



A new dimension of light

OSRAM light management systems



Foresightful sustainability

Light management by OSRAM

In the lighting market, the topics of sustainability, digitalization and individualization are gaining ever-increasing importance. In order to keep up with and advance these trends OSRAM attends with extensive competence – or to be precise, with more than 100 years of know-how in the lighting industry. Our innovative light management systems offer tailor-made lighting solutions from a single source.

From individual luminaires to complete building solutions, with full flexibility and high efficiency for indoor and outdoor applications. All components of the OSRAM light management systems are perfectly matched to each other, for example, using the compatible DALI interface standard.

Highly modern and extremely efficient technologies enable precise lighting control and help to accentuate each work of architecture even better. Whether the YAS Hotel in Abu Dhabi, the European Central Bank in Frankfurt am Main or the headquarters of the Süddeutscher Verlag in Munich, the integrated light management solutions by OSRAM are unique – and offer a glimpse of the lighting industry's future.

Tell us about your requirements for a perfect lighting solution. We will support you in your vision and help you to achieve it.





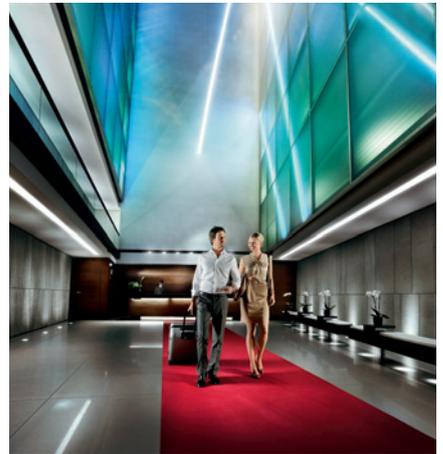
Office and public buildings

06



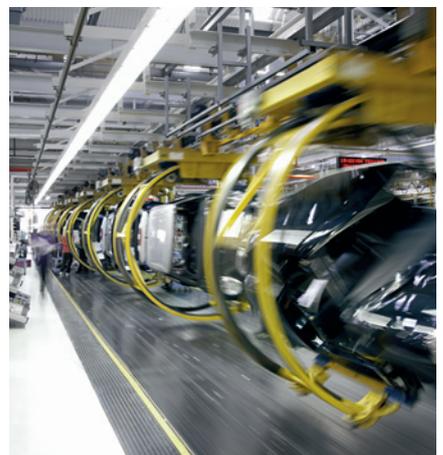
Shop and hospitality

10



Industry

14



Outdoor areas

18



Architecture

22



Increase efficiency, reduce energy costs

Light management for offices and public buildings



How can your employees work with more motivation, flexibility and effectiveness? Try using the right light. After all, light plays a decisive role in the optimum design of office spaces and public buildings. Innovative lighting concepts increase motivation and simultaneously unlock huge savings potential.

Factors that can positively influence your work, for example, are the maximum use of daylight and the minimum use of

artificial light, or the right color temperature to match the circadian rhythm. With the help of intelligent software, the widest variety of lighting scenarios and a central control facility, you can considerably increase comfort in office buildings. And on top, this reduces your energy costs and simplifies building certification.



