

LIGHT FOR FAÇADES AND ARCHITECTURE



ZUMTOBEL

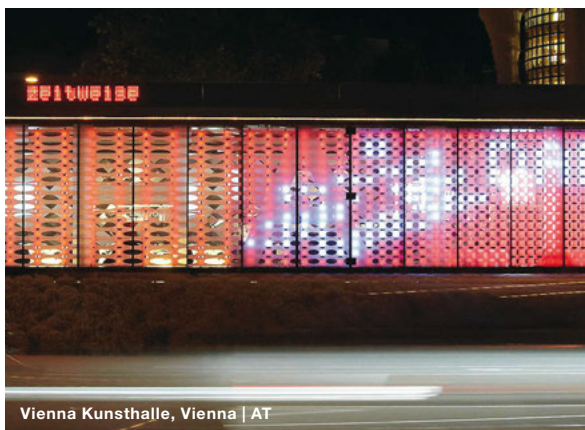
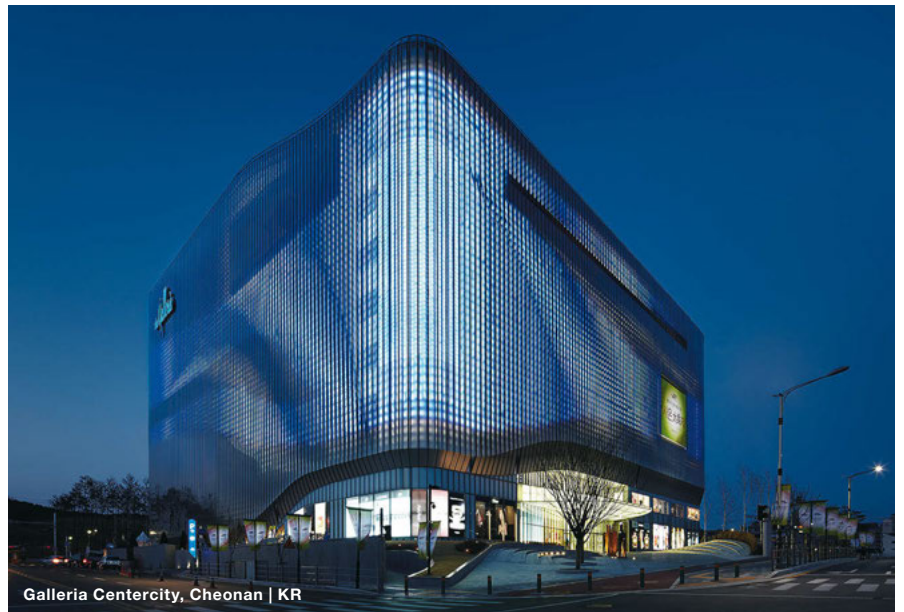
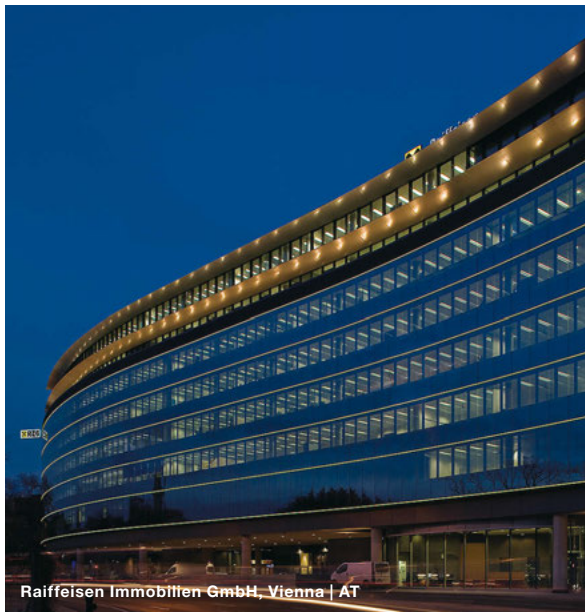


Light for façades and architecture

People find the nightscapes around them created by illuminated building façades. These façades facilitate orientation, convey messages, communicate emotions and create attention. Contemporary lighting solutions for building façades need to create added value for local authorities or have architectural or economic merit by making a location more beautiful and safer, showing a building off in the right light or getting a positive corporate image across. Achieving this demands great aesthetic design sensibility. Nowadays, however, lighting solutions also need to be sustainable, save resources and prevent unnecessary light pollution. Zumtobel is able to reconcile all these factors – with a range of luminaires that are specially adapted to cope with demanding lighting tasks. Zumtobel lighting solutions shape a building's architecture and accentuate details in a multifaceted manner by directing light very precisely. These luminaires also cut energy consumption thanks to the use of efficient high-power LEDs. This enables Zumtobel to strike a balance between cultural aspirations and the need to use resources responsibly. Intelligent lighting control systems supplement lighting, turning it into a complete solution that meets any requirements – from discreetly illuminated memorials through to façades that carry media messages.

Zumtobel. The Light.

Applications





ARoS Art Museum, Aarhus | DK



The Rookery Building, Chicago | US



Sutterlüty, Hohenems | AT

References

Alta Business Center, Sarajevo, BA / Aros Art Museum, Aarhus, DK / Arts Theatre, Zurich, CH / Balthasar-Neumann-Platz, Werneck, DE / Bauarena, Volketswil, CH / Buromac, Bruges, BE / Cheonan Shopping Galleria, Cheonan, KR / Clarion Aspley House, Glasgow, GB / Combined heat and power plant, Klausen, IT / Dornier Museum, Friedrichshafen, DE / Emporio, Hamburg, DE / EXPO 2008, Zaragoza, ES / Falls Leisure Centre, Belfast, IE / FIFA, Zurich, CH / Gaislachkogelbahn, Sölden, AT / Growing by Numbers LED Festival, Milan, IT / Holocaust Memorial, Lemgo, DE / INCCC Harpa, Reykjavik, IS / John Madejski Academy, Reading, GB / Lentos Museum, Linz, AT / Liège-Oupeye waste water treatment plant, Oupeye, BE / Manor, Lugano, CH / Maxxi Museum, Rome, IT / Metro station, Toulouse, FR / Mirage Shopping Center, Žilina, SK / Mürwik Naval Academy, Flensburg-Mürwik, DE / Nordwesthaus Rohner Yacht Harbour, Fussach, AT / Onassis Foundation, Athens, GR / Panorama Business Center, Prague, CZ / Parkhotel Weggis, Weggis, CH / Pouw car dealership, Zwolle, BE / Raiffeisen Central Bank, Vienna, AT / Rheinau Art Office, Cologne, DE / Rookery Building, Chicago, US / Scottish Parliament, Edinburgh, GB / Spar supermarket, Fussach, AT / Square Brussels Meeting Centre, Brussels, BE / Sutterlüty, Hohenems, AT / "Turm der Lüfte", Bremen, DE / Vapiano, Oldenburg, DE / Victoria Clinic, Bochum, DE / Vienna Kunsthalle, Vienna, AT



Nordwesthaus Rohner Yacht Harbour, Fussach | AT
Architecture: Baumschlager Eberle, Lochau | AT
Lighting solution: 12 RGB LED spotlights with 1,500 individually controllable LEDs and an asymmetric optic, controlled via DMX 512, 100 W QT recessed downlights (custom solution)

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Studies

Results of applied research

The number of buildings that have illuminated façades is increasing sharply. Because of architectural, societal and technological changes, lighting design faces new challenges. Saving energy is an omnipresent challenge, façade lighting must therefore get to grips with ecological compatibility issues. All lighting entails increased expenditure on energy. Light that is not properly directed onto a façade is perceived as distracting and an unnecessary waste of light. Together with the Bauhausuniversität in Weimar, Zumtobel is striving for optimisation of architectural lighting solutions in urban settings. The ultimate goal is obtaining the best possible efficiency from prestigious lighting.

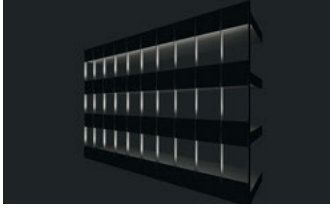

Viewed from a technical perspective, in present-day systems the way that light is directed has a crucial impact on the ecological performance of façade lighting. Light is very often directed very imprecisely and the use of light causes light pollution. There is, however, a better alternative than simply shining light on buildings. The calculation results summarised on the right-hand page and the accompanying photos show the clear ecological benefit of integrated façade lighting. Façade-integrated systems are photometrically optimised

using lens technologies and covers and actually direct light onto the surface that is to be illuminated in a targeted manner. This makes it possible to overcome the drawbacks of direct illumination, i.e. distracting glare in indoor spaces and wasted scattered light. Zumtobel's lighting solutions for façades and architecture meet the high requirements on energy efficiency in buildings. This makes it possible, despite façade lighting's highly creative aspirations, to reconcile façade lighting with ecological requirements.

