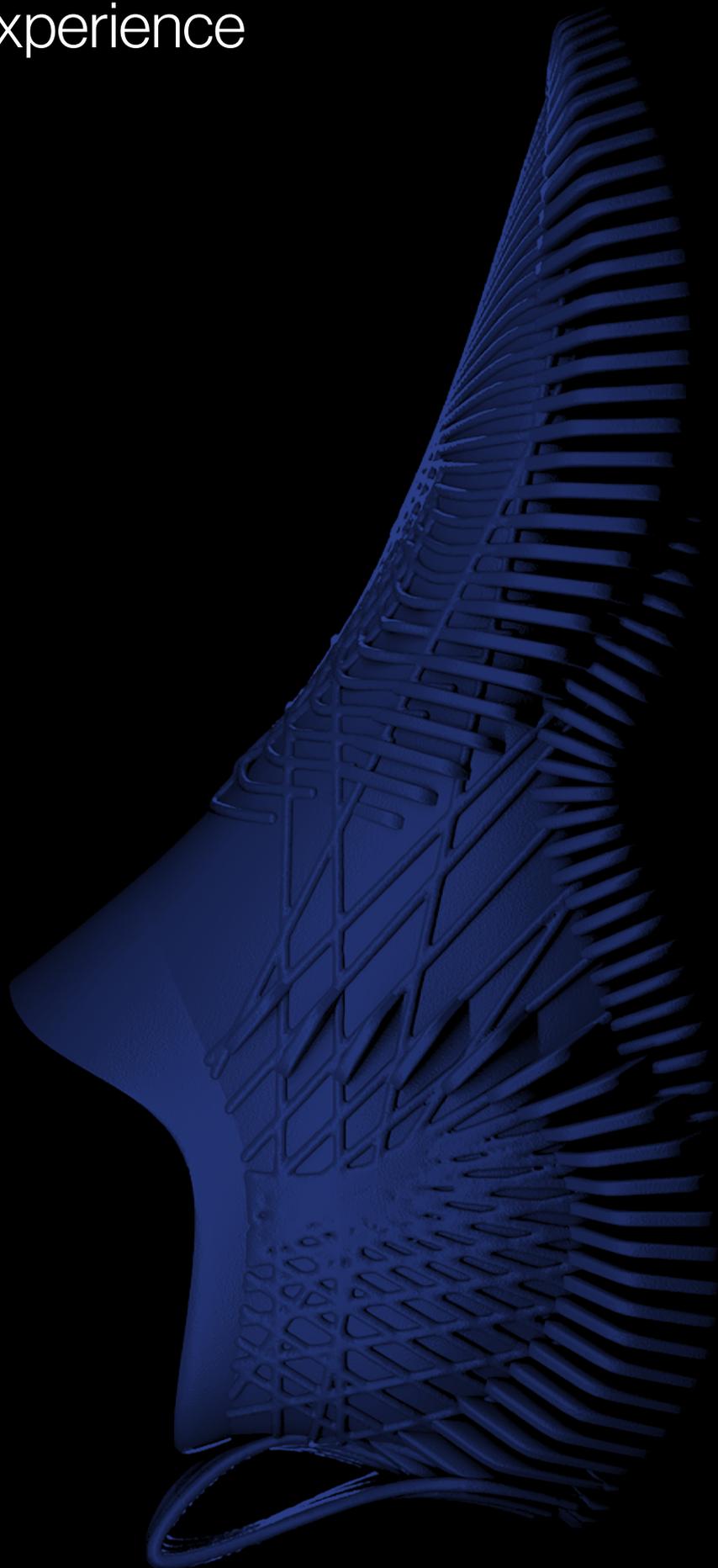


New shopping experience

Retail lighting





Kastner & Öhler, Kaufhaus Tyrol
 Innsbruck, AT –
 by DIOMA AG / WHIR3 / K&Ö Bauabteilung
 with lighting design by
 VEDDER.LICHTMANAGEMENT

Retail experience areas

Shopping is far more than a means to an end, it is an emotional event. For years, shops around the world have been changing to offer their customers experiences, not just products. The more inspiring the environment and the more comfortable people feel in stores, the higher their willingness to buy and the more positive their association with the respective retailer or brand. A beautiful, atmospheric ambience is therefore both an aesthetic goal and an essential economic factor.

Light contributes significantly to this atmospheric experience. The right lighting fulfils multiple functions. It aids orientation and helps customers visually and intuitively navigate the sales floor. Deliberately chosen lighting accents attractively display goods, emphasise individual product ranges, and evoke sensual associations with the products. From flattering lighting in the fitting room to specific lighting solutions for exclusive culinary establishments, light is decisive for whether customers choose to buy. The more detailed the concept, the more memorable the experience.

Lighting without limits

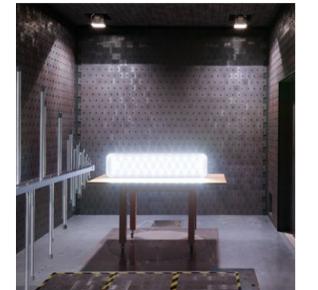
A passion for light is the spark. For 30 years, XAL has been working with lighting designers and architects to develop bespoke, state-of-the-art luminaires with impressive style and aesthetics. Always with one goal in mind: To push the boundaries of the technically feasible, enabling visionary designs in your salesrooms. We can make this claim thanks to our em-

ployees working in our design labs, production, and sales locations worldwide. Being there for our customers on-site is fundamental for joint success. Thanks to high levels of vertical integration, we can tailor our response to customers' requirements and create unique brand experiences. This brochure presents the results of these pioneering retail projects.



Highest quality standards

Our demand for quality is extremely high. The successful ISO 9001 certification confirms the consistent, internal quality management system; the environmental and climate protection measures are certified according to ISO 14001, and the occupational health and safety measures are compliant with ISO 45001. In addition, our many years of LED know-how ensure the highest quality of workmanship throughout the entire production process and our state-of-the-art lighting laboratories in our competence centre at our headquarters in Austria guarantee a long service life. Extensive quality tests are conducted in all areas, from circuit board production to the finished product. This is how we optimise each product for its specific application.



Fashion stores

- Sales floor 16
- Fitting rooms 32
- Shop windows 36
- Cash desk 40

Specialised shops

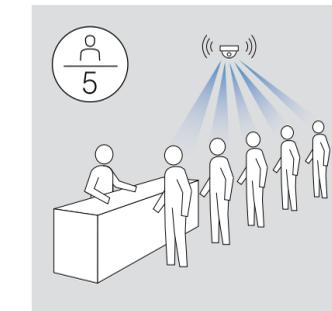
- Showcase lighting 46
- Accent lighting 52

Supermarkets

- Fresh food 64
- Convenience goods 70

Know-how

- Example of planning 78
- Key Account Management 82
- Company group 84



Digital Solutions

Luminaires equipped with modern sensors create an ideal light while providing additional data on the condition of your lighting or the use of space in the store. Energy monitoring, for instance, allows you to precisely evaluate and continuously optimise energy consumption. The sensors in the DALI-controlled luminaire system also provide valuable insights into the occupancy of the rooms and enable air quality and room temperature measurements. In retail in particular, the

atmosphere is crucial for the customers' sense of well-being and thus for the duration of their store visit. Find out when a queue forms at the cash desk or how many people enter or leave the shop. Our experts will present you options and, together with you, will implement your specific requirements.

In the spotlight

BO 32 / 45 / 55 / 70

semi-recessed / surface / base surface / track / intrack

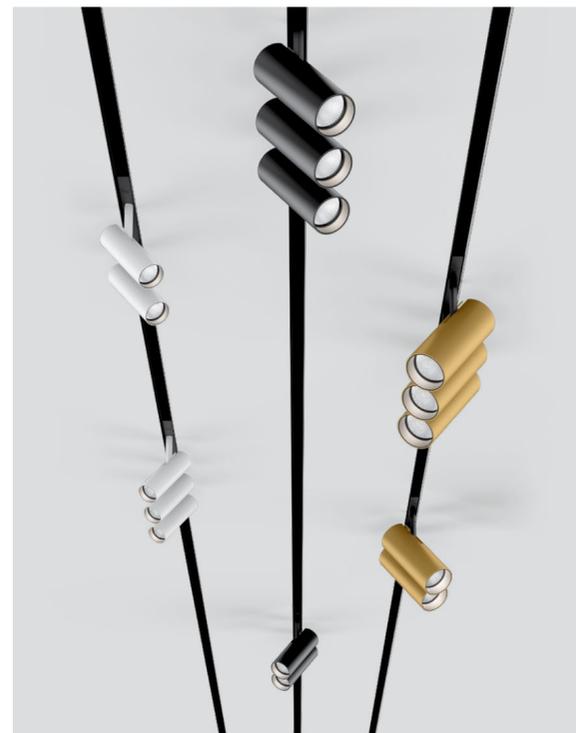
Plasterboard ceiling / concrete ceiling
2700K, 3000K, 4000K