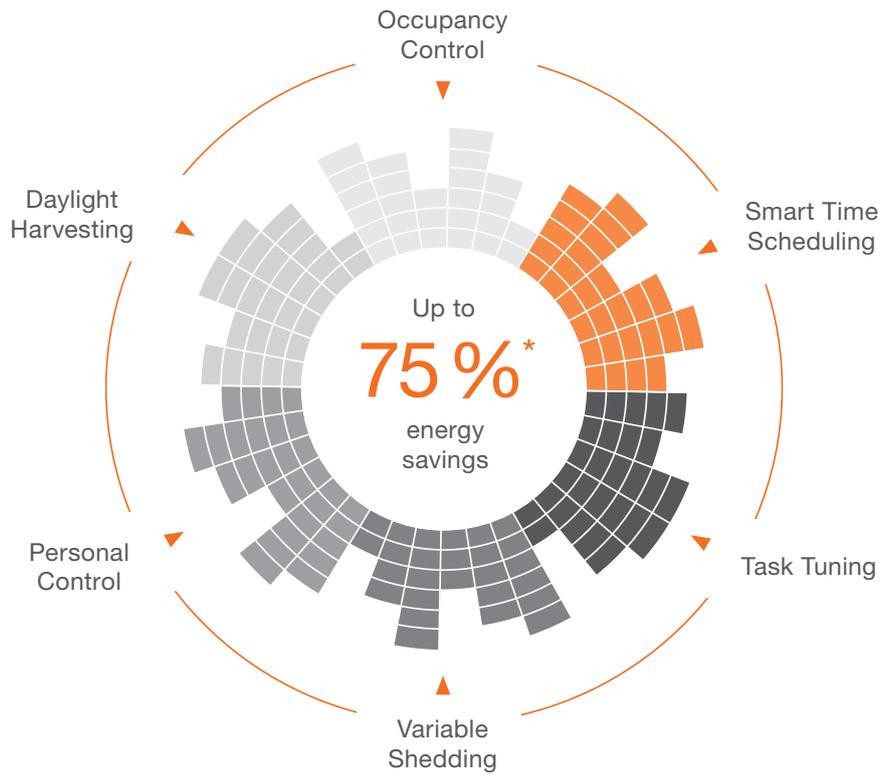
**Light for single and open-plan offices,
conference rooms, corridors and stairways**

From a small office to a large classroom: **DALIeco®** offers the right solution for all working environments and every requirement. The multifunctional light management system sets new standards in terms of flexibility in planning and installing a cost-efficient light management solution.

In connection with daylight and presence sensors, the 2-channel DALIeco® system achieves energy savings of up to 80%*. In addition to easy operation via remote control, the system offers six predefined operating modes for fast and uncomplicated configuration in all applications.

* Compared with conventional systems using T8 lamps, control gear and without sensors



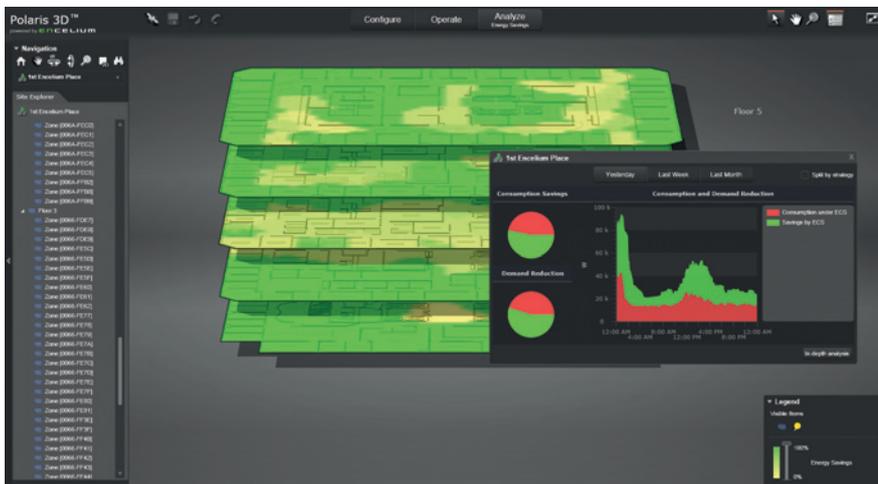


More energy savings: Six strategies for reduced energy consumption

Light for entire office building

Energy savings of up to 75%* for lighting: **ENCELIUM™** makes it possible – by using six strategies. The core of the integrated, self-sufficient and DALI-based light management system by OSRAM is its unique Polaris 3D software with spatial visualization. It enables comprehensive control of the entire building’s lighting system using remote access. ENCELIUM™ can be used in any size of building and can also be integrated in existing building management systems.

