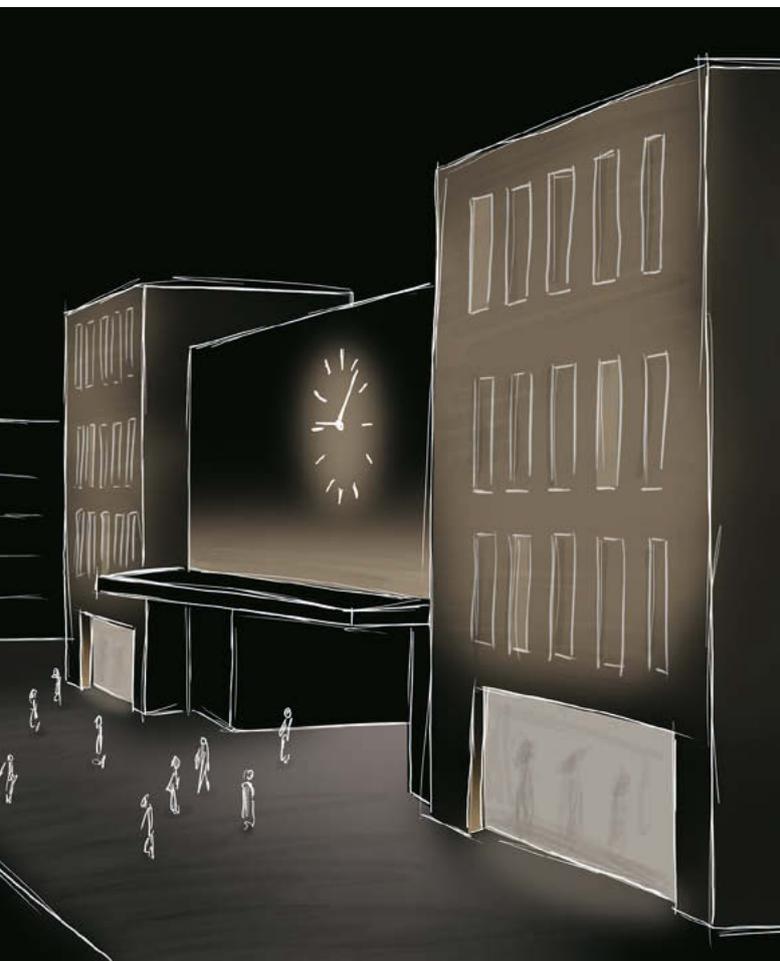
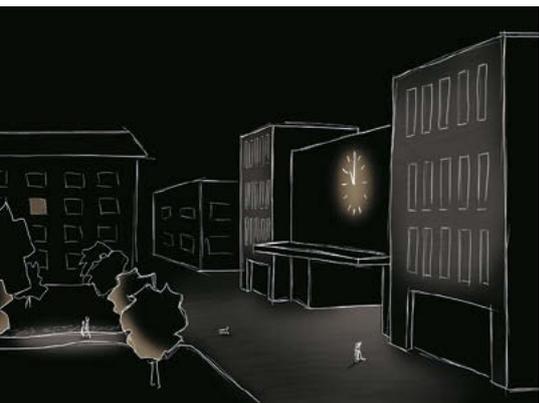
Middle of the night



Late evening



 Just before sunrise



Late evening

The park is full of life and the train station is busy. Soft light along traffic routes offers orientation and safety and trees lit vertically improve spatial perception. The station can be seen from all around thanks to its well-illuminated façade. Other softly accentuated buildings complete the nocturnal cityscape.



Middle of the night

The star-lit sky is at its brilliant best. Only a few people are still crossing the park, accompanied by adaptive light. Vertical illumination of the trees along the main paths provides orientation and a feeling of safety. The station square and station façade are still softly illuminated for late-night travellers.