Ideal applications

Sales areas, shop windows, checkout areas, accent lighting

Colours

white, black, black / gold, and special colours



Go to products



Elegance on track

MOVE IT 10

recessed / surface / suspended / pole

Plasterboard ceiling / grid ceiling / concrete ceiling
3000K, 4000K

Ideal applications

Sales areas, shop windows, checkout areas, accent lighting

Colours

white, black, and special colours



Universal expert

VARO 80 S / 110 S

track

Plasterboard ceiling / grid ceiling / concrete ceiling
3000K, 4000K

Ideal applications

Sales areas, accent lighting, supermarkets

Colours

white, black, and special colours



up to 132 lm / W
(high efficiency)

Everything on track

MOVE IT 25 / 45 with JUST 55

recessed / surface / suspended

Plasterboard ceiling / concrete ceiling
2700K, 3000K, 4000K

Ideal applications

Sales areas, shop windows, checkout areas, accent lighting

Colours

white, black, gold, and special colours



Add a little twist

TWIST 100

recessed

Plasterboard ceiling / concrete ceiling
3000K, 4000K

Ideal applications

Sales areas, shop windows, accent lighting

Colours

white, black



up to 124 lm / W
(high efficiency)

Elegance on track

SQUADRO

recessed / track

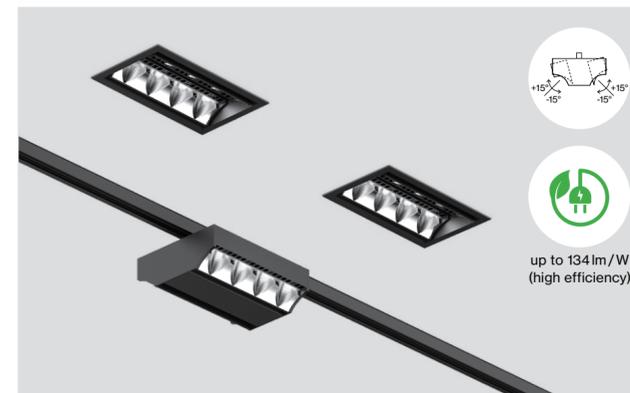
Plasterboard ceiling / grid ceiling / concrete ceiling
3000K, 4000K

Ideal applications

Sales areas, accent lighting, supermarkets

Colours

white, black, and special colours



up to 134 lm / W
(high efficiency)

The light jungle

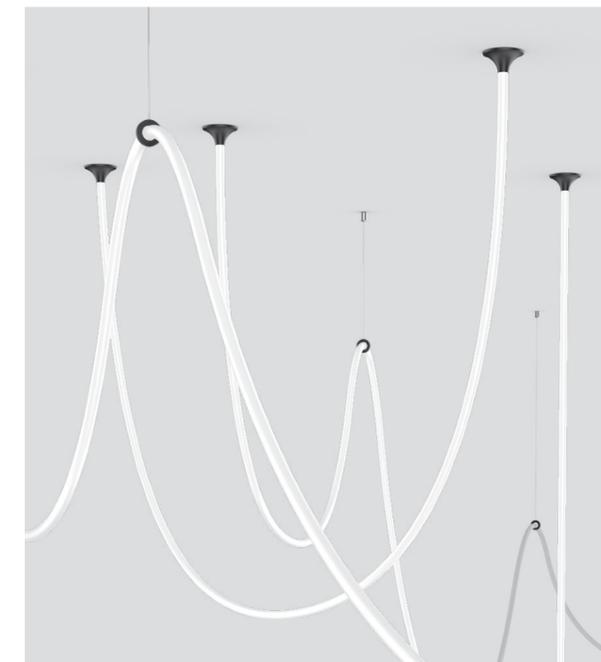
JANE

semi-recessed / surface / suspended

Plasterboard ceiling / concrete ceiling
3000K, 4000K, UGR ≤ 19

Ideal applications

Sales areas, shop windows, checkout areas



Create light sculptures

INO circle

suspended

Plasterboard ceiling / concrete ceiling
2700K, 3000K, 4000K

Ideal applications

Sales areas

Colours

white, grey, gold, black, and special colours



Down to the smallest detail

NANO / PICO / PICO Support

recessed / standing

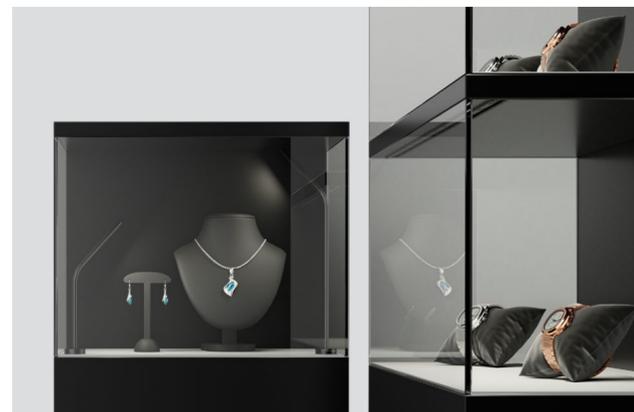
Fitted into shelf, fitted into showcase
3000K, 4000K

Ideal applications

Showcase lighting, accent lighting

Colours

grey, black



Combine with your design

SASSO 60 / 100

recessed / semi-recessed / ceiling

Plasterboard ceiling / grid ceiling / concrete ceiling
2700K, 3000K, 4000K, CWD (Colour Warm Dimming) and TW (Tunable White) in the PRO version, UGR ≤ 16

Ideal applications

Sales areas, fitting rooms, shop windows, checkout areas, accent lighting

Colours

Mounting frame: white, silver, and black
Housing: white, black, and gold
Reflector: white, silver, black, gold, and bronze

Customised Solutions

Retail especially is about emotionalisation through unique shopping experiences. Together with you, we develop bespoke lighting solutions that are customised to your project's specific requirements. Depending on the order volume, we adapt existing XAL products or implement completely fresh innovations. The VARO 80 S track spotlight, for example, which is characterised by a particularly low profile,

was developed as part of such a collaboration with a lighting designer within a specific project. Originally a product tailored to the needs of a small shop, it is now one of the most widely used products in the retail sector. This helps us provide lighting designers with ever new and improved lighting solutions for the specific requirements of retail spaces.



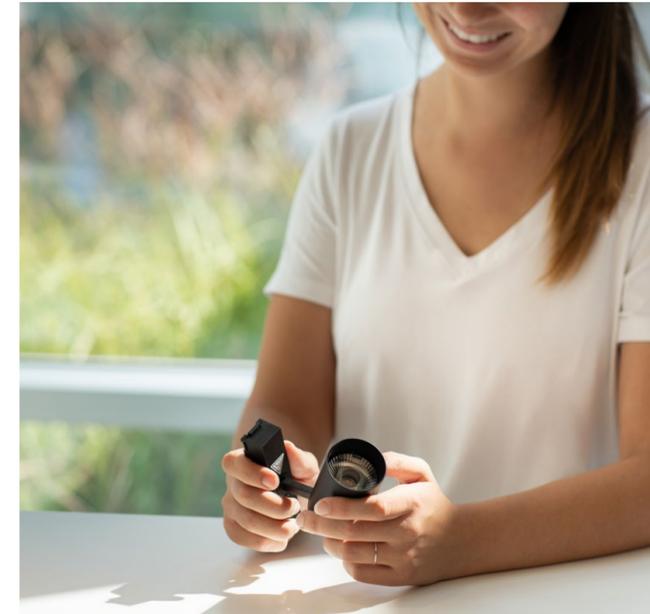
Sustainability

As a company, we see ourselves as part of a larger whole to which we are committed – now, and for a future worth living. Sustainability has always been a focus of our work: Our products not only contribute to improving our customers' carbon footprint through energy efficiency, but also their well-being through ideal light conditions. Most recently, we have significantly boosted our focus on sustainability through concrete targets, numerous measures, and measurable data:

Our Corporate Carbon Footprint supports us in the targeted planning and implementation of environmental measures on the way to our goal of CO₂-neutral operation at all our locations by 2030 at the latest. They include the construction and use of our own photovoltaic systems, climate-conscious business travel management, and the switch to e-mobility. Our activities in climate protection as well as social sustainability and ethical corporate governance can be tracked transparently and comprehensibly in our Sustainability Report. In doing so, it was important for us to follow international standards. The Greenhouse Gas Protocol and GRI were the basis for this first report - subsequent reports will of course consider the latest developments in European reporting standards (CSRD, ESRS).

To map our products' ecological footprint over their life cycle and create the basis for environmentally conscious decisions, we have prepared environmental product declarations in accordance with ISO 14025 and EN 15804 for several products – and this portfolio is being continuously expanded. We use the results to make our products ever more sustainable.

We have been a member of the UN Global Compact Initiative since 2020, integrating the principles into our interactions with



each other, our environment, our supply chain management, and our resource strategy. We believe that our actions and our products' life cycle must be traceable and transparent, which makes alignment with clear standards essential. Accordingly, in addition to ISO 9001, we are certified to the ISO 14001 environmental management standard.

We also rely on independent providers to evaluate our corporate social responsibility: Ecovadis regularly assesses our corporate social responsibility holistically and based on objective criteria with a focus on the environment, labour and human rights, ethics, and responsible procurement.



Kastner & Öhler, Kaufhaus Tyrol
Innsbruck, AT –
by DIOMA AG / WHIR3 / K&Ö Bauabteilung
with lighting design by VEDDER.LICHTMANAGEMENT

Lighting technology meets design

Interview with Reinhard Vedder

Lighting designer Reinhard Vedder talks to us about retail of the future. Triggered by the coronavirus pandemic and booming online retail, he sees a willingness to change the traditionally established and the courage to embrace new design concepts.