* Compared with conventional systems using T8 lamps, control gear and without sensors



More control: The control system of Polaris 3D with unique visualization



More flexibility: Easy integration and central control for the entire building lighting system

Application example: The Fraunhofer Institute

The Fraunhofer Institute in Jena has always stood for innovation at the highest level. Now, the same holds true for its lighting. It is equipped with highly modern LMS and LED solutions by OSRAM. An intelligent light management system was implemented with a harmoniously matched mix of standard luminaires and special luminaires, developed specifically for the project. The relevant applications include general, exterior and architectural lighting, from the traffic routes, via facade design all the way to reception areas and offices. As a result, the architectonic concept of the research building was emphasized - and even its exterior now completely embodies the claim to innovation.



Find out more!

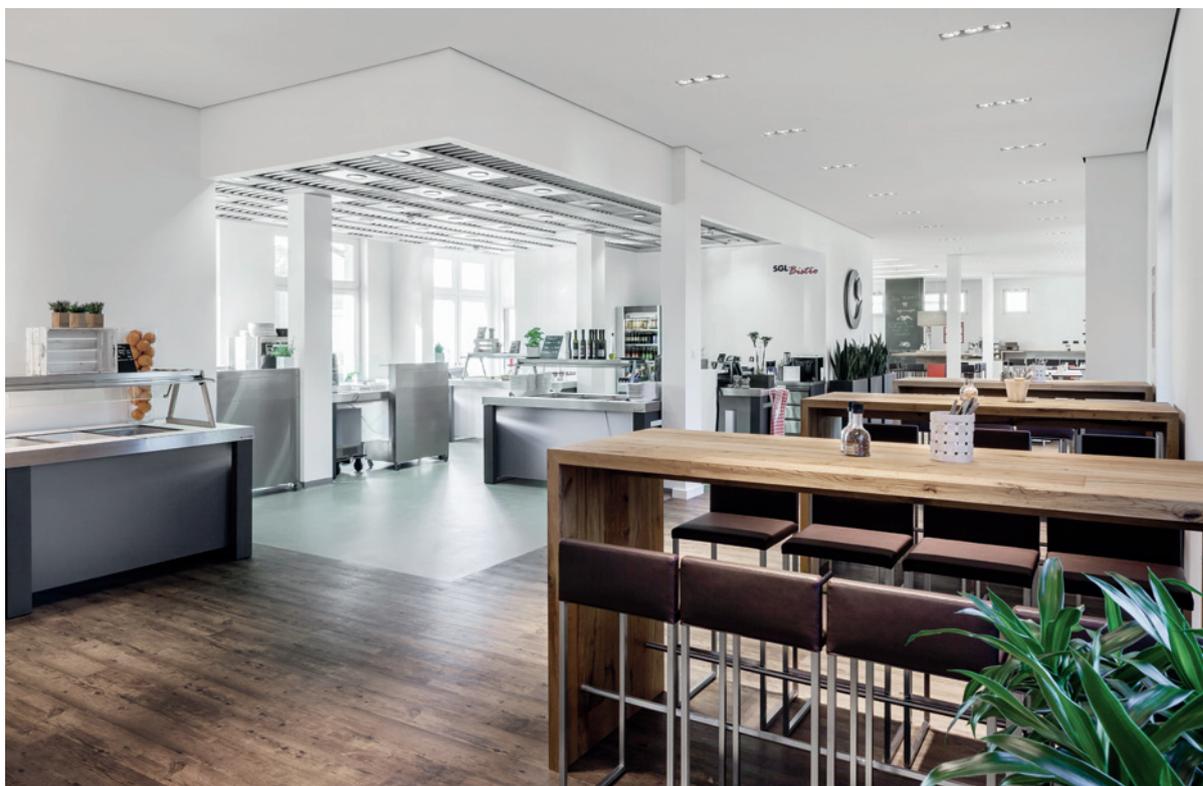
Further information about LMS for offices and public buildings can be found on the following websites:

www.osram.com/dalieco
www.osram.com/encelium

Impresses and creates atmosphere

Light management for shop and hospitality





Light doesn't just make things bright. It turns a room into an experience as well as accentuates and reinterprets the architecture. In shops, light can make your product a star. In hotels, it supports the first impression, creates a pleasant atmosphere and provides orientation. Museums require an enormous amount of flexibility in order to achieve the right lighting scenario for each new exhibition. And for the planning of a restaurant, different lighting concepts are possible in one room: from a restrained dining ambiance to a stimulating party atmosphere.

As you can see: Light has many different versatile applications. With its light management systems and tailor-made lighting solutions, OSRAM is able not only to light every room, but also to set each scene perfectly.



State-of-the-art: LED lighting at the Eton store in Stockholm creates a pleasant shopping atmosphere



Light for shops, museums, gastronomy and hotels

OSRAM can offer you and your customers the right lighting solution: with the **EASY Color Control** system. With up to 64 channels, it enables direct control of a variety of luminaires – from small to large applications. This way in museums, for example, the right presentation can be achieved for a variety of museum materials and styles of art. And customers in gastronomy can create a club atmosphere in their restaurant with just one click. The best part: Thanks to individually adjustable scenarios, it is possible to easily save and recall all desired configurations.

Application example: FC Bayern Erlebniswelt

The FC Bayern Erlebniswelt (FC Bayern World of Experience) gives fans the chance to experience the history of their club in an especially dazzling manner – not least thanks to unique lighting. In equipping the large 3,050 m² exhibition space with lighting solutions by OSRAM and innovative software and hardware products from e:cue, it was our know-how in the area of light management that accomplished the perfect setting in every section of the exhibition. Our contribution to the fact, that the present of FC Bayern is at least as glorious as the past.



Find out more!

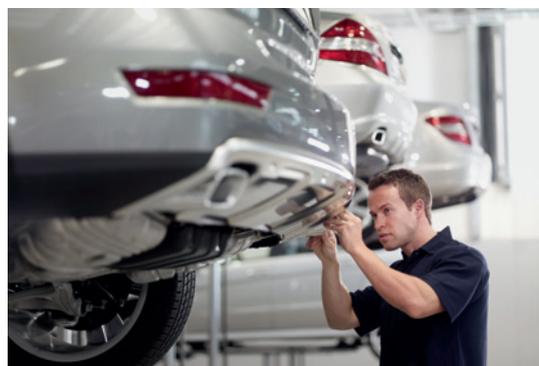
Further information about LMS for retail and gastronomy can be found on the following website:

www.osram.com/easy

Precise light for precise work

Light management for the industry





Three things are always at the focus of industrial and manufacturing operations: high energy efficiency, the highest precision and the best reliability. To ensure that everything is always in order, the lighting must meet the highest requirements. To be more accurate, it must improve visual comfort, offer maximum safety and help to avoid errors and production downtimes.

Furthermore, the system should be flexible, expandable and easy to control. It should offer adequate lighting intensities, a long lifetime and short payback periods. Likewise, artificial light should only be used if truly needed, namely if no daylight or too little daylight is available and only when people are present in the room. A huge number of requirements that are all fulfilled by OSRAM – with specific solutions for the widest variety of industries.

Light for production facilities, warehouses and logistics centers

OSRAM delivers maximum performance and maximum safety in industrial applications with **DALI® PROFESSIONAL**. With daylight and motion-detecting control, this high-performance light management system is especially suitable for complex applications.

As a result, for example, the light in less frequented areas can be dimmed to a minimum and raised via sensors when needed. By the use of DALI® Standards, this is even possible for each individual luminaire.