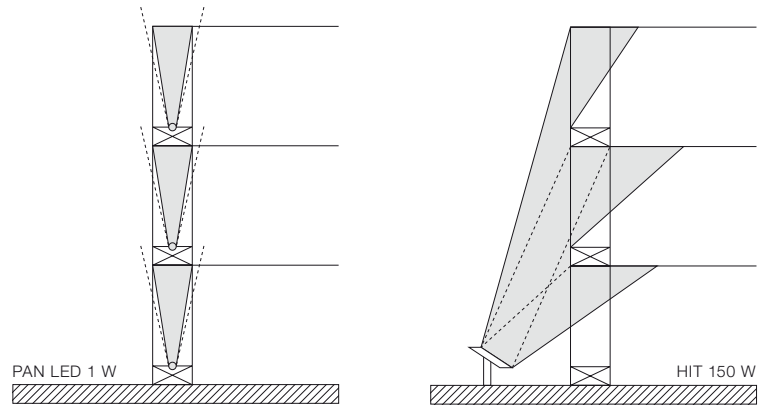
Two methods – a direct comparison

Detail of façade Integrated lighting

Detail of façade Direct illumination

SURFACE	6 window elements	6 window elements
LUMINAIRES	12 PAN LED spots asymmetric	1 HIT 150 W wide-angle
VISUALISATION		

TYPE OF LIGHTING



OUTPUT AND LUMINAIRE

PAN LED ~1.2 W at 350 mA In this application thanks to current reduction: PAN LED ~0.32 W / lighting point Total output across six elements: PAN LED 6 luminaires 3.84 W max.	HIT ~150 Watt In this application: HIT ~150 W / lighting point Total output across six elements: HIT 1 luminaire 150 W max.
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EFFICIENCY OF CONTROL GEAR

85 %	93 %
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OUTPUT INCL. CONTROL GEAR

4.41 W per unit (6 off)	161 W per unit (6 off)
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WINDOW ELEMENTS

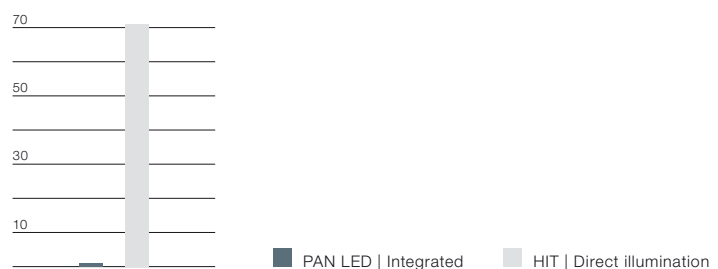
2,691 elements – 448 units	2,691 elements – 448 units
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TOTAL OUTPUT

1.98 kW	72 kW
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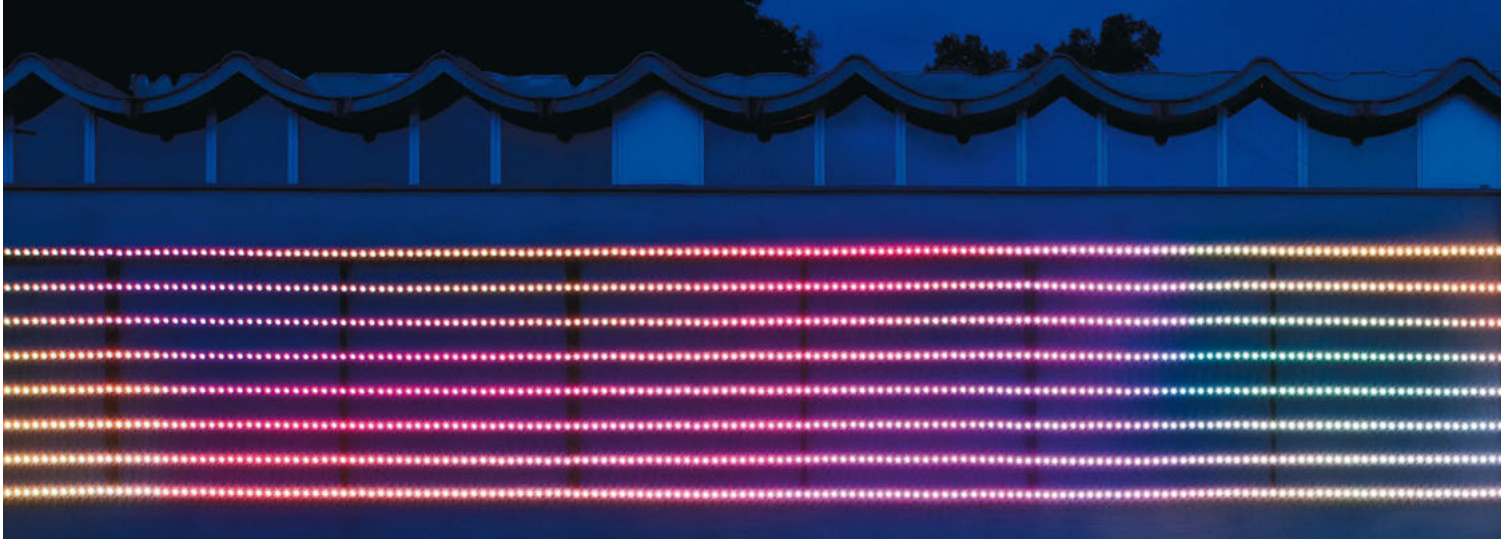
OUTPUT COMPARISON

Output figures in kW



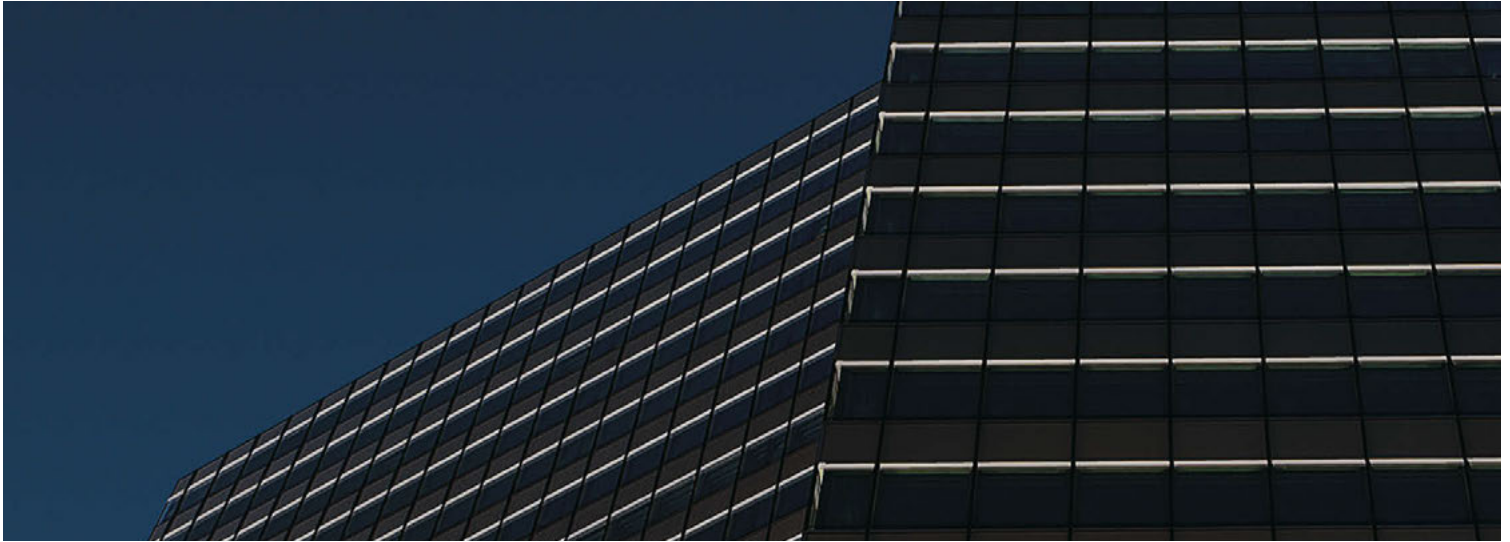
Trends

Light for façades and architecture



Façade lighting as a marketing factor

Society is in a state of change and many people are turning night into day. They want to carry on having fun late into the evening: they seek out entertainment and information and welcome surprises. Even so, safety and orientation must be ensured despite the darkness. Façade lighting shapes the image of a townscape, attracts attention and lures in large numbers of tourists. This boosts revenues and enhances prestige. It also gives investors an economic incentive to gentrify real estate and upgrade property usage, thus making it economically more attractive. Façade lighting creates added cultural value.