The decisive factor for the store of the future is still emotionalisation. Today more than ever, the retail space is an area to experience new LED technologies as excellent design options. Successful shops, whether the grocery store around the corner or an established premium fashion brand, offer a finely selected range of goods, services, and experiences in spaces that are inviting to customers, and which offer something special. Only a professional lighting design's psychological effect can make this effort truly compelling.

This is where smart lighting control is showing its growing significance. The days of turning the lights on in the morning and off in the evening are technically obsolete. Retail is now all about lighting scenes to suit the space and the occasion. Brightness and colours can change according to season or time of day, which offers significant energy savings while shaping the customers' experience. The classic men's department, for example, needs "infinite light, even when planning with sophistication", while colourful areas such as women's fashion can get by with a lower light intensity. Large screens are effective elements routinely integrated at VEDDER.LICHTMANAGEMENT; they are valuable decorative elements and splendid "market stalls", adding sensual information and micro-experiences which brick-and-mortar trade can consider a strength.

Reinhard Vedder is convinced that light is the most important instrument for retail of the future. "A cool store design is already a work of art. But perfect staging – creating great spaces, a special mood and atmosphere – is something that only light can do."



Reinhard Vedder
Lighting designer, VEDDER.LICHTMANAGEMENT

Fashion stores



- Sales floor
- Fitting rooms
- Shop windows
- Cash desk

Sales floor



Experience shops in the right light

Shopping is a sensual experience. This is especially true for clothing and accessories. An inspiring atmosphere in which customers enjoy browsing is created above all by the right lighting. It should first help with orientation on the sales floor, visually structuring the space, as well as emotionally staging the fashion. Pleasant lighting increases the attractiveness of the clothing and jewellery on display and the length of time customers spend in the store, significantly increasing their willingness to purchase.

Fashion and trends constantly change, and fashion stores' collections change several times a year. To ensure lighting can adapt to a shop's arrangements, lighting solutions need to be flexible to enable ever-changing scenography. Our MOVE IT, BO, and VARO product families offer precisely this freedom: The rotatable and tiltable insets can be repositioned at will. Supplemented by focusable recessed or surface-mounted spotlights such as SASSO or BO as well as the classic MINO profile luminaire, a dynamic lighting range is created to ensure a vivid store environment. To avoid light surfaces becoming too homogeneous, beam angles and brightness contrasts can be varied. This creates a visual dynamic that makes visiting a store entertaining. The customer's attention is drawn by highlighting specific merchandise displays and mannequins that create an intuitive path through the store.

Recommendations

- Structuring of the sales area with lighting
- Avoid overly uniform illumination of the sales area
- Guide customers by highlighting specific product carriers
- Dynamic light draws attention to specific product displays and increases the length of time spent in the shop

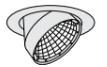
MINO



SASSO



TWIST



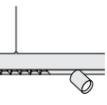
JANE



INO



MOVE IT



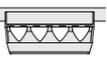
VARO



BO



SQUADRO



Calvin Klein Store
La Vallée Village, FR –
by Hyphen



s.Oliver Munich, DE – by Kitzig Interior Design GmbH including lighting design



Shop SVNTY
Antwerp, BE –
by Verhamme de vel Architecten
with lighting design by Electro Goaverts

Kastner & Öhler, Kaufhaus Tyrol

Innsbruck, AT –

by DIOMA AG / WHIR3 / K&Ö Bauabteilung

with lighting design by VEDDER.LICHTMANAGEMENT





Mode von Feucht GmbH
Innsbruck, AT –
by blocher partners with lighting
design by Hailight Lichtplanung,
Andreas Haidegger



Unique experience

Mode von Feucht, Innsbruck

Emotions are sculpted by light. Warm, cold, inviting, sober – the range is wide, the game, depending on the project, always different. It is important, especially in retail, to create emotionally illuminated sales areas that create a feel-good atmosphere for the customer. That was also this project's clear objective. We wanted to create a lighting scene that generates heights and depth, playing with the size and levels of the building. Light is always a nice way to subconsciously guide the customer in retail. That is why blocher partners optimised the illumination of the individual highlight zones. Even though the sales area is over 11,000 square metres, we successfully managed to tell a consistent story that runs throughout the entire building. No area seems disconnected, everything is interwoven, be it through thematic connections or through all the great visual references. The experience unlike any other. Visitors are entertained from the moment they enter the building through the giant LED waterfall wall as they feast in the bar, breakfast café or personal shopping area. At Feucht, kids can even slide down a floor from Sports to the Children's department.

“Especially in retail, it is important to create emotionally illuminated sales areas that create a feel-good atmosphere for the customer. That was also this project's clear objective.”

Tina Buchholz, Senior interior designer, blocher partners



Tina Buchholz
Senior interior designer, blocher partners



Mode von Feucht GmbH
Innsbruck, AT –
by blocher partners with lighting
design by Hailight Lichtplanung,
Andreas Haidegger



Jelmoli in the Circle
Zurich, AT –
by MINT Architecture with lighting
design by Reflexion AG



Unity through individuality

Jelmoli in the Circle, Zurich

Jelmoli recently opened the doors to Lifestyle House and Sports House, its two stand-alone stores, that form Zurich's Circle's first department store. The Zurich-based architecture office Mint Architecture designed the overall appearance. The design concept takes up the Circle's architecture and translates it into a unique shopping experience in three-dimensional space. Lifestyle House is a concept store that offers a finely curated assortment across four floors. The high-quality material language is interpreted in a target group-specific and thematic manner on each floor. Delicate systems with unexpected shapes can be flexibly combined to present goods. Sports House dedicates each of its four floors to one sport or one customer segment. Different room heights and vistas provide highlights. Thanks to the sophisticated lighting concept by the lighting specialists at Reflexion, the goods are ideally staged and create a stylish atmosphere that reflects the essence of the respective brand.



Andrea Steffens
Interior designer, Mint Architecture



Oberpollinger | The KaDeWe Group
Munich, DE – by Licht Kunst Licht AG including
lighting design



Experience unique, premium shopping

Oberpollinger, Munich

One of the major challenges in the lighting design for the traditional department store in Munich was to unite competing requirements from hugely different areas in a holistic concept. High-quality brands want to set their products apart from the competition; the customers expect an appealing and stimulating shopping experience. The lighting solutions must do the given space justice and boast state-of-the-art lighting technology. XAL developed a unique gold tone for both the BO55 spotlights and the custom round track profiles. Powder coating was deliberately omitted in this premium shopping world. The high-quality result combines hard and soft gold tones with a fine structure and is not yet available on the market. Thanks to the innovative lighting concept, customers can enjoy a unique, premium shopping experience.



Isabel Sternkopf,
Lighting designer, Licht Kunst Licht AG

Fitting rooms



Feel-good rooms

Customers decide whether to buy something while in a fashion store's fitting room. The more comfortable they feel trying on clothes and the more positive their self-perception in the fitting room, the more likely they are to make a purchase.

That is why lighting in fitting rooms plays a key role. The ideal is soft, widespread, diffuse light that surrounds the body, makes skin irregularities "disappear" and, in contrast to directional spotlights, creates a homogeneous and attractive overall image. Our products such as MINO or CORNER are perfect for lighting a fitting room as they deliver uniform illumination. This makes the products look appealing to the customers from all angles while avoiding unflattering shadows.

Where local fashion stores are increasingly competing with online retailers, attractively designed fitting rooms can give them an edge. Here, customers have the opportunity to experience brands and clothing literally up close and feel the inspiring atmosphere of the store. This means that the fitting room is not simply a means to an end but has to be consciously designed. XAL has developed its own lighting concept for fitting rooms in collaboration with renowned lighting designers. We combine lighting principles from photo studios with those from retail. The body's silhouette is optimally staged, making a shopping experience feel like a cover photo-shoot.

Recommendations

- Homogeneous illumination of the fitting room
- Feel-good atmosphere thanks to a warm white colour temperature (3000 K)
- High colour rendering (CRI ≥ 90)

SASSO



VELA



MINO



CORNER



Kastner & Öhler, Kaufhaus Tyrol

Innsbruck, AT –

by DIOMA AG / WHIR3 / K&Ö Bauabteilung

with lighting design by VEDDER.LICHTMANAGEMENT



Mode von Feucht GmbH
 Innsbruck, AT –
 by blocher partners with lighting
 design by Hailight Lichtplanung, Andreas Haidegger

Shop windows



Signalling effect through light displays

The shop window is the stage of a store. Passers-by become customers when a storefront catches their eye. The more effectively and dynamically displays and showcases are illuminated, the greater the likelihood that customers will step into a store. The eye prefers to follow visual dramaturgy that is not immediately transparent: such as the alternation of light and dark or an increased depth of space through differently highlighted areas in the shop window. Using both horizontal and vertical lighting fixtures creates this play of light.

The targeted highlighting of individual, representative goods as a foretaste of the range in the shop is equally important. The necessary flexibility for ever-changing shop window decoration is helped by the MOVE IT magnetic track system with its multitude of rotatable and tiltable spotlights. Luminaires with a narrower beam angle are used to precisely illuminate and accentuate objects. In addition, luminaires with a wider beam can highlight back walls and further decorative elements of the shop window if desired. However, one should ensure that these are not accentuated more than the goods in the display.