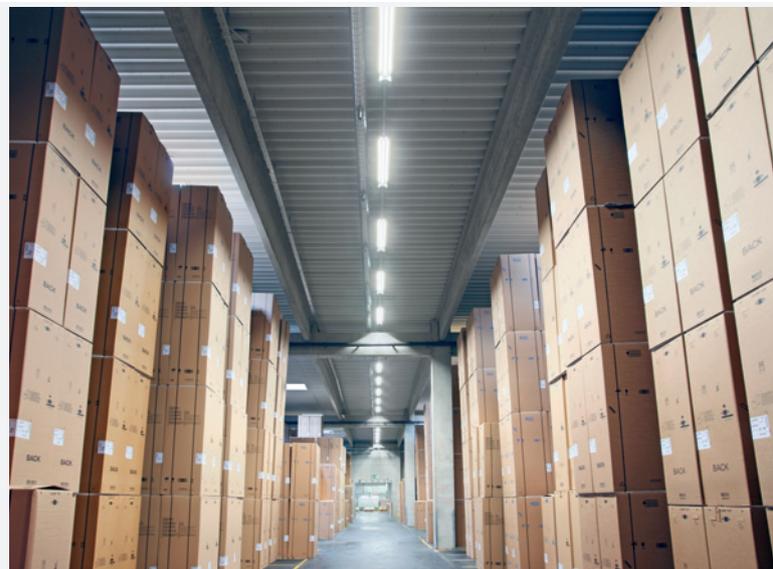
Brightness sensors allow for only as much artificial light as is necessary to be added to areas with daylight. Furthermore, the lighting installation can be individually configured to changing requirements at any time with the help of the free DALI® PROFESSIONAL software.





**Application example:
Bosch and Siemens Home Appliances Group (BSH)**

Use targeted light only where it is needed – this goal was clearly defined for the logistics building at Bosch and Siemens Home Appliances Group in Giengen. The OSRAM experts were able to base their demand-oriented lighting concept on BSH data concerning the frequency of forklift truck movements in each individual aisle. In order to reduce power consumption in the best possible way, the project managers integrated daylight and motion sensors and an intelligent control system into the lighting concept using the light management system. The result: higher luminous intensity, more efficiency and higher safety levels for all employees.



Find out more!

Further information about LMS for industry can be found on the following website:

www.osram.com/dalipro

Innovative outdoor lighting

Light management for outdoor areas

Whether it be roads, pathways or squares, you need to be able to rely on the lighting in all situations. Many years of experience in the development and design of products for outdoor lighting have prepared OSRAM for the supply of sturdy and reliable system components to meet a diversity of requirements for outdoors. With an intelligent light management system, lighting can be monitored, controlled in accordance with the situation and maintained in an optimum manner – thus, costs become transparent and energy use is optimized at the same time.

This means not only for cities and communities, but also for the citizens: Demand-based lighting at any time, especially in poorly lit areas or under unfavorable weather conditions. Finally, an intelligent lighting system contributes to the contemporary design of the urban living space, by creating a quality of life and locations where the inhabitants feel comfortable.