Responsibility for nature, resources and the environment

Added cultural value must be weighed against the responsibility we bear in our day-to-day dealings with nature, resources and the environment. Improperly used night-time lighting can have a negative impact on the environment. Such lighting disrupts the biological processes of creatures that are sensitive to light. Stray light that shines into the sky consumes unnecessary energy and adds to light pollution. Zumtobel takes on board these challenges and assists designers and architects in their attempts to find a balance between using light in a way that saves resources and creating added cultural value.

Trend

Façade lighting as a marketing factor

“An intelligent, resource-saving combination of façade lighting meets functional and aesthetic requirements, creates new urban spaces and lends a unique quality to architecture at night. Prince-Elector Carl Theodor acknowledged the merits of façade lighting when Duesseldorf drew up a lighting master plan to mark his visit to the town in 1742. The DUS-Illuminated Civic Foundation is now tapping into this master plan in order to create added value for the town of Duesseldorf thanks to its nocturnal illuminations.”



Dr. Ing. Edmund Spohr
Architect | Edmund Spohr architecture firm



Towns and municipalities use many activities to promote tourism, make a business location attractive or establish a residential district. Illuminating façades at night is a good way of improving the attractiveness of a public space. More and more people are spending their evening hours in towns and squares. They are looking for excitement, and communication plays a pivotal role.

Illuminated architecture shapes a townscape and gives it personality. A pretty scene is not only a popular choice for postcards, it also has concrete, positive effects on the travel behaviour of tourists and influences commercial enterprises' relocation decisions: an integral approach to using lighting technology for centre-stage settings and accent lighting and a concept which, besides historic buildings, also includes shopping centres, firms and public areas produces a harmonious townscape.



Poolbar Festival, Feldkirch | AT

Lighting solution (video-controlled): CAPIX media luminaires for the façade; indoor lighting: HEDERA media luminaires, HILIO media luminaires and RGB LED media wall (custom solution)

Façade lighting as a marketing factor

Setting towns centre-stage





- **Harmonious accents and centre-stage settings upgrade public space**
- **Lighting master plans define a town's personality**
- **Designs that enjoy high levels of public acceptance take environmental conditions into account**

Apart from the street lighting which is needed to make traffic routes safe in towns and cities, it is a lighting concept's job to lend character to urban areas and districts when it is dark and artificial lighting is in use. Regardless of a location's size, professional lighting architecture makes the most of every district and every town.

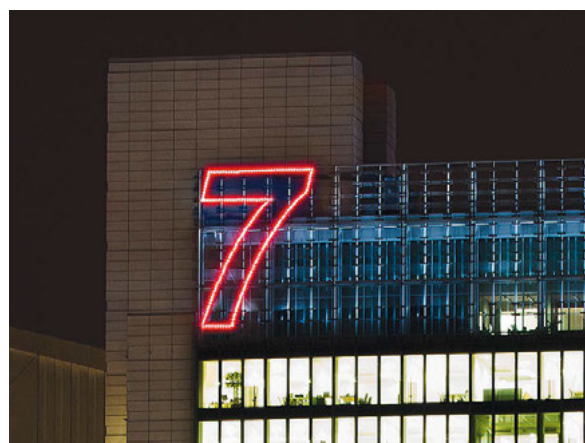
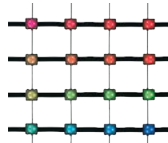
Designers and investors recognised the huge potential of designer light long ago and use it as a tool for improving the quality of life and the image of a town. Light sets houses and façades centre-stage, shows historical buildings and modern architecture off to full effect, emphasises natural spatial structures and brings squares, parks and green open spaces to life.

A master plan provides the starting point for any planning activity. It acts as a guideline for lighting designers, architects, urban planners, investors, city marketing and retailers. It takes into account all stakeholders and the available financing and starts with a precise analysis of the character of a town or city. The aim is to take into account important urban features, distinctive features of buildings, historically important areas as well as environmental conditions and future development plans.

Recommended products

CAPIX | Media luminaire

PYLAS RGB | Floodlight



Façade lighting as a marketing factor

Improving economic efficiency

- **Exceptional townscapes attract tourists**
- **Commercial enterprises are influenced by townscapes when deciding where to locate their business**
- **Visually appealing towns are more attractive places to live**

Professional façade lighting can potentially become a landmark and a point of interest for reporters and photographers. This encourages tourism – and brings benefits to the economy and communities. More efficient utilisation of amenities and a growing stream of visitors transform the peripheral areas of a town into an attractive business location. Newly arrived firms upgrade buildings and attract employees.

Lighting master plans lay the foundation for a harmonious townscape. Pleasant lighting promotes a sense of identity, puts people at ease and encourages them to stay for a while. Incomers soon feel at home and quickly build a relationship with their new environment. A place soon becomes an attractive place to live, an attractive holiday destination and an attractive business location.

Recommended products

PYLAS | Floodlight

PAN | Recessed spotlights



Mirage Shopping Center, Žilina | SK

Architecture: Michal Diviš Architekti s.r.o., Žilina | SK

Lighting solution: custom solution – PAN surface-mounted LED spotlights with DMX controller for the façade; indoor lighting: CIELOS modular lighting system, SLOTLIGHT and LED light lines, FD 1000 downlights and ONDARIA circular luminaires for public areas, SUPERSYSTEM lighting systems, MICROS and PANOS INFINITY downlights for the restaurants, SCUBA moisture-proof luminaires and PERLUCE D louvre luminaires for plant rooms, RESCLITE, ECOSIGN, ERGOSIGN and COMSIGN emergency and escape sign luminaires, LUXMATE PROFESSIONAL and LUXMATE DAYLIGHT lighting management systems



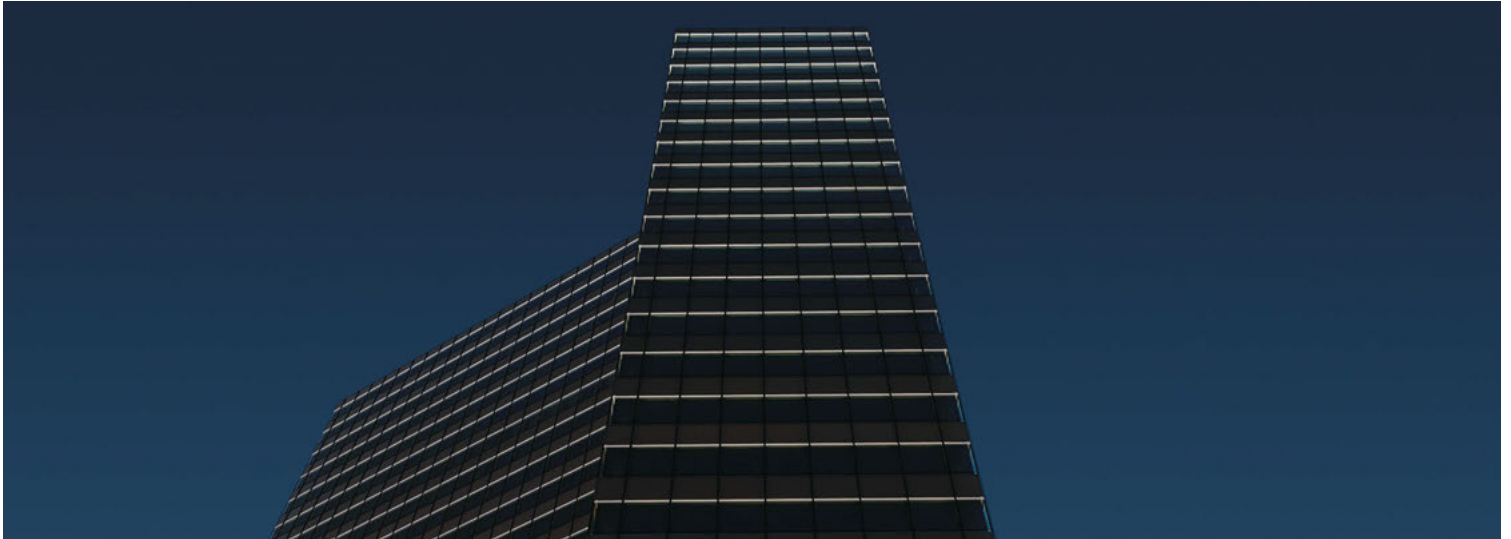
Trend

Responsibility for nature, resources and the environment

“Only a few lighting designers exploit the possibility of providing aesthetically elegant, resource-saving lighting that costs relatively little. Poorly planned façade lighting is becoming an increasingly serious problem that affects the aesthetic appearance of nocturnal landscapes as well as creatures that are active at night, such as insects and migrating birds. Large portions of the deployed light often miss the façade in question and the luminance levels used are often considerably higher than necessary.”