Sensor-controlled light management systems regulate the brightness in a time-controlled manner or according to the incidence of daylight. As a result, they create an attractive display around the clock and reduce long-term energy consumption.

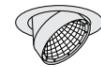
Recommendations

- Use horizontal and vertical lighting
- Create attention through dynamic light, using a combination of narrow-beam and wide-beam luminaires
- Use a flexible lighting solution due to changing shop window situation
- Sensor-controlled light management systems additionally regulate brightness based on daylight levels

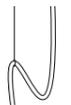
SASSO



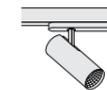
TWIST



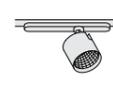
JANE



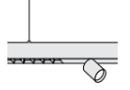
BO



VARO



MOVE IT



Shop SVNTY
 Antwerp, BE –
 by Verhamme de vel Architecten
 with lighting design by Electro Goaverts



Kastner & Öhler, Kaufhaus Tyrol
 Innsbruck, AT –
 by DIOMA AG / WHIR3 / K&Ö Bauabteilung
 with lighting design by VEDDER.LICHTMANAGEMENT

Cash desk



The successful conclusion

The Cash desk completes the shopping experience. It should be appealing and friendly so that customers feel assured of their purchase decision and leave the store feeling positive. Spatially effective lighting accents support orientation in the queuing area. Eye-catching elements such as large pendants or suspended luminaires with decorative shades are ideal to make the Cash desk easy to find from anywhere in the shop.

Although employees also move around the sales floor, the Cash desk is where they work the longest stretches. Lighting in this area should therefore also meet the requirements of a standard-compliant and healthy workplace. Sufficient brightness is required on the table surface when scanning and packing goods as well as when accepting payment. This makes work less stressful for the eyes and reduces exhaustion. For a friendly and trusting atmosphere at the checkout counter, faces must be easily perceived. Glare-free illumination with as few shadows as possible shows facial expressions to their best advantage. If displays are also used at the checkout counter, country-specific DIN standards must be considered, such as optimum glare control for light sources or reduced reflected glare on the display and keyboard.

Recommendations

- Give it special attention during the planning stages
- Decorative lighting combined with sales floor lighting
- Information point for customers' orientation
- Glare-free lighting with minimal shadows

SASSO



TULA



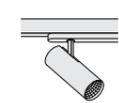
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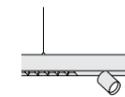
BO



VARO



MOVE IT



Kastner & Öhler, Kaufhaus Tyrol
Innsbruck, AT –
by DIOMA AG / WHIR3 / K&Ö Bauabteilung
with lighting design by
VEDDER.LICHTMANAGEMENT



Specialised shops



- Showcase lighting
- Accent lighting

Showcase lighting



Spotlight on the extraordinary

In showcases, premium goods are consciously brought into focus. For maximum impact, this display is curated and staged down to the last detail. When it comes to consumer products such as jewellery or accessories, the incentive to buy is already triggered at this point. In exhibitions and museums, the showcase is of greater importance, as it provides the framework for often very small objects that require the utmost attention and special protection.

The ideal presentation draws the viewer's attention to the special features of the displayed goods or exhibits, making their richness of detail visible. NANO and the related PICO and PICO SUPPORT product families were developed for glare-free use on shelves and in showcases to do just that. Premium-quality and product-friendly LED solutions with excellent colour rendering provide intensive illumination with minimal heat generation. This is particularly important for sensitive materials as well as for premium products such as handmade jewellery or fine leather goods. Variation between different colour temperatures creates variety for the eye and sets brilliant accents. The brilliance is achieved primarily through many, individual points of light – such as by using NANO products, which are characterized by small light point spacing. Light directed from an angle in different colour temperatures increases its sparkling effect. In addition, luminaires in showcases should be visually restrained so as not to distract from the items on display.

Recommendations

- High colour rendering (CRI ≥ 90)
- Multiple, individual light points enhance the sparkle effect and thus the brilliance
- Avoid glare, reflection
- High illuminance levels for watches and jewellery

NANO



PICO





John&Audrey Group
 Wiesbaden, DE – by
 VONKLIPSTEIN with lighting
 design by ORB. Atelier für
 Lichtgestaltung

Hangl's Uhren & Schmuck
 Samnaun, CH –
 by Brem & Zehnder AG
 including lighting design



Breitling Boutique
Stuttgart, DE –
by Breitling



Accent lighting



Brilliant accents for premium products

In brand stores, special emphasis is placed on product presentation. Customers come to the store to buy goods and to enjoy a special shopping experience. Used consciously, accent lighting can sharpen a brand's corporate identity and make its attributes tangible in the flagship store. This ambience of luxury and exclusivity is created by a successful interplay of architecture, furniture, and lighting. Accent and background are deliberately balanced for that special shopping experience. The store itself should visually convey calm, while the products are scenically placed in the centre. Accent lighting directs the eye to the intentionally staged products and thus has a significant influence on the purchasing behavior of customers.

Precisely aligned, small points of light set highlights and intensify the material effect of goods. Brushed leather, sparkling jewels, or shiny metallic hi-fi equipment can thus be experienced in the greatest detail. Glare-free recessed spots with a narrow beam angle, set into the ceiling, such as the flexible UNICO spotlight, and high illuminance levels of ≥ 4000 lux at the product emphasise details and workmanship, which is particularly relevant for jewellery and watches. Gold is best accentuated by warm light, silver by cold light. Exceptionally good colour rendering ($CRI \geq 95$) makes surfaces and materials look as valuable and authentic as possible.

Recommendations

- Use luminaires as a deliberate stylistic device
- Creates a unique, unmistakable atmosphere
- Accent lighting conveys a brand's corporate identity
- Glare-free light points, set into the ceiling
- Directed light
- High illuminance levels for jewellers and watch suppliers (≥ 4000 lux at the product)
- Store should radiate calm
- Different light colours for different products

SASSO



UNICO



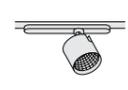
TWIST



NANO



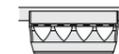
VARO



BO



SQUADRO



MOVE IT





Bang & Olufsen Airport Store
 Copenhagen, DK –
 with lighting design by anker & co



Shop Optiek
Sagaert, BE



Shop SVNTY
Antwerp, BE –
by Verhamme de vel Architecten
with lighting design by Electro Goaverts



Porsche Studio
Zurich, CH –
by AWS Architekten AG



Destination Porsche

Porsche Studio Zurich

The opening of the Porsche Studio in Zurich marked the first-time roll-out of the new retail concept: Destination Porsche. The aim is to evolve established Porsche Centre showrooms into locations to experience the brand and touch the product. The lighting concept makes a significant contribution in facilitating a greater experience of the brand within the Porsche dealer network. More so than ever before, people are the centre of focus. Visitors should have a positive impression and feel for the Porsche brand. The variable configuration of the sales area requires a flexible lighting solution. MOVE IT 45 responds to this with a variety of light insets (in this case JUST 55 spotlights and Opal insets) that can be fitted and exchanged in the track system without using tools.

Supermarkets



- Fresh food
- Convenience goods

Fresh food



Lighting used to spark an appetite

Selling fresh produce is both a risk and an opportunity for supermarket operators. The short shelf life of the products requires that they sell quickly. However, due to their attractive presentation, usually already at the store's entrance area, customers most often buy them spontaneously. The prerequisite for this is the appealing and appetising presentation of the goods.

A finely differentiated lighting concept is needed to best showcase vegetables, fruit, and delicatessen products. Optimised lighting emphasises the products' naturally inherent colour and makes them appear particularly fresh, authentic and appetising. Pastry, fruit and vegetables, cheese, meat and fish, for example, all require individual lighting with different light colours and intensities. For fresh meat and prepared meat products, the light should have a good red rendering, while fish and cheese tend to be illuminated in cool colours and pastry in warm, golden tones. As animal products are particularly sensitive to heat and light, modern LED solutions with low radiant heat are used. This ensures their freshness and reduces the counter's required cooling capacity. Specialised shop spotlights, such as the energy-efficient SQUADRO 6-in-1 spotlight, achieve a particularly brilliant presentation of goods thanks to their highly accurate, precisely adjustable light control. They intensify the colour contrasts of fresh food and are glare-free in all directions to make shopping pleasant and inspiring for customers.