Just before sunrise

The first commuters use the park as people pass through the station square. Trees are vertically illuminated to show the way and gentle light on the pavements further enhances orientation. High illuminance levels highlight the station square as the focal point, while dynamic lighting scenarios brighten up part of the square to stimulate interaction.



- The “softGlow” effect results in better visual comfort and orientation.
- Small projectors are recommended as sources of flexible accent lighting for trees, details and vertical areas.
- The combination of area and projector luminaires enables a multi-layered lighting concept – even if both are mounted on a mast.

Product recommendation: NIGHTSIGHT outdoor LED

Active light scenario: Urban space

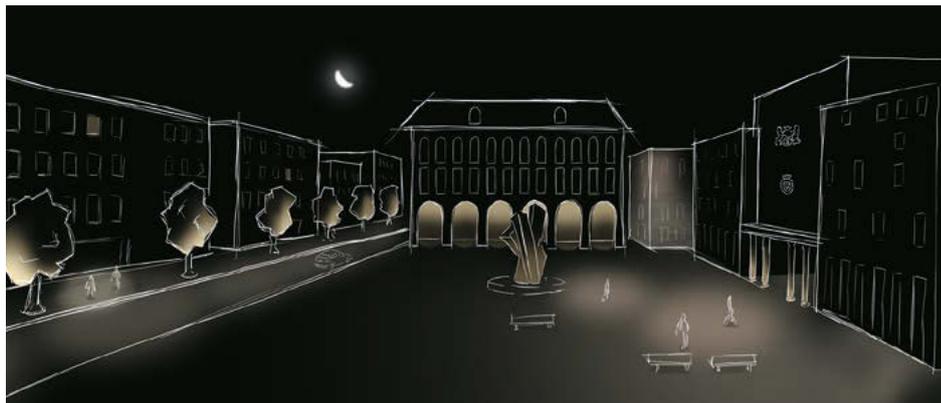
Nocturnal meeting places

Public places are at the centre of urban life. They can be havens of peace, lively meeting places or even just spaces to be passed through on the way to a destination. People with varying needs frequent these places. City planners have certain ideas as to how these places can be used as social spaces. This complex blend demands a flexible and tailored lighting concept. On the other hand, functionality is the main focus in smaller streets. Here it is important to guide people to their destination with maximum visual comfort.

 Late evening



 Middle of the night



Late evening

People meet up and enjoy the city. The well-lit pavements and streets are still a hive of activity. The square and adjoining buildings are softly lit for general safety and orientation. Dynamic light encourages social interaction in certain areas. Accentuated vertical luminance puts the focus on historical buildings and artistic objects.



Middle of the night

Only a few people can be found in the softly lit square. Many of these are heading home, with the trees illuminated to help guide their way. Prominent street furniture and vertical building surfaces are also gently lit to boost orientation. Even the traffic on the roads has settled down.



- Light coming from several light tubes is less visible (thanks to the so-called “stealth effect”), while distraction caused by the light source is carefully avoided, helping to put the focus very much on the illuminated buildings and areas.
- A cluster of small, adjustable light tubes makes it possible to really shape spaces by precisely and flexibly emphasising even the smallest and most subtle details.

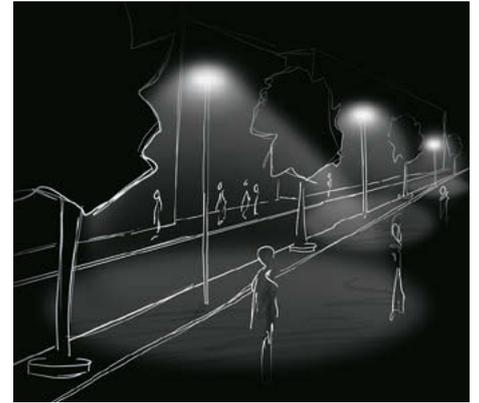
Product recommendation: SUPERSYSTEM outdoor LED