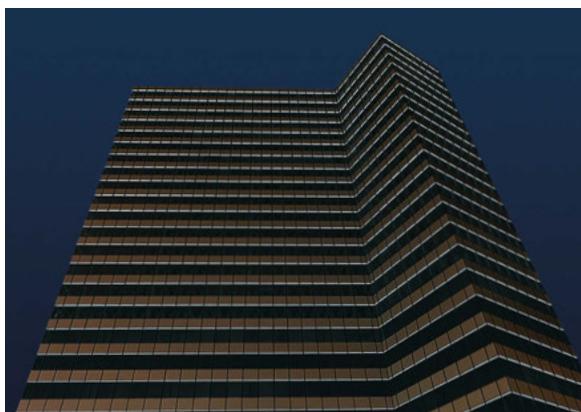
Dr. Thomas Posch
International Dark Sky Association



There are two aspects to façade lighting: it enhances the cultural value and attractiveness of a town – but it consumes energy and tends to produce unnecessary night-time brightness.

Intelligent lighting solutions are needed in order to reconcile these conflicting effects. Designers are confronted with major challenges because poor designs can have a serious impact on the environment and nature: the growth of plants may be altered, biodiversity suffers, astronomical observations become problematic and human sleep-wake rhythms can be disrupted. When implementing a lighting concept, it is therefore advisable to regard safety aspects as a top priority.

Good energy efficiency is another distinctive characteristic of professional lighting concepts. Vertical façade lighting gets noticed from afar, making it easier for passers-by to get their bearings and making them feel more secure.

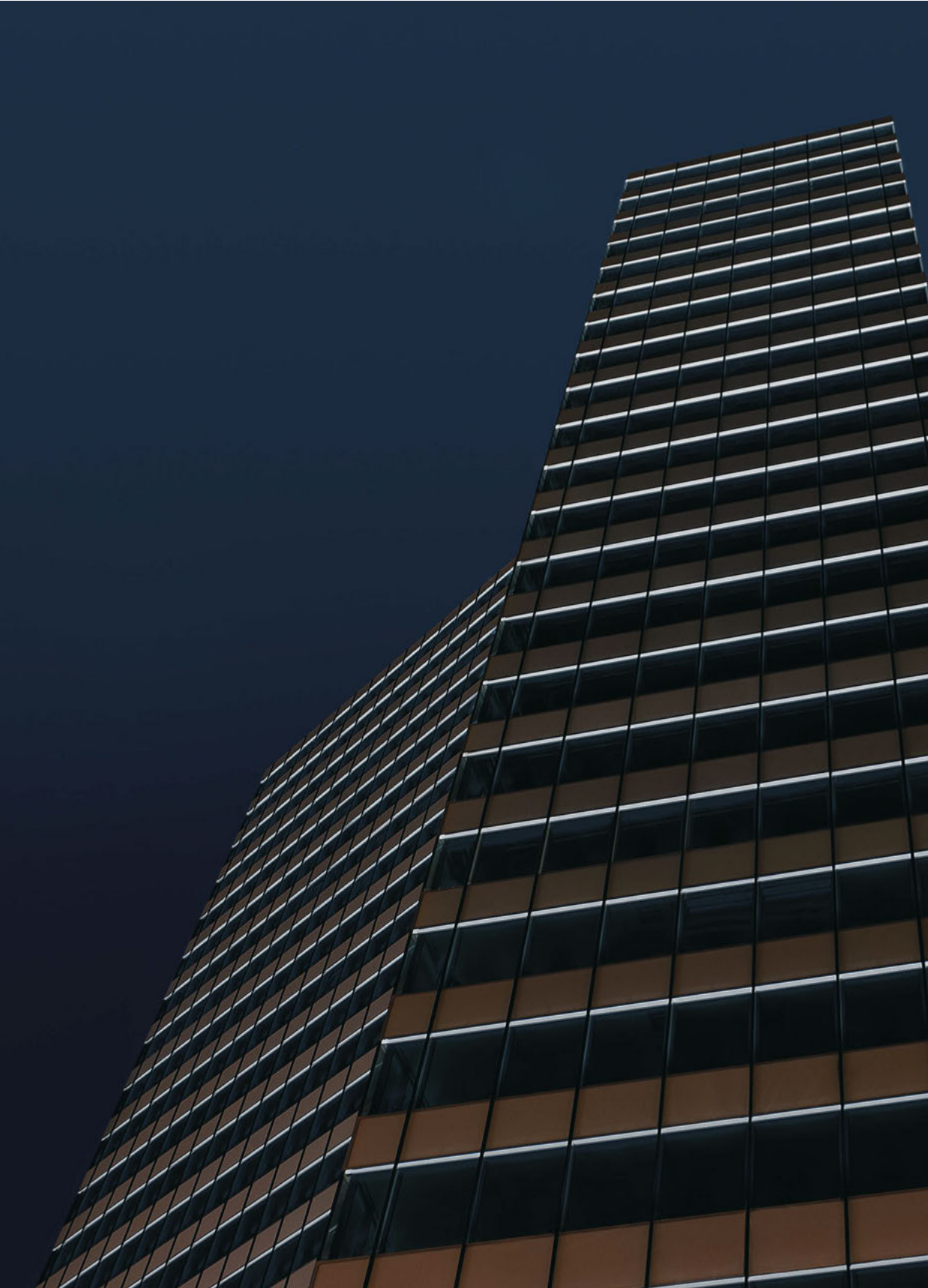


Emporio, Hamburg | DE

Architecture: HPP Hentrich-Petschnigg & Partner
GmbH + Co. KG, Düsseldorf | DE
Lighting design: Schlotfeldt Licht, Hamburg | DE
Lighting solution: PAN recessed luminaires

Responsibility for nature, resources and the environment

Sustainable lighting





- **LED luminaires consume little energy and are mounted in the façade or in the immediate vicinity of the surface that is to be illuminated**
- **Directing light in a targeted manner minimises stray light**
- **Intelligent lighting control achieves maximum effect with minimum energy consumption**

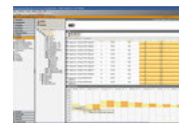
Façade lighting can be used in a variety of ways. Among other things, it is a modern tool that can be used to make a townscape or company building more appealing. This has to be balanced against the ambitious energy saving targets adopted by municipalities and companies. Intelligent lighting solutions provide a way out of this dichotomy.

LED lighting built into a façade or mounted close to it needs relatively little energy to generate the required luminance levels. LED lighting is unobtrusive and energy-efficient. LED luminaires fitted in window reveals consume less energy at night than a small domestic appliance, as demonstrated beautifully by the Hotel Emporio. Light is directed onto the surfaces that are to be illuminated in a targeted manner by optics and shutters. This prevents stray light and the associated light pollution. Each light source is dimmable and controllable. This makes it possible to set individual switch-on times and intensities.

Recommended products

PAN | Recessed spotlight

LITENET | Lighting management



The EMPORIO tower was certified according to the US LEED (Leadership in Energy and Environmental Design) system. For this certification, the entire building's economic and energy efficiency across various building services must be taken into account. The lighting solution has made an essential contribution to this certification as well.

Emporio, Hamburg | DE

Architecture: HPP Hentrich-Petschnigg & Partner
 GmbH + Co. KG, Düsseldorf | DE
 Lighting design: Schlotfeldt Licht, Hamburg | DE
 Lighting solution: PAN

Responsibility for nature, resources and the environment

Offering safety

- **An illuminated building makes passers-by feel more secure and discourages vandalism**
- **Brightening vertical surfaces makes spatial orientation easier**
- **Vertical façade lighting is subjectively perceived as brighter than plain horizontal lighting**

Illuminated façades help make visitors and passers-by feel more secure. They are therefore an important aspect of integral lighting design. Dark areas where people could hide are lit. This also mitigates against vandalism.

Unlit parking spaces and company premises are really uninviting. The extent to which an illuminated façade can improve security and enhance a location's image is clearly demonstrated by the example of the Spar supermarket: its vertically brightened surfaces are visible from far away. This makes spatial orientation significantly easier. Vertically illuminated surfaces are, assuming identical luminance, perceived as brighter than horizontal illumination. Thanks to precisely adapted light intensity, the building blends seamlessly into its setting. Passers-by feel more secure.