Recommendations

- Reproduce natural colours true-to-life
- Use product-specific light colours
- Light with very good red rendering for meat and prepared meat products
- Golden colour tone for pastry and yellow dairy products
- Cool white for fish and dairy products

UNICO



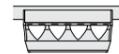
TWIST



VARO



SQUADRO

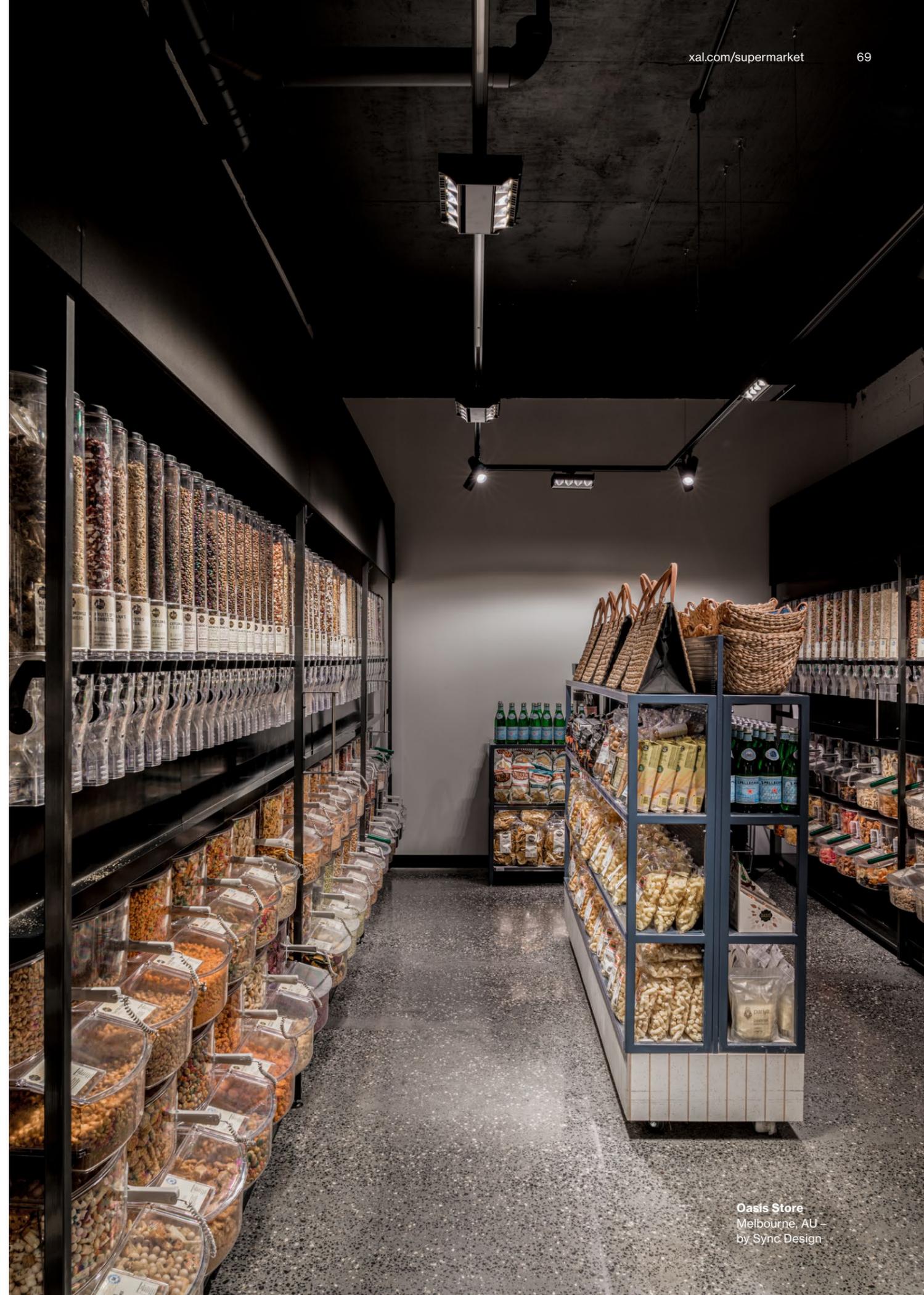
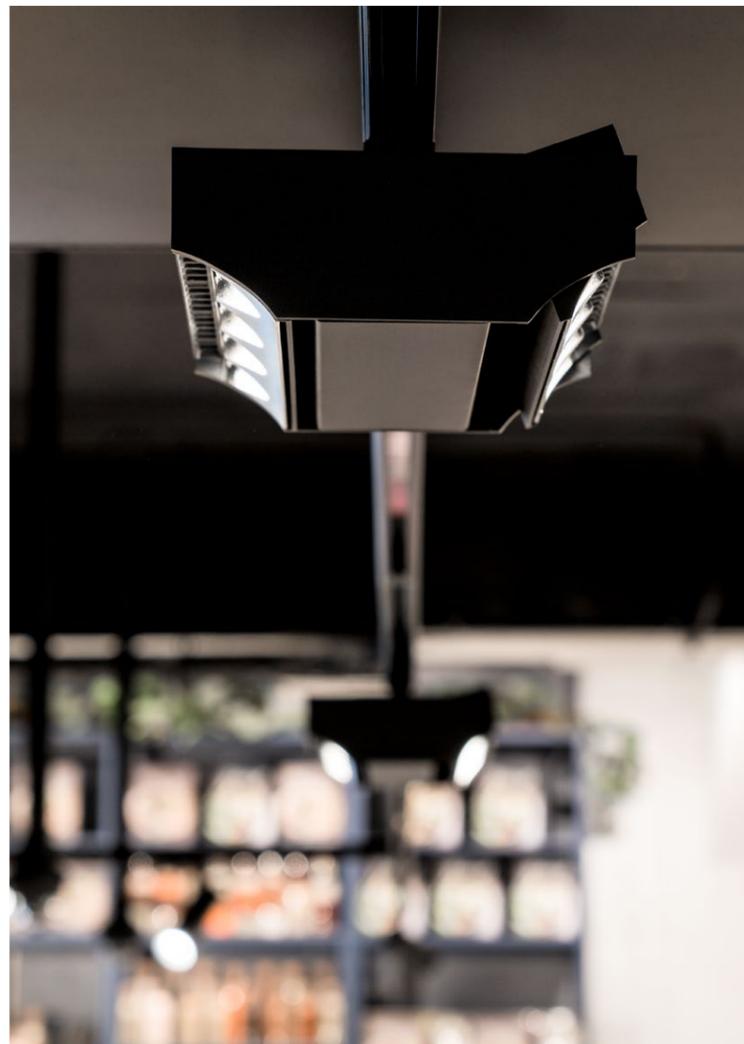




Sutterlütty Rankweil, CH –
by Hermann Kaufmann + Partner ZT GmbH

Atelier Martin Auer Graz, AT –
by Janser Castorina Katzenberger





Oasis Store
Melbourne, AU
by Sync Design

Convenience goods



“Shop-in-shop”: zonal lighting

As supermarkets increasingly offer different product ranges, there is a tendency towards a visual separation, the “shop-in-shop” principle. Individual product groups, such as drugstore products, textiles, or wine and specialties, are staged to match the products. Lighting in different light colours and intensities creates a visual separation that offers customers orientation, and also enhances the attractiveness of the respective product range. With the right light, convenience goods are attractively presented. Warm light colours for cosmetics, for example, evoke associations with spas and wellness areas; cool lighting similar to daylight, however, makes garden furniture and electronic equipment appear appealing. And Mediterranean delicacies in a darkened area with brilliant light accents are reminiscent of a visit to a gourmet restaurant.

In lighting design for convenience products, less emphasis is placed on ambient lighting and more on accent lighting. Swivelling downlights in the peripheral areas set visual limits while accentuating goods when running parallel to the shelves. Light distribution matched to the shelf arrangement also supports the rapid location of desired product ranges. The aim is to focus on the products and have the aisles fade into the background. Finally, a lighting concept that relies on selective highlighting is more economical, as fewer luminaires are needed than in wide-area lighting solutions. Specialised shop spotlights, such as SQUADRO, work with high-precision light points to provide the greatest possible output with minimum energy consumption.

Recommendations

- More important than the light intensity on the ground is the vertical, uniform, and bright illumination of the entire shelf front
- Present products gently and authentically
- Different colour temperatures tailored to the product group
- Directly illuminated products benefit from an aesthetic upgrade