Active light scenario: Promenade

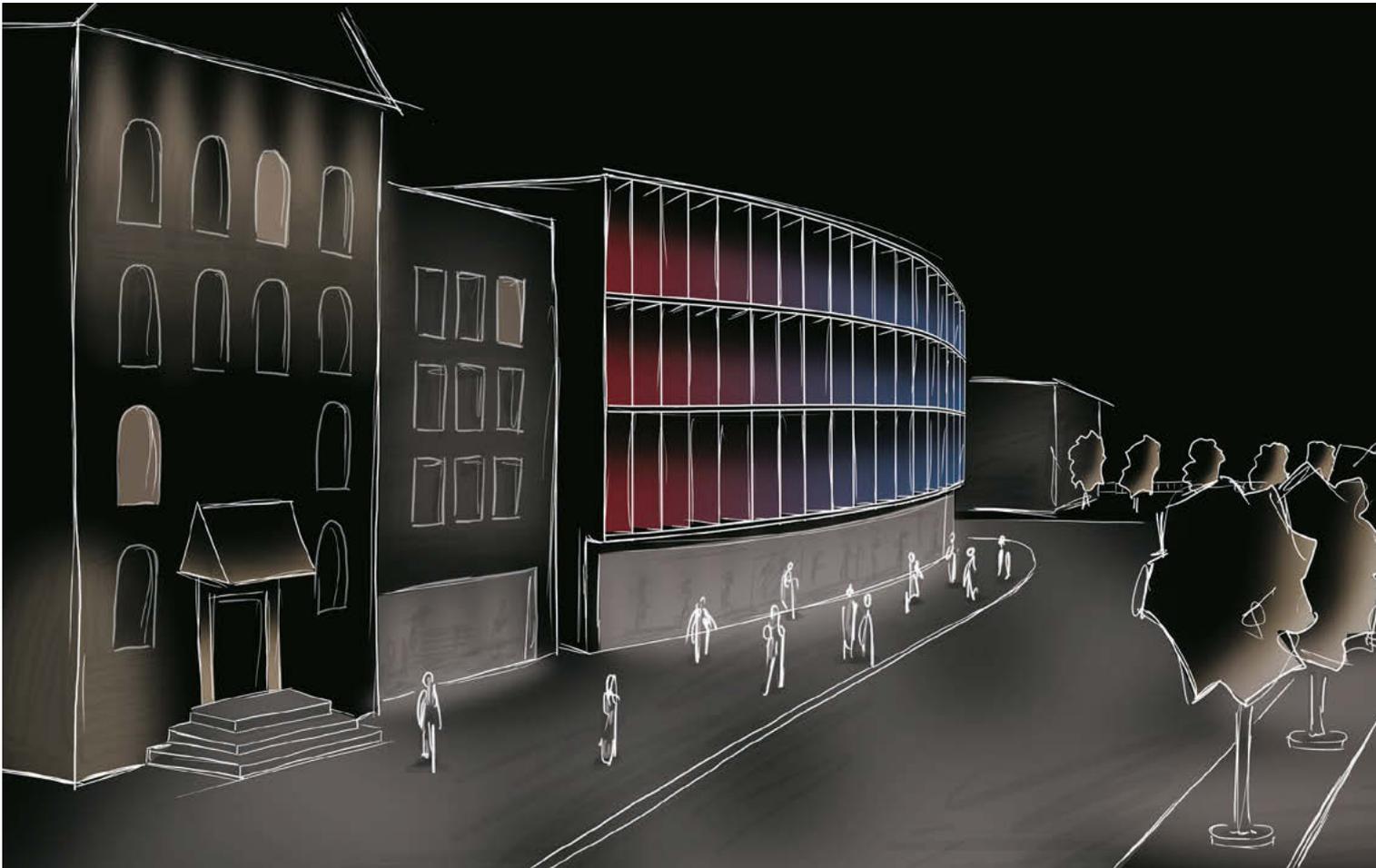
An invitation to take a stroll

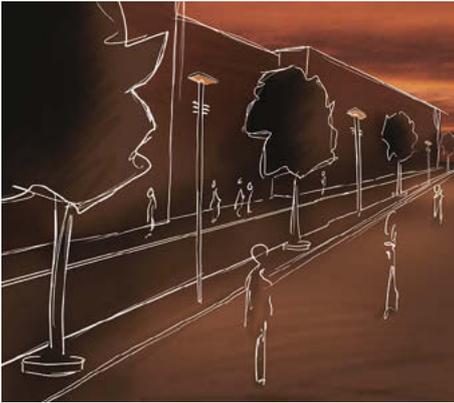
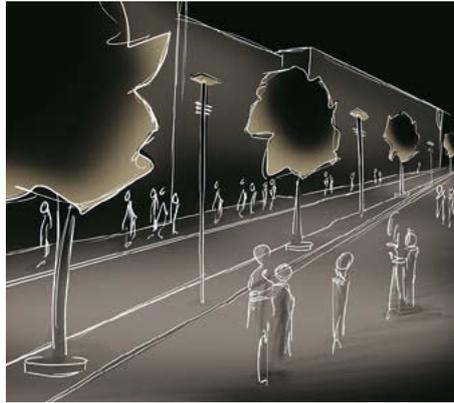
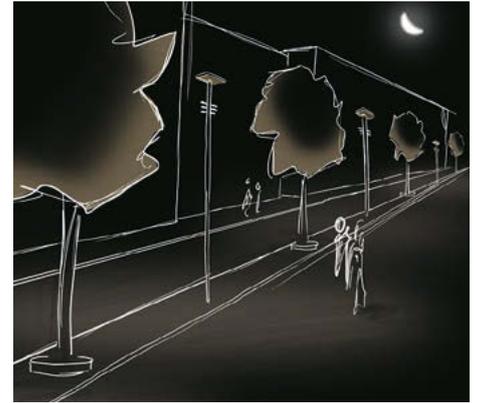
Every ecosystem is balanced by the natural shift from day to night. Sustainable lighting design reacts sensitively to the needs of plants and animals. Lighting that is reduced in terms of time and area provides a balanced ratio of support for nocturnal users. The prime element of water enables fascinating dynamic light scenes through reflections, helping trigger positive emotions. Light from traditional mast luminaires only illuminates streets and pathways horizontally. However, advanced outdoor lighting schemes carefully mix both emotional and guidance aspects.

Conventional outdoor lighting



 Late evening



 Early twilight

 Late evening

 Middle of the night


Early twilight

The sun provides sufficient orientation. Connecting paths are additionally structured by lighting. The light colour adapts to the ambient conditions.



Late evening

Accent lighting of trees and buildings complements the functional illumination on pathways and streets. This allows better appreciation of the outdoor space.



Middle of the night

Gentle illumination is enough for less frequented traffic routes when it is completely dark. Light accents on trees clearly show the way.

The late evening hours are synonymous with active hustle and bustle along the river and in the streets. Light is an important factor for the safety of large crowds. This is the reason why pavements, streets and promenades are extensively illuminated. Accentuated trees and riverbanks provide additional orientation. While accent lighting picks out the features of the urban architecture, a dramatic façade installation grabs the attention of people passing the shopping centre.

Toolbox of light

Product overview



NIGHTSIGHT

An innovative product range that can address a wide spectrum of lighting tasks in outdoor areas with a single, consistent design. Incorporating various colour temperatures, mounting options, designs and sizes, this outdoor LED luminaire system supports complex and resource-saving lighting compositions. Precise direction of the light ensures excellent glare management and prevents stray light.



ELEVO

Invisible to pedestrians when mounted in window recesses, this compact and efficient LED luminaire impressively highlights façade elements, edges and surfaces. ELEVO is suitable for both direct and indirect lighting.