Spar supermarket, Fussach | AT

Architecture: DI Anton Fink, Dornbirn | AT

Lighting solution: HILIO monocolour clear as cove lighting for the façade; indoor lighting using TECTON continuous-row system, MIREL FEW louver luminaires, VIVO spotlights, ONLITE ECOSIGN and ONLITE COMSIGN emergency lighting, SCUBA moisture-proof diffuser luminaires, PERLUCE moisture-proof diffuser luminaires, ZE batten luminaires

**Recommended products**

HEDERA white | Media luminaire



LEDOS III | LED recessed luminaire



Lighting solutions



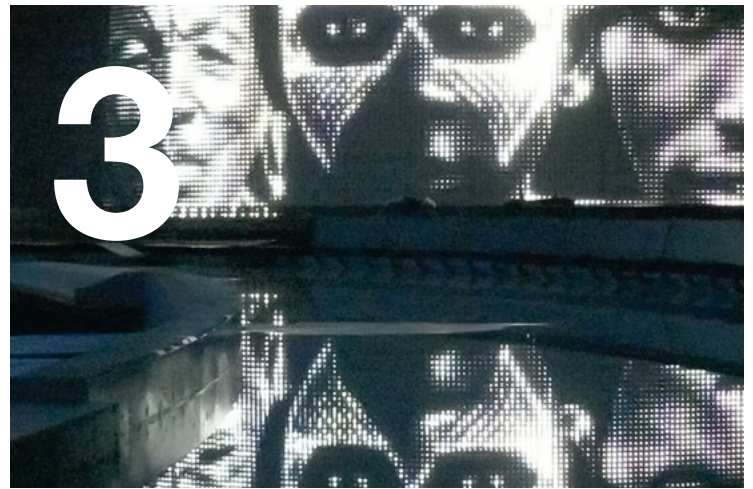
1 Architectural

Architectural lighting solutions place emphasis on the architecture, materials and the lighting effect sought after by the architect and building owner. Architecture is illuminated without altering the character of a building. Individual façade elements are accentuated and the natural structures of the façade are emphasised. Bright, vertical surfaces produce a greater sense of security and assist orientation. An appealing townscape attracts tourists and investors like a magnet.



2 Emotional

Emotional lighting involves transforming architecture or using light to shape it rather than simply embellishing it. Light patterns, structures and colours inject fresh character into plain, unpretentious architecture at night. Neutral objectivity is replaced by an emotionally perceived experience. Creative lighting elements invite the on-looker to contemplate and linger and provide an interestingly varied atmosphere.



3 Communicative

Communicative lighting solutions convey information that goes beyond the mere appearance of a façade. They provide boundless scope for presenting brands, values and messages: media content such as text, images and animations can be projected onto the controllable LED pixels on the façade. Stage settings that use corporate colours create a unique brand identity. Lighting concepts like this exploit the full potential of a society that lives at an increasingly fast pace. They enable companies, brands and towns to communicate with their environment even at night.

Architectural light

“The revolutionary development of LEDs has opened up fresh design approaches for façade lighting. The controllability of the brightness and light colour of LED light sources, together with their diverse optical characteristics, are making innovative technical lighting solutions possible. For example, façade lighting can be realised from inside a building thanks to the compact dimensions of LEDs. Rather than flooding façades with light, it is now possible to integrate light sources into the architecture. Finally, the low energy consumption of LED light sources chimes with the widely discussed topic of how to save energy.”



Stefan Hofmann
Lighting designer | Lichtwerke



The construction style and materials of a building are the crucial design elements, regardless whether it is a historical or modern building. If lighting deals sensitively with architecture, the character of a façade remains the same, day or night.

Architectural lighting employs a wide variety of methods. Uniform, wide-area illumination of a façade reveals its natural shapes and surface structures, for instance, while the building's appearance is preserved. The architecture speaks for itself. Using white light to pick out individual columns, ornaments or projections in the darkness is another very popular option.



District heating plant, Klausen | IT

Architecture: Dr. Roland Baldi, Bolzano | IT
 Lighting solution: HEDERA media luminaires for the façade; indoor lighting using COPA A high-bay luminaires, LIGHT FIELDS microprismatic luminaires and CHIARO moisture-proof diffuser luminaires

Architectural light

Emphasising architecture



The Rookery Building, Chicago | US

Architecture: Burnham & Root, Chicago | US

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

Lighting solution: custom solution – ROOK LED surface-mounted spotlights

- **The right colour temperature underscores materials and character**
- **Uniform, vertical lighting emphasises the surfaces of a façade without altering the architecture**
- **Precise accent lighting picks out distinctive architectural features**

Our environment is shaped by buildings. It is shaped by sweeping, monotonous façades just as much as by architecturally inspiring and historically important façades. Architecture is set centre-stage by selectively illuminating individual details, shapes and structures or by harnessing uniform, wide-area lighting. Special attention is paid to entrances, columns or individual parts of a building. Proper lighting adds symbolic value to ornaments and historic buildings and reveals their uniqueness.

With architectural centre-stage settings, the construction style and the lighting form a single coherent entity. The materials and colours of a façade are therefore the decisive criteria when it comes to choosing a light source and, especially, a light colour. If there is any hint of architectural integrity being adulterated, the appearance of a building will be perceived as discordant in a day versus night comparison or in comparison with the building's urban setting.

Recommended products

ROOK special luminaire | Wallwasher

PASO II | Recessed floor luminaire





Architectural light

Structuring architecture



Sutterlüty Handels GmbH, Hohenems | AT

Architecture: Architekten Hermann Kaufmann, Schwarzach | AT

Lighting solution: custom LED solution for the façade; indoor lighting using TECTON continuous-row system, LIVIANO spotlights, CARDAN 1000 modular lighting system, SOLINA high-bay luminaires, ONDARIA circular luminaires, MICROS recessed downlights and SCUBA moisture-proof diffuser luminaires

Recommended products

HILIO monochrome | Media luminaire

IKONO | Wall-mounted luminaire



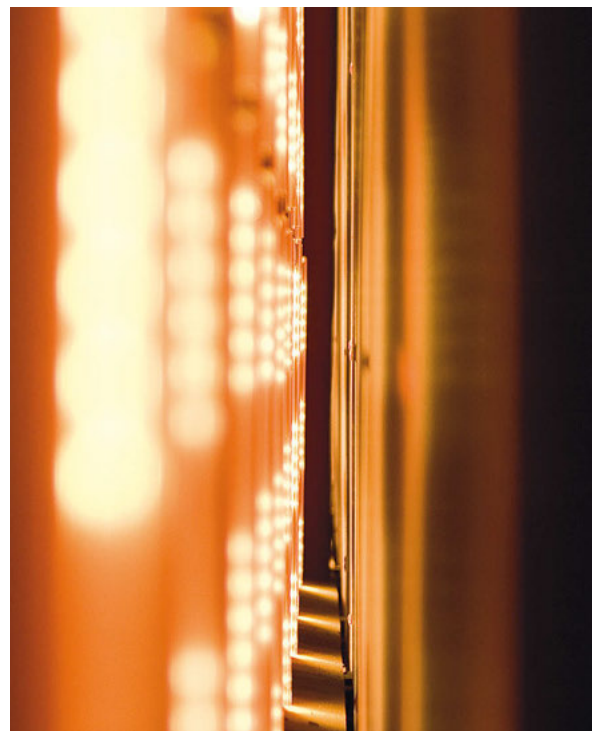


- **Light lines define structure and allow easier orientation**
- **The architecture and contours of a building are visible, even when it is dark**
- **Different luminance levels on various surfaces differentiate the foreground from the background**

Daylight, with its light and shade, provides a three-dimensional view of every building and makes structures visible. Different floors, functions, entrances and pathways are identifiable. Materials and colours are perceived naturally and true to life.

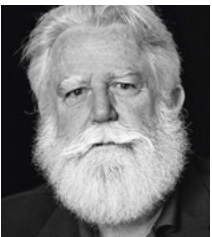
Different rules apply at night. If characteristics, contours or structures can be identified, this creates an impression of three-dimensionality. Artificial lighting cannot replace daylight but it does offer customisable design possibilities. A professional lighting concept lends a building special flair. Taking the environment of a building into account as a design element in its own right results in a high degree of naturalness.

The challenge is to use various luminaires, directions of light and light colours to structure a building or a street and make functional relationships apparent. Buildings that have special functions such as restaurants or meeting points call for a special lighting solution. An integral lighting concept also includes façades that have their own lighting design.



Emotional lighting

“Light is intangible, but real – it can only be seen when it is emitted or reflected by an object. Light itself has a spatial aspect and fills space. The visibility of light is bound up in an object which itself only becomes visible thanks to the light that impinges on it. Tactility and visibility are linked together in a bewildering way, so that the medium of vision itself remains largely invisible, usually functioning like an extension of the sense of sight, the eye – like a sense of touch operating at a distance.”