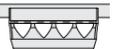
UNICO



TWIST



SQUADRO



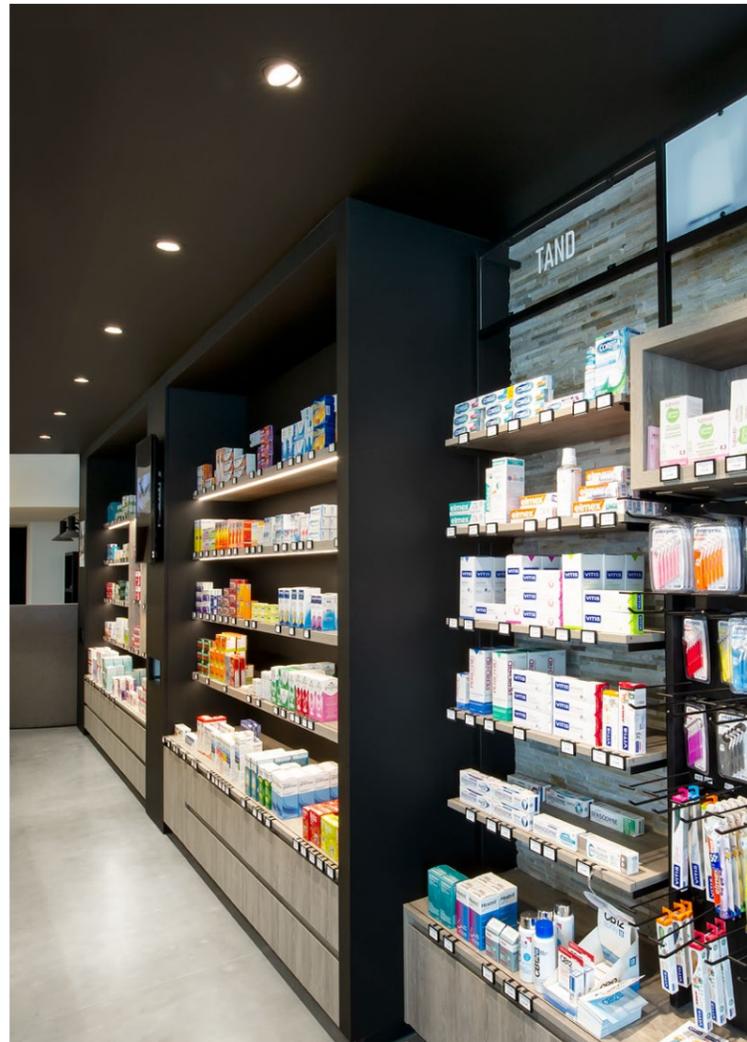
VARO



BO



Pharmacy Schiervelde
Roeselare, BE



Sutterlütty Rankweil, CH –
by Hermann Kaufmann + Partner ZT GmbH

Light quality for fashion

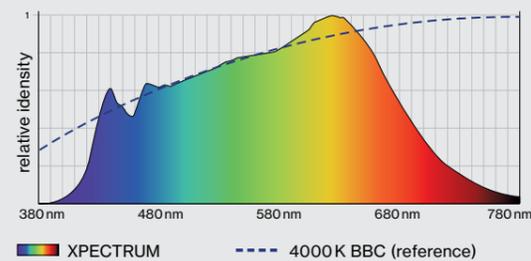
Full-spectrum LED

XPECTRUM, XAL's new daylight-like full-spectrum LEDs achieve excellent R_a and $R_e >$ (greater/equal to) 98 (or TM-30 rf), thus offering improved visual comfort. Thanks to this high colour fidelity, the human eye perceives products in the shop more easily and authentically. In addition, the strong, natural colours have an activating and emotional effect on the customers. The shopping experience has never been more appealing.

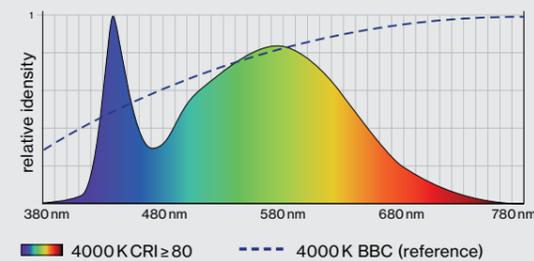
Top flexibility and light quality

Complementing the XPECTRUM LEDs, the special LED modules for fashion and food have proven their worth in staging goods in a sales-boosting manner. The flexibility that retail operators have to ideally match the light colour

XPECTRUM LED



Commercially available LED 4000K

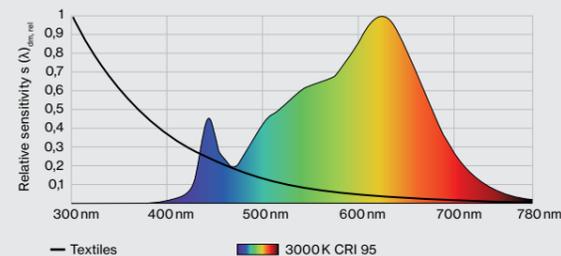


Colour fading due to light

Since the introduction of LED light sources, it has been assumed that the risk of colour fading has largely been neutralised thanks to the elimination of UV wavelengths. Nevertheless, extended periods of illumination at high illuminance levels can visibly damage the colour.

Generally, cool white light colours have a higher damage potential than warm white light colours. LED lamps' poorer colour rendering index indicates stronger potential for damage than a high colour rendering index because at a high value the intensity of red wavelengths is also significantly higher.

Spectral surface damage, TU Berlin (Aydinli)



The image shows there are only a few harmful blue wavelengths in this LED spectrum. Colour temperature $\leq 3000\text{K}$ and $\text{CRI} \geq 95$ (such as SASSO 60/100) is recommended for sensitive surfaces.

to the application is a major advantage. The custom colours offer product presentations of significantly higher quality than the 3000K light colour that has been used across the board to date.

Thanks to the targeted use of the special LED modules, we can now optimise the sales areas according to the merchandising requirements. Different collections require different light qualities. For example, the BRILLIANT light colour can make the smallest nuances of white surfaces visible in classic men's departments or in bridal fashion. Product-specific lighting qualities encourage purchasing decisions and raise the store's quality to a new level.

VOGUE 3250K, CRI 95, R_{1-15} 95

The custom light colour VOGUE has been developed for casual fashion. All colours are reproduced with strong colour saturation. Even black and white fabrics look compelling. Thanks to the increased colour saturation, VOGUE is ideal for all applications where strong colours are needed. Fields of application: from fashion retail to florists and plant lighting.



Standard lighting



Custom light colour VOGUE

GALLERY 3100K, CRI 92, R_{1-15} 93

The custom light colour GALLERY delivers powerful colour representation. Red-yellow tones look especially impressive thanks to a slight oversaturation. GALLERY is the first choice where opulent colours are desired. Due to its robust colour representation, slightly yellowish whites are the trade-off. Application areas include the art trade and fashion departments with colour blocking presentations.



Standard lighting



Custom light colour GALLERY

Measures to prevent colour fading

Increase illumination distance:

Since the intensity of light decreases with the square of the distance, e.g., a doubling of the illumination distance has only 1/4 and a tripling of the distance only 1/9 of the original damage potential (photometric law of distance).

Use lamps with low intensities of blue wavelengths:

- Use warm white light colours $< 3000\text{K}$ with a high colour rendering index $R_a > 90$
- Do not use LEDs with a violet GaN chip such as PHILIPS Crisp White, Brilliant White, or SORAA.

Dimming:

- Operate the luminaires at, e.g., only half the current
- Use wide beam optics

Limit lighting duration:

Textiles that are illuminated at $> 3000\text{lx}$ should be changed monthly.

BRILLIANT 3050K, CRI 91, R_{1-15} 87

The custom light colour BRILLIANT has been developed for the clearest black and white display. BRILLIANT is the only light colour that can also display saturated violet. Thanks to the wide wavelength distribution in the spectrum, even the smallest nuances of white surfaces become visible under BRILLIANT illumination. This is important for white shirts in business fashion, for example. Applications include the jewellery trade for silver/platinum with gemstones and diamonds, wedding fashion, underwear, and whites in fashion.



Standard lighting



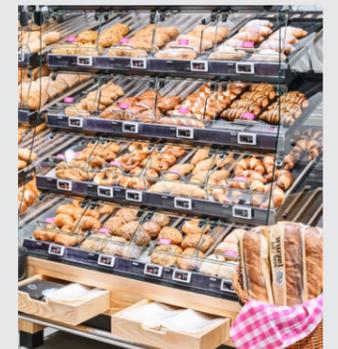
Custom light colour BRILLIANT

PASTRY 2320K, CRI ≥ 80

The custom light colour PASTRY has been developed for yellow-heavy products such as gold jewellery and bakery products. The colour point under the BBL (Black Body Line) makes pastries appear crisp and fresh from the oven. Wood colours look very homely under PASTRY lighting. Yellow dairy products are also ideal for this light colour.



Standard lighting



Custom light colour PASTRY

Lighting quality on the shelf with SQUADRO

When comparing conventional continuous luminaire profile systems with the XAL SQUADRO spotlights especially developed for wide areas, the different lighting effects are striking.



Effect on goods, standard system

- Uniform staging
- Highest luminance on the lowest shelf level
- Luminous strip stands out as a bright line
- Packaging application is weakly emphasised
- Reduced luminance on more premium goods

Effect on goods, SQUADRO

- High colour contrast and brilliance
- Vivid wood colour (high yellow content in the LED spectrum)
- Lighting system sets highlights
- Packaging application appears three-dimensional
- Highest illuminance on premium goods



Standard lighting



Lighting with SQUADRO

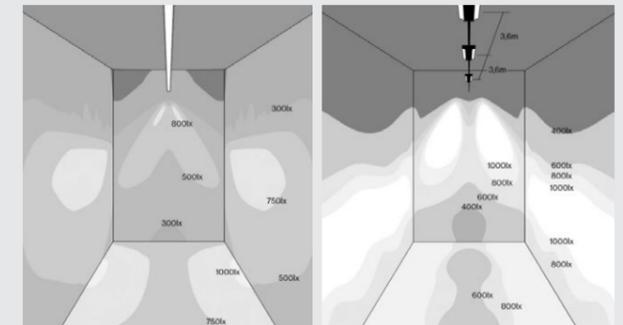
SQUADRO – the ideal solution for the presentation of goods

The spotlights are both longitudinally and transversely glare-free. The cone of light is precisely aligned with the shelf fronts or the central gondola shelves. The product surfaces' high level of detail results from the ideal ratio of the illumination distance to the light-emitting surface of the

SQUADRO spotlight. Thanks to the high colour rendition in combination with the brilliant structure display, excellent visual comfort is given. The high illuminance on the goods' surfaces reflects sufficient light onto the floor. This means that no further ambient lighting is needed.