PAN

These small recessed luminaires have their big moment when they are called on to illuminate window recesses or to pick out individual details on a façade. A range of distribution characteristics further enhances the application credentials of this LED lighting tool.



LEDOS III

Decorative LED recessed luminaires that can be used as wall, ground and ceiling solutions. Various shapes, sizes, optics and diffusers perform a wide range of orientation and guidance functions.



PASO II

With a rich mix of shapes, sizes, light colours, lumen packages, optics, glass diffusers and frames, this LED ground recessed luminaire can be utilised for both decorative and functional lighting scenarios.





SUPERSYSTEM outdoor

Constellations of fixed or adjustable LED light tubes provide every luminaire with an extremely precise multi-zonal light distribution. The exact combination of tube directions and beam optics can be chosen to reflect the particular needs of the application, adding unprecedented levels of visual quality, precision and design integrity to the overall lighting solution. Visual comfort and wellbeing in the space is optimised by minimising glare. The light is carefully placed and proportioned to avoid lighting pollution, while the luminaire itself blends unobtrusively into the background.



SUPERSYSTEM outdoor
12-tube module



SUPERSYSTEM outdoor
18-tube module



SUPERSYSTEM outdoor
30-tube module



SUPERSYSTEM outdoor
Fixed 3-tube module



SUPERSYSTEM outdoor
Movable 3-tube module



SUPERSYSTEM outdoor
Fixed 6-tube module



SUPERSYSTEM outdoor
Accent luminaire

APHRODITE

An LED spotlight that combines light, colour and movement to achieve fascinating lighting effects. APHRODITE is an ideal product for the ornate illumination of façades and spaces.



APHRODITE LED

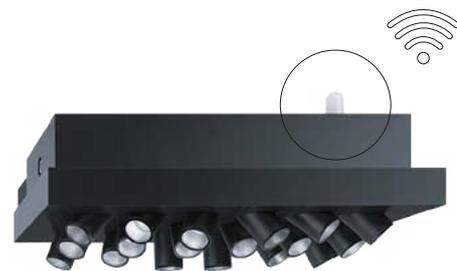
ORILED

As a ground-level LED orientation luminaire with an emergency lighting option, ORILED helps meet the standards for escape routes and emergency illumination. Integrated into a wall or bollard, ORILED improves intuitive orientation in public buildings.



ORILED

Zumtobel offers its partners the lighting tools to transform urban areas into socially valuable spaces with their own unique identity. This can happen when different layers of lighting create a three-dimensional lighting effect. Subtle and minimalist luminaire design puts the focus on the light and uses the latest technology to minimise glare. Additional benefits such as easy installation and maintenance are also guaranteed.



Lighting management

Intelligent lighting in outdoor areas is becoming increasingly important. A lighting system that is well planned and carefully implemented provides the basis for sustainably successful concepts. Especially when it comes to human needs and the resulting requirements placed on lighting technology, it is clear that lighting management is now a crucial part of the planning and designing process. Possibilities range from variable illuminance through to time-related changes in light temperature. The Zumtobel portfolio for outdoor lighting is based on intelligent modules that can be individually operated, adjusted and controlled via DALI or DMX – entirely in line with the demands for flexibility and energy efficiency. This approach means that complex challenges can be overcome with one provider, ensuring a perfect lighting experience from a single partner.

Reference projects



Municipality of Lech am Arlberg, Lech am Arlberg | AT
Constructor: Municipality of Lech am Arlberg, Lech am Arlberg | AT
Lighting project design: Dieter Bartenbach, Innsbruck | AT
Lighting solution: SUPERSYSTEM outdoor mast and façade lighting,
central Zumtobel outdoor light management system with web interface



The Rookery Building, Chicago | US

Architects: Burnham & Root, Chicago | US

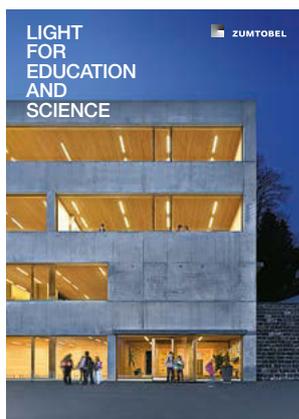
Lighting project design: Office for Visual Interaction, Inc. (OVI), New York | US

Lighting solution: ELEVO surface-mounted LED

Zumtobel, a company of the Zumtobel Group, is an internationally leading supplier of integral lighting solutions for professional indoor and outdoor building lighting applications.