James Turrell
Lighting artist



The purpose of lighting scenarios is not always to emphasise or embellish architecture. Many architects want to deliberately give their structures a completely fresh night-time look.

Emotional lighting replaces classic accenting and plays with bold colours. Creative light patterns and structures breathe new personality into neutral buildings. They arouse attention and shape a townscape.

Decorative lighting elements make it possible to experience and perceive buildings more intensely. Lighting solutions also have the potential ability to forge an emotional link between architecture and onlooker.



Dornier Museum, Friedrichshafen | DE

Architecture: Allmann Sattler Wappner Architekten, Munich | DE

Façade light installation: James Turrell, Los Angeles | US

Lighting solution: OLYMPUS RGB+W Spacecannon façade spotlights, MAYA RGB recessed downlights, HILIO RGB+W LED light lines, SLOTLIGHT II light lines, Simes FOCUS spotlights, Robe scanners, VIVO spotlights, TECTON continuous-row system, VITRA LE spots I, MLL batten luminaires, ZE individual batten luminaires

Emotional lighting

Attracting attention



- **Coloured light arouses people's emotions**
- **Dynamic lighting changes have a long-distance effect and lure passers-by nearer**
- **Emotional lighting concepts bring architecture to life**

There is a close mutual interrelationship between colour and light and materials which can fulfil various tasks: it can simply follow functional dictates but can also convey emotionality and aesthetic appeal.

Psychologists associate specific values with some colours and colour combinations. Colour can be used as a symbol, for instance, to make the purpose of a building apparent even from a distance. The idea of using cold colours to illuminate buildings on industrial and engineering sites is a tried-and-tested option, for instance.

Coloured light is invigorating and creates an atmosphere that is especially effective in emotional terms. Illuminated buildings achieve particularly high levels of public acceptance if lighting compositions do not conflict with those that people are used to seeing. Colour set-ups that are familiar to us from nature are a perfect model to follow.

In addition, coloured light has the ability to steer our gaze, and hence our perception, towards an object in a targeted manner. Matching and contrasting colours grab attention. Dynamic changes in lighting attract particularly large numbers of people. Even a restrained colour change has a major impact, even if it is only recognisable in our peripheral field of vision.





Gaislachkogelbahn, Sölden | AT

Architecture: obermoser arch-omo zt gmbh, Innsbruck | AT
 Lighting solution: HEDERA media luminaires with DMX controller for the façade; circulation areas lit with PERLUCE moisture-proof diffuser luminaires, KAVA LED wall-mounted luminaires, COPA high-bay luminaires, SLOTLIGHT II light lines, BEGA 6876 wall-mounted luminaires