- 1 The highest illuminance is on the upper two presentation levels.
- 2 Highlights on premium goods create a brilliant staging.
- 3 Directed light creates accents on billboards and subjects.
- 4 The high depth effect gives food high colour contrasts and attractiveness.
- 5 Due to longitudinal glare control, the lighting system is barely perceptible to the customer in the direction of the aisle.
- 6 Transverse glare control additionally prevents glare from any viewing direction.



SQUADRO replaces a 3.6 m light band with better light output.

Examples of Planning – Retail Store

Over the following pages, we will take you through a real lighting concept, developed for a customer. In the first step, we were provided with all the essential information about the planned store for high-quality knives, watches, travel gear and fragrances that is necessary in the design phase to ensure expert planning.

After an initial consultation, it was agreed with the customer to develop two lighting concepts that are both versatile and efficient, in terms of the product selection, and also represent opposite moods. This gives the customer the opportunity to choose the right concept, matched to his requirements.

In the first example, a linear lighting concept was used, which creates a homogeneous illumination of the sales area. The second concept was evolved with tracked spotlights to create a flexible and accentuated environment.

Lighting Requirements

- Good colour rendering CRI 90/95
- Dynamic lighting, generating highlights
- Light intensity of at least 700–2000 lx
- No glare
- Inviting entrance
- Optimum illumination for wall furniture/racks
- Effective use of suitable products based on the floor plan

Specifications



Measured Surface Illuminance

- ① Cash desk: \varnothing 1804 lx / min. 1094 lx / max. 2266 lx
- ② Rack: \varnothing 1170 lx / min. 685 lx / max. 1789 lx
- ③ Sales table 1: \varnothing 1994 lx / min. 1229 lx / max. 2763 lx
- ④ Sales table 2: \varnothing 1462 lx / min. 1109 lx / max. 1984 lx
- ⑤ Wall rack: \varnothing 1164 lx / min. 730 lx / max. 1441 lx

Room dimensions

Elongated floor plan, visually divided into two sections
Room height: 3.3 m
Floor space: 92 m²

Fittings

Wall racks, permanently fixed. Showcases, vertical and horizontal. Sales tables.

MOVE IT 45 system

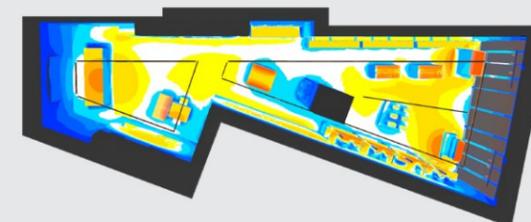


Aim:

Uniform illumination of the wall racks and merchandise in the store. Calm mood.

Implementation:

The plan is for homogeneous overall lighting that creates little or no shadows, in order to create a relaxed atmosphere. Linear luminaires run through the shop as a closed system and are equipped with HPO covers or wallwashers, depending on the sales area. In addition to the illumination of the entire shop, the merchandise on the horizontal sales areas is accentuated by individual furniture lighting.



50 100 200 300 400 600 800 1000 1500 2000 3000 [lx]

Number	Luminaire
52	MOVE IT 45, microprismatic UGR \leq 22, 22.6 W
36	MOVE IT 45, L6 wallwasher, 20.6 W
15	PICO support square, 3 W
6	VARO 80, 28.8 W
3	PICO support square, 7 W
3	MOVE IT 45, L10 office, 30 W
1	MOVE IT 45, L24 office, 20.8 W

System performance : 25.2 W/m² (2314.4 W/91.8 m²)

Measured surface	Light intensity	Uniformity
① Cash desk	E_m 1804 lx	U_0 0.61
② Rack	E_m 1170 lx	U_0 0.59
③ Sales table 1	E_m 1994 lx	U_0 0.62
④ Sales table 2	$E_m \geq$ 1462 lx	U_0 0.76
⑤ Wall rack	E_m 1164 lx	U_0 0.63

VARO 80



Aim:

High contrast between merchandise and transit zones.
Accentuation of vertical and horizontal merchandise.
Dynamic and rich in contrast.

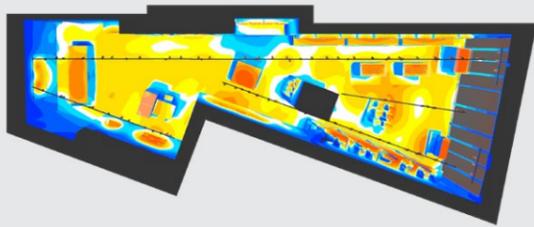
Implementation:

Under this option, the power tracks are fitted with power track spotlights with varying beam angles. Exact placement of the track spotlights creates dynamic, exciting lighting. By using specific spotlights to emphasise merchandise, customers are deliberately guided to the selected highlights of the store. Furniture lighting has been deliberately avoided here, in order to emphasise the heterogeneity of the merchandise and the transit zones.

Number	Luminaire
77	VARO80, 28.8W
5	VARO80, 28.8W

System performance: 25.7 W/m² (2361.6W/91.8 m²)

Measured surface	Light intensity	Uniformity
1 Cash desk	E _m 2042lx	U ₀ 0.59
2 Rack	E _m 1196lx	U ₀ 0.42
3 Sales table 1	E _m 2863lx	U ₀ 0.51
4 Sales table 2	E _m ≥1260lx	U ₀ 0.59
5 Wall rack	E _m 2054lx	U ₀ 0.56



50 100 200 300 400 600 800 1000 1500 2000 3000 [lx]



Key Account Management



The customer as our focus

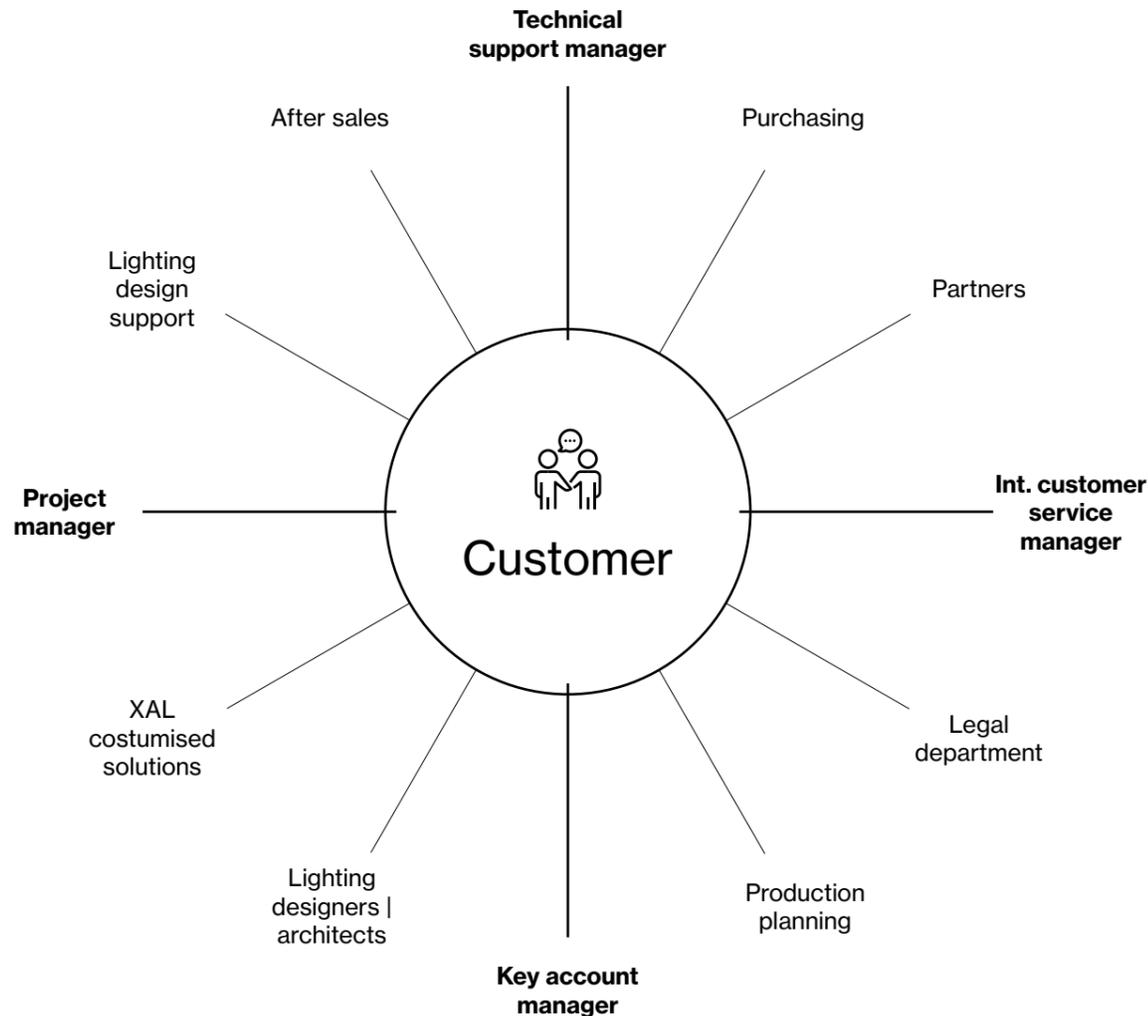
It is our daily ambition to offer our retail customers the best possible and most comprehensive service. Your needs are the focus of both our internal and external efforts.