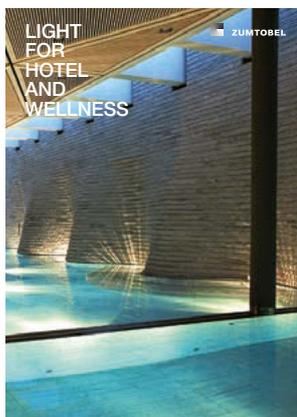
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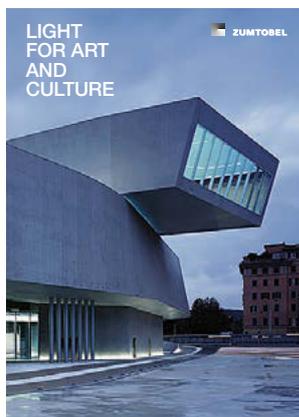
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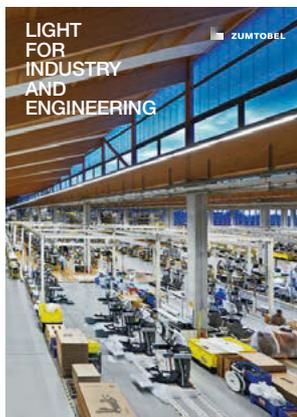
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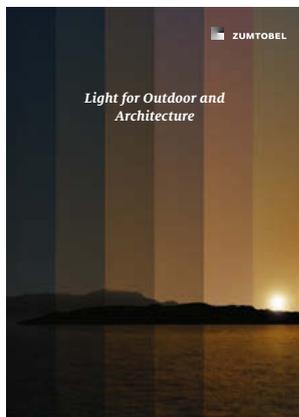
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*Offices and Communication
Education and Science
Presentation and Retail
Hotel and Wellness
Art and Culture
Health and Care
Industry and Engineering
Outdoor and Architecture*

We provide unique customer benefits by integrating technology, design, emotion and energy efficiency. We combine the best possible ergonomic lighting quality for an individual's wellbeing with the responsible use of energy resources. The company's own sales organisations in twenty countries, as well as commercial agencies in fifty other countries, form an international network of experts and design partners providing professional lighting consulting, design assistance and comprehensive services.

Lighting and sustainability

In line with our corporate philosophy "We want to use light to create worlds of experience, make work easier and improve communications and safety while remaining fully aware of our responsibility to the environment", Zumtobel offers energy-efficient high-quality products, while at the same time making sure that our production processes based on the considerate use of resources are environmentally compatible.

zumtobel.com/sustainability



Top quality – with a five-year guarantee.

As a globally leading luminaire manufacturer, Zumtobel provides a five year manufacturer's guarantee on all Zumtobel branded products in accordance with the terms of guarantee at zumtobel.com/guarantee.

Order no.04 998 148-EN 07/16 © Zumtobel Lighting GmbH
Technical data was correct at time of going to press.
We reserve the right to make technical changes without notice. Please contact your local sales office for further information.





Tracks and spots



Modular lighting systems



Downlights



Recessed luminaires



Surface-mounted and pendant luminaires



Free-standing and wall-mounted luminaires



Continuous-row systems and individual batten luminaires



High-bay luminaires



Luminaires with extra protection



Outdoor luminaires



Lighting management systems



Emergency lighting



Lighting Services



Medical supply systems

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