Recommended products

HEDERA RGB | Media luminaire



Butler XT | Lighting management



Emotional lighting

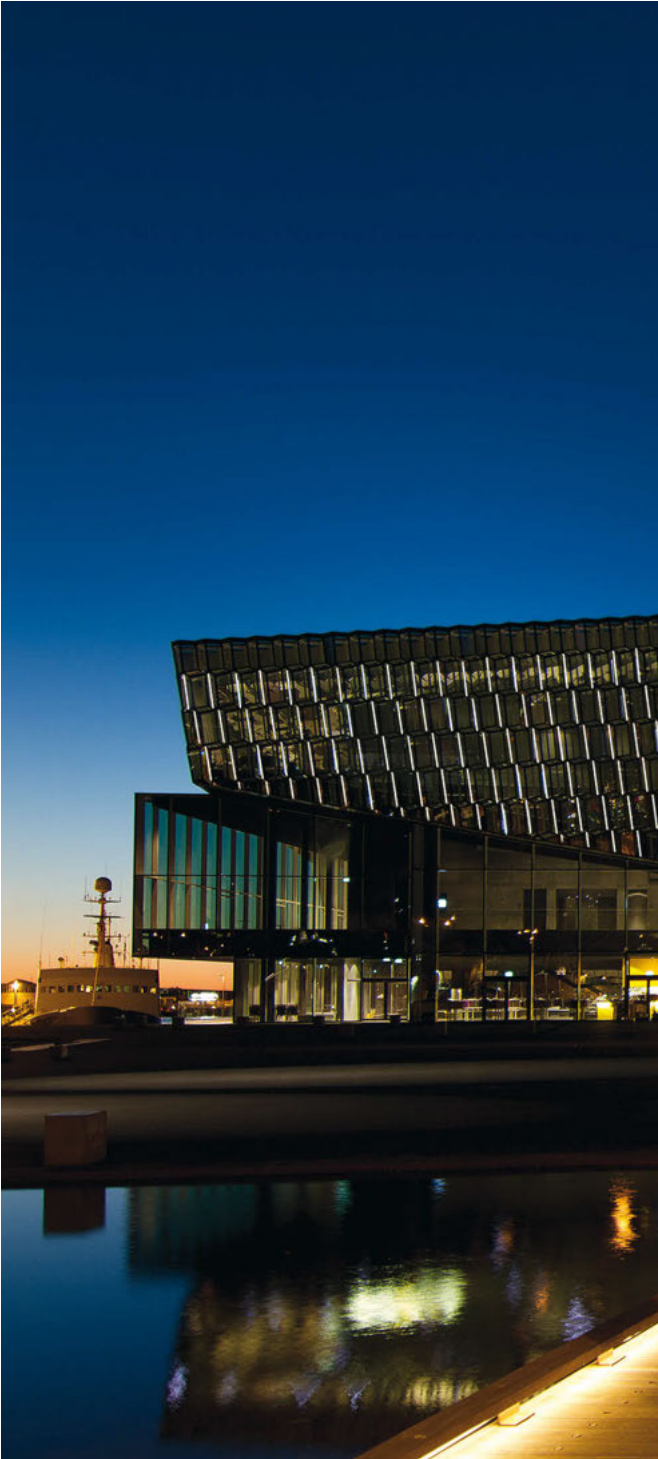
Attracting attention

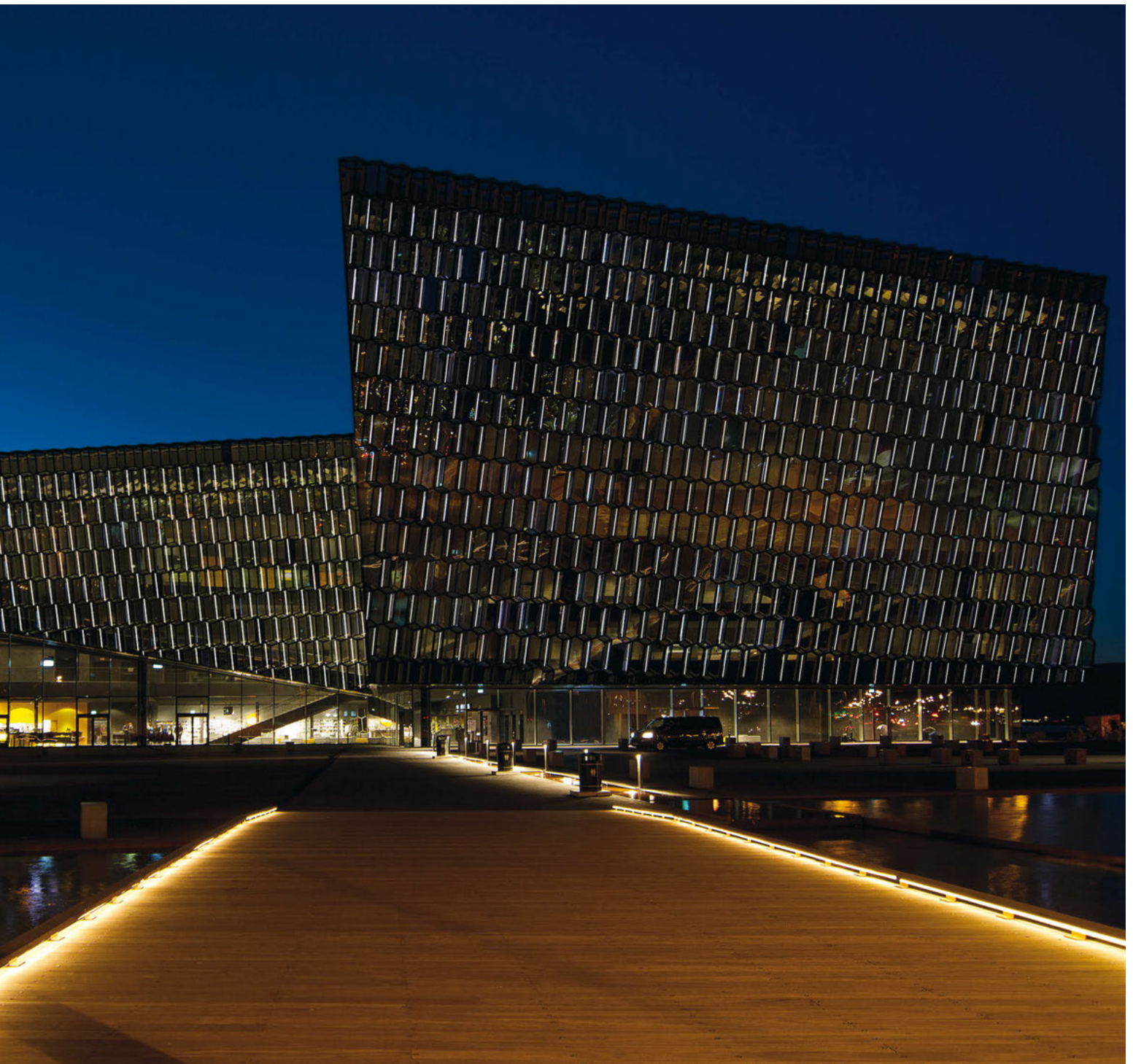
Recommended products

PYLAS RGB | Floodlight



HILIO monocolor | Light line





HARPA Reykjavik Concert Hall, Reykjavik | IS

Architecture: Henning Larsen Architects, Copenhagen | DK

Lighting design: Studio Olafur Eliasson, Berlin | DE

Lighting solution: custom solution – LED light lines to illuminate the façade; indoor lighting with TECTON Tetris continuous-row system and PANOS recessed downlights

Emotional lighting

Transforming architecture

- **Lighting structures transform neutral architecture into an attractive façade**
- **Light can transform architecture**
- **Lighting structures with colour form patterns that can become a work of art**

Architecture that appears neutral during the day and blends unobtrusively into its setting can turn out to be a work of art at night. Light can envelop a structure like a second skin. If lighting units are integrated in a façade so that they are concealed or are mounted inconspicuously away from a façade, this produces a particularly striking surprise effect. Selectively configured light structures result in fascinating patterns of light that can redefine a building.

A wide raft of design tools are available in order to implement creative design ideas: buildings cast shadows on walls; reflective surfaces can be used as projectors to throw light patterns. In case of negative contrasts, buildings that are set against a bright surface are defined by their silhouette alone, and their black outlines are artistically incorporated into their look.

Recommended products

APHRODITE | Special-effect luminaire

SKENA | Special-effect luminaire



Turm der Lüfte, Bremen | DE

Lighting design: Lichtwerke Bremen, Bremen | DE
Lighting solution: PYLAS L LED RGB floodlights

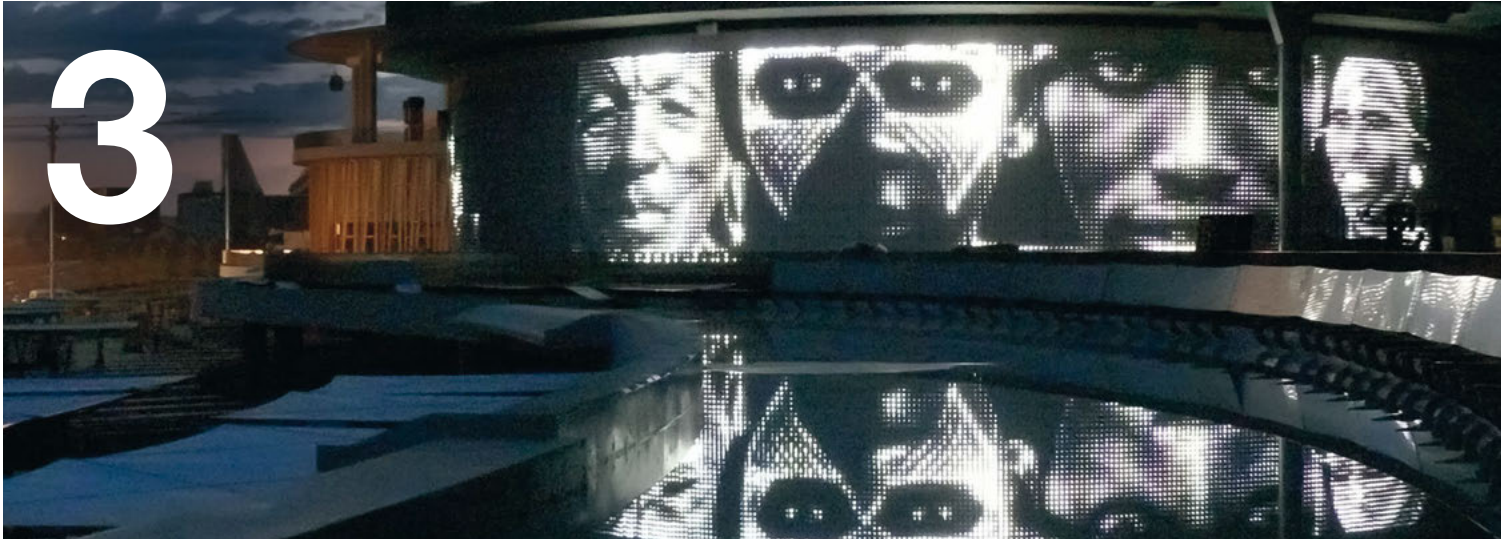


Communicative lighting

“Media façades provide an opportunity to underscore the existing identity of a town and its unique appearance as well as to project it effectively and consistently. Innovative media façades, used as an element that reflects identity, reference a place and the people who live there – thereby making it stand out from the crowd. The lighting designer’s task is to critically integrate this sensitive interrelationship into a lighting concept. Operators, inhabitants and the town itself will reap equal benefit from this in the long term.”



Lighting Design Engineer Sylwia Schafranietz
Lighting designer | co:licht, Berlin



LED technologies and lighting control systems are making lighting ever more versatile. Media content can be played back onto light fields. This imparts information to the onlooker that goes beyond the appearance of the architecture. Communicative lighting concepts like this are deployed primarily in outdoor areas and are used as prestige projects for towns, brands and investors.

LED pixels arranged in a grid are often invisible during the day. Only at night do they reveal their full capabilities: the small points of light are individually controlled, like the pixels in a TV image. This creates images, videos, animations or extravagant colour patterns. Dramas of light staged in corporate colours create a highly memorable brand identity that is recognisable even from afar.



Africa Pavilion EXPO 2008, Zaragoza | ES
 Architecture: Atelier Brückner, Stuttgart | DE
 Lighting solution: pixel-driven, custom LED solution with video control unit

Communicative lighting

Communicating brands

- **Light gives the corporate design of a brand a greater long-reach effect**
- **Colour, direction and intensity of light make the character and positioning of a brand visible, even at night**
- **Façade lighting brings added prestige**

For a long time now, façade lighting has been about much more than simply staging a building. Façade lighting arouses emotions, grabs attention and conveys information of all kinds into the bargain. Unique content, such as images or text, are specific ways of imparting information. Using a specific colour that matches a company's corporate design is one subtle form of communication. Illuminating a building that is used for commercial purposes in an appropriate corporate colour makes it possible to draw conclusions regarding who the building belongs to.