At XAL, service has four main pillars:

- Key account manager
- Project manager
- Technical support manager
- International customer service manager

They are the link between the customer and XAL's internal departments. Our specialist departments, production, the lighting design team, and our partners are all optimally interconnected. This grants you access to a global and complete service package.

We address any concerns and are committed to realize your specific wishes for your retail spaces.



Project Management Service

We see ourselves as an interface and mediator between customers, store development teams, architects, lighting designers, shop fitters, as well as our internal departments. We efficiently implement specific project requirements. Within the framework of project management, each project phase involves close dialogue with the customers and partners on site. Responsibilities include inventory control to ensure delivery capability and avoid project delays. In addition, we work closely with Technical Support and Customer Service to ensure that even

parallel projects are best coordinated. XAL's project managers track all project phases to ensure smooth running as well as on-time and on-budget project completion. Many years of experience in cross-border cooperation with all partners as well as seamless project management are key success factors in this.

The basis for this comprehensive high-end service is a continuous internal improvement process that ensures consistently high quality.



Installation support & maintenance



Full light intensity from the first moment. We take care of the installation and commissioning of your lighting system. This includes expert installation and programming of all luminaires so you can immediately manage them centrally, either in your existing building management system, or in a new application. If requested, we can also take over the remote maintenance of your system. We offer regular check-up appointments or an all-inclusive solution with 24-hour emergency service. We also develop custom maintenance concepts for technically complex systems. The advantage is that this avoids significant damage, thus delivering the longest possible service life.

After Sales Service

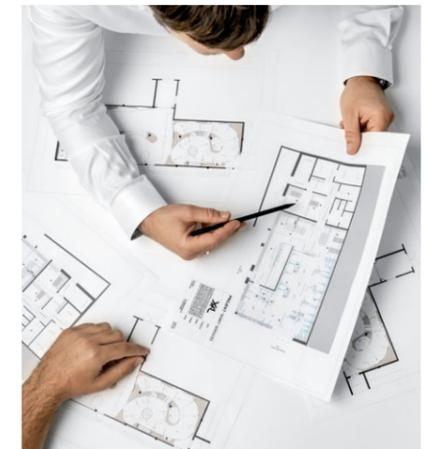
XAL's after sales services is the central contact point and fast, immediate help for all inquiries about delivered products. The international service features range from installation advice and commissioning to assembly and ongoing maintenance. In the event of internal or external influences on the power grid, XAL provides support with grid analysis measurements.

Service hotline: +43 316 3170 9400
Mon – Fri: 7 am to 8 pm



Lighting design support and planning

Planning a sales-promoting lighting system is often complex. Benefit from our many years of experience with modern lighting systems and use XAL's Lighting Planning service for your bespoke complete solution. Our lighting designers research trends, improve them, and develop custom concepts using the latest lighting technology, always tailored to your specific requirements in terms of store size, design, brand identity, and target group. To this end, we work with international lighting designers, architects, and planners in a constant effort to make challenging designs possible. In addition, compliance with budget, certification, and standards requirements are part of the service. Rest assured that XAL is a dynamic and reliable project partner which delivers solutions of the highest standard, even under time pressure. We work with state-of-the-art lighting calculation programs that enable us to quickly offer bespoke solutions.



Our experts will present you with customised planning examples showcasing different options for light staging, which will best set the stage for your products at the POS. Moreover, you can enjoy a comprehensive range of services. We accompany you from the selection of the luminaires and the suitable control system to commissioning and maintenance. You can count on us.

About us

XAL Group

XAL's success story began over 30 years ago. Since then, XAL has been working with lighting designers, architects, and planners to develop custom luminaires of the highest technical standard that boast amazing style and aesthetics. The XAL Group, headquartered in Graz, currently employs 1,300 people worldwide and has 30 international subsidiaries. Whether for retail spaces of world-class brands, modern offices, exclusive hotels, restaurants, or private homes – we support our customers in planning and implementing their lighting concepts worldwide. The group also includes the brands Wever & Ducré for decorative lighting and the Scandinavian brand Wästberg for high-end designer lighting.



XAL

WEVER & DUCRÉ

Wever & Ducré was founded in the early 80s as one of the first decorative design lighting companies in Benelux. It has been part of the XAL Group since 2011. Today it is an international brand, exporting to 60 countries worldwide. To be as close as possible to their customers, Wever & Ducré's international sales team is present in the key European countries, the Middle East, and Asia.



WEVER & DUCRÉ
LIGHTING

Wästberg

Working closely with leading architects and designers, Wästberg aims to craft well-being through good lighting. Wästberg designs technologically motivated, economically viable, and environmentally conscious lighting. Lighting that responds to basic physical and emotional human needs and adapts to those needs as they evolve and change.



wästberg

Around the world

We are there for you on site. Our international sales offices enable us to work with lighting designers and architects all over the world. The international exchange and the shared passion for light have shaped the cosmopolitanism that characterises the XAL Group. Today we develop and produce innovative luminaires on three continents and supply our customers worldwide.



📍 XAL Headquarters

XAL GmbH
Auer-Welsbach-Gasse 36
8055 Graz
AUSTRIA

📍 Wever & Ducré Headquarters

WEVER & DUCRÉ BV
Spinnerijstraat 99/21
8500 Kortrijk
BELGIUM

📍 Wästberg Headquarters

Wästberg
Muskötgatan 4
254 66 Helsingborg
SWEDEN

Extract from our reference list

Fashion stores:

Calvin Klein
Golden Goose
HUGO BOSS
Jelmoli
Mode von Feucht
Kastner & Öhler
Oberpollinger
s.Oliver
Tommy Hilfiger

Specialist shops:

ADAC Südbayern e.V.
Bang & Olufsen
Caran d'Ache
Casagrande Luxury Lifestyle
Coop Vitality
John & Audrey
MiSENSE
Porsche
Louis Vuitton
Victorinox
VITALIA Reformhaus

Watches & jewellery:

Audemars Piguet
Breitling
Bucherer
Chopard
IWC Schaffhausen
Jaeger Le Coultre

Supermarkets:

HOFER KG
REWE International AG
Sutterlüty

XAL GmbH
AUSTRIA, Graz

XAL Finland Oy
FINLAND, Helsinki

XAL Sarl
FRANCE, Paris

XAL GmbH
GERMANY, Munich

XAL India Pvt. Ltd.
INDIA, Pune

XAL Srl
ITALY, Bolzano

XAL B.V.
NETHERLANDS, Amsterdam

XAL AS
NORWAY, Oslo

XAL Sp. z.o.o.
POLAND, Warsaw

XAL Eastern Europe k.s.
SLOVAKIA, Bratislava

XAL Iluminación S.L.
SPAIN, Barcelona

XAL AB
SWEDEN, Stockholm

XAL Schweiz GmbH
SWITZERLAND, Zurich

XAL Middle East DMCC
UNITED ARAB EMIRATES, Dubai

XAL Ltd.
UNITED KINGDOM, London

 XAL Inc.
USA, New York

All locations:
[xal.com/contacts](https://www.xal.com/contacts)

Get in contact

We have made it our mission to develop and perfect unique projects in cooperation with the architects and planners.

We see ourselves as your partner. From the lighting design to the right product selection and from the control system to commissioning and maintenance, we are at your side at all stages of your project.

Let's talk about your project: gkam@xal.com

XAL Headquarters

XAL GmbH
Auer-Welsbach-Gasse 36
8055 Graz
AUSTRIA
T +43.316.3170
office@xal.com

All locations:
[xal.com/contacts](https://www.xal.com/contacts)

List of photographers

dreiformstudio GmbH (Cover), Jens Pfisterer (p. 2 | 4 | 12 | 22-23 | 34 | 36 | 39 | 42-43 | 75), VEDDER.LICHTMANAGEMENT (p. 13), Nathalie Zimmermann Fotografie (p. 4), Z. Gataric Fotografie (p. 4 | 60-61 | 62-63 | 66 | 73 | 76), Elisabeth Mörz (p. 6 | 7 | 83), Paul Ott (p. 6 | 67), Joachim Grothus (p. 14-15 | 24-25 | 27 | 35), Oliver Rust (p. 16 | 28-29), Sébastien d'Halloy (p. 18-19) Kris Dekeijser (p. 21 | 38 | 52 | 56-57 | 58 | 59 | 72 | 84), blocher partners (p. 26), Mint Architecture (p. 29), Oberpollinger | The KaDeWe Group (p. 4 | 30-31), Licht Kunst Licht AG (p. 31), Huy Nguyen (p. 20 | 32 | 75), Obrist interior AG (p. 40), Porsche Vietnam (p. 44-45), Brigida González (p. 46), Bildschön GmbH (p. 48), Brem+Zehnder Innenarchitektur (p. 49), Christopher Busch (p. 50-51, Golden Goose (p. 54-55), Christian Kerber (p. 64 | 75), Dan Preston Studio (p. 68-69), Kurt Kuball (p. 70), Dirk Tacke (p. 82), Philipp Schuster (p. 84), 9.18 buro (p. 84), Stellan Herner (p. 84)

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