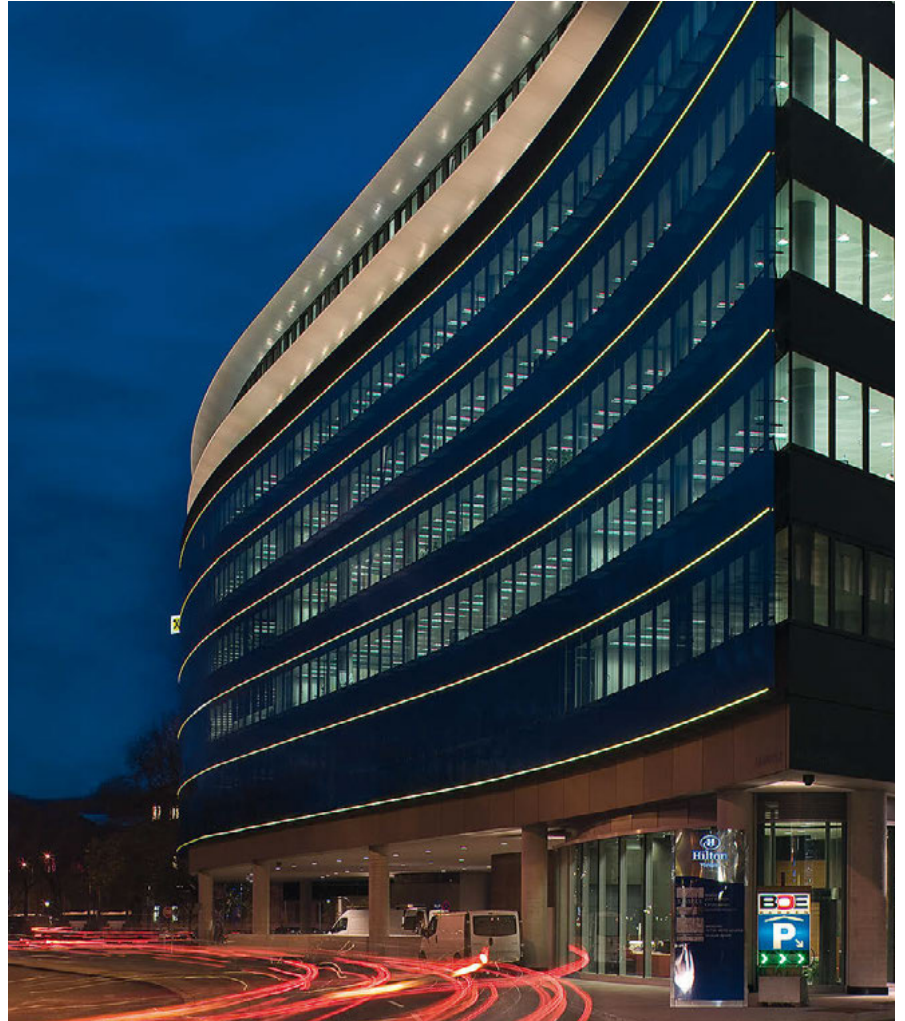
Communicative façade lighting gets noticed and draws attention to itself. Besides companies, local authorities have also discovered the advantages of communicative lighting for marketing purposes and are using media façades as modern landmarks.

Bauarena, Volketswil | CH

Architecture: Nüesch & Partner Architekten, Volketswil | CH

Lighting solution: HILIO LED RGB LED light lines





Raiffeisen Immobilien GmbH, Vienna | AT
Architecture: Atelier Hollein, Vienna | AT
Lighting solution: custom solution – HILIO LED light lines
controlled via DMX 512

Recommended products

HILIO RGB | Media luminaire

EMOTION | Lighting management



Communicative lighting

Providing information

- **Pixel-driven façades use text and images to get information across**
- **Interactive façades react to passers-by and the environment**
- **Media façades transform a townscape and require considerable design sensitivity**

A media façade uses light to convey specific information. Façade lighting consists of a large number of small lighting points or luminous fields. When these are individually controlled, images, films and text can be played back on a usually grid-shaped matrix.

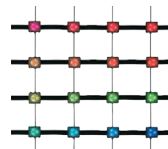
Animated façades like this are used as ambassadors, many of them even support interaction. An interactive lighting solution actively engages with onlookers and its extended setting. Electronic interfaces such as SMS messages, Internet-based drawing programs and presence detectors make this possible.

A media façade is in harmony with its setting if it embraces both the architecture and people who live in its immediately adjacent space. Public acceptance is greater if a media façade is not perceived as out of place.

Recommended products

CAPIX | Media luminaire

HILIO RGB VC | Media luminaire





Galleria Centercity, Cheonan | KR
 Architecture: UNStudio, Amsterdam | NL
 Lighting design: ag Licht, Bonn | DE and
 LightLife, Cologne | DE
 Lighting solution: custom solution – RGB
 and white high-power LED DMX IP65 Pixel



Lighting solutions for façades and architecture

Product overview and lighting management

SPOTLIGHTS AND FLOODLIGHTS

PYLAS S



PYLAS M



PYLAS L



PYLAS XL



WALL-MOUNTED LUMINAIRES

Downlights
Downlights/uplights

IKONO-D S



IKONO-D M



IKONO-D L



IKONO-I/D S



IKONO-I/D M



IKONO-I/D L



WALL-MOUNTED LUMINAIRES

Special-effect luminaires

APHRODITE



SKENA 1



SKENA 2



SKENA 3



RECESSED LUMINAIRES

PAN D52



LEDOS III



PASO II



WALLWASHERS

HEDERA



ROOK special luminaire



LIGHT LINES

HILIO RGB



HILIO MONOCOLOR

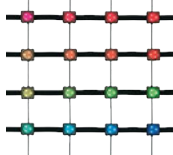


SYSTEMLED DECO



MEDIA LUMINAIRES

CAPIX



HILIO RGB VC



Lighting management The effectiveness of façade lighting is heavily dependent on the quality of the luminaires used and choosing the right lighting control system. A lighting management system is needed if there is a requirement to do more than simply switch luminaires on and off. Dimmed luminaires open up new centre-stage setting and energy efficiency possibilities. Zumtobel lighting control systems cater for a variety of lighting tasks – from simple colour changes through to video control units.

		LUXMATE EMOTION	LUXMATE LITENET	E:cue Butler XT	VCU
LIGHTING SOLUTION	Architectural	x	x	(x)	o
	Emotional	x	o	x	(x)
	Communicative	o	o	(x)	x
RATE OF CHANGE	Static/switching or dimming	x	x	o	o
	Slow/gentle transitions	x	x	x	(x)
	Fast changes in colour or brightness	o	o	x	x
	Video speed	o	o	o	x
EFFECT	Illuminate	x	x	x	o
	Colour	x	x	x	x
	Graphic	o	o	(x)	x
	Text	o	o	x	x
	Video	o	o	(x)	x
OTHER	Sensors	x	x	o	o
	Time-based control	x	x	o	o
	Dimming of luminaires	x	x	x	x
	Driving other motors	o	x	x	o
	Shows	x	x	x	(x)
	Playing back videos	o	o	(x)	x
	Addresses/channels	128	10000*	1024**	5400***
	Addressing	via system	via system	on luminaire	on luminaire

x = Applicable
(x) = Applicable to a
limited extent
o = Not applicable

* Depends on server
** Custom solution up to 50000 via server structure
*** 1800 RGB pixels; using master/slave structure (not a custom solution), upwardly open

Lighting solutions for façades and architecture

Service provision and services

Zumtobel assists designers and contractors at every stage of a project, helping them to get to grips with the boundless possibilities of façade lighting. We provide professional project support, from initial concept right through to completion and maintenance, thanks to experience designers and our own service engineers.

This applies in all the following areas: from simple illumination of a building through to complex media façades. From lighting solutions for switching on and off through to pixel-driven colour sequences, images or interactive media. From ready-made motifs through to users' self-created designs.

PROJECT STAGES



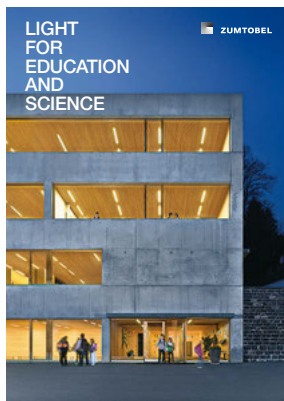
Visualisation examples: Gaislachkogelbahn, Sölden / AT







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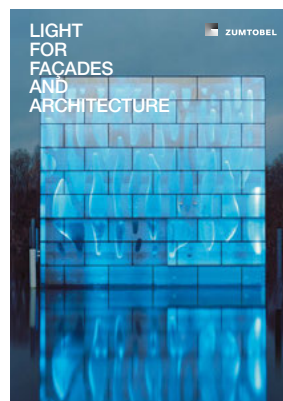
zumtobel.com/culture



zumtobel.com/healthcare



zumtobel.com/industry



zumtobel.com/facade

Zumtobel is the internationally leading supplier of integral lighting solutions for professional interior and exterior lighting applications.

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

We provide unique customer benefits by integrating technology, design, emotion and energy efficiency. Under the Humanergy Balance concept, we combine the best possible ergonomic lighting quality for an individual's well-being 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 subject to registration within 90 days from the invoice date and in accordance with the terms of guarantee at zumtobel.com/guarantee.

Order no. 04 924 280-EN 10/11 © 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. For the sake of the environment: Luxo Light is chlorine-free paper from sustainably managed forests and certified sources.





Tracks and spots



Modular lighting systems



Downlights



Recessed luminaires



Surface-mounted and pendant luminaires



Free-standing and wall-mounted luminaires



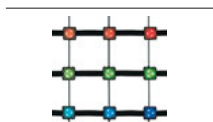
Continuous-row systems and individual batten luminaires



High-bay luminaires and floodlight reflector systems



Luminaires with extra protection



Façade, media and outdoor luminaires



Lighting management systems



Emergency lighting



Medical supply systems

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ZUMTOBEL

LIGHT FOR FAÇADES AND ARCHITECTURE