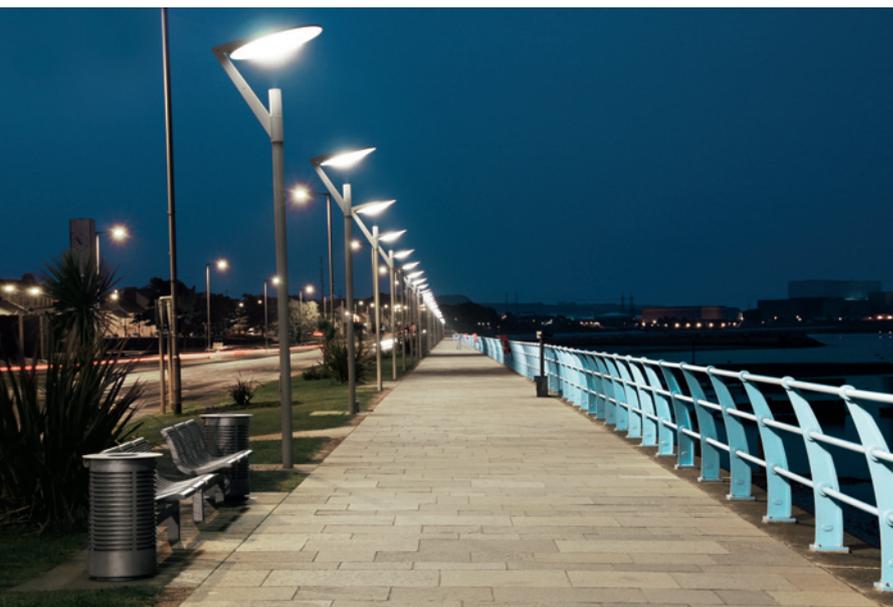




Light for streets, squares, tunnels and industrial areas

Easy cost savings: The **3DIM concept** by OSRAM offers control gear units for LED modules and high-pressure discharge lamps, which can be operated depending on the type and scale of the control task. 3DIM stands for three control and dimming modes in a single device: DALI mode, StepDIM reduced load mode and the self-sufficient AstroDIM functionality.

For the integrated and networked light management of outdoor lighting, OSRAM offers the **Street Light Control (SLC)** system. The product portfolio enables individual control and monitoring of individual luminaires, comprising up to thousands of points of light. Therefore, SLC ensures a reduction of power consumption, CO₂ emissions and light pollution without neglecting the required lighting flexibility. The central system element is the SLC software, with which the entire lighting installation is not only controlled, but also constantly monitored in real time.





Application example: municipality of Weissach

To equip urban lighting with the greatest amount of flexibility and simultaneously make the operating data and operating states of the luminaires transparent at any time – these were the goals of the municipality of Weissach in their lighting plan. This innovative approach to outdoor lighting was accomplished with the help of the Street Light Control System by OSRAM. For this purpose, the 1,700 luminaires of the municipality were equipped with the corresponding hardware, so that they can now be controlled and evaluated via the SLC software. In this way, Weissach has achieved street and outdoor lighting that allows for on-demand and situational illumination of the streets, pathways and squares for years to come – and with the additional benefit of significant energy savings.



Find out more!

Further information about LMS for outdoor areas can be found on the following websites:

www.osram.com/3dim
www.osram.com/slc

Transforms masterpieces into dazzling jewels

Light management for architecture



Sparkling: The Baku Crystal Hall
has the effect of a unique 3D crystal



Striking: The Flame Towers can transform into gigantic screens

Light creates experiences – when it is presented correctly. The OSRAM company Traxon Technologies is, with its brand e:cue, the worldwide leader in sustainable and intelligent solutions for solid state lighting and their control systems. From the first creative vision through product development and planning as well as on-site project management, all the way to perfect lighting made-to-measure for the customer – Traxon Technologies delivers integrated solutions that add a certain touch to architecture, the hospitality industry and retail stores.



Attractive: The Galeries Lafayette with a lighting concept by Yann Kersalé (Ateliers AIK)

Together with leading companies in the areas of lighting design architecture and technology, iconic architecture becomes a masterpiece of light: whether the YAS Hotel in Abu Dhabi, the Esprit flagship store in Frankfurt or the statue of Christ in Rio de Janeiro. Not without reason, projects from **Traxon Technologies** have been honored with prestigious awards such as the iF Design Award and the Red Dot Design Award. And with a whole lot of spell-bound faces.

Application example: National Stadium, Warsaw

Stadium lighting does not only have to illuminate – it must inspire and activate, inside and outside. For this reason, products from Traxon Technologies transformed the facade of the new National Stadium into an oversized presentation panel. Equipped with 1,700 LEDs, it can now be illuminated with the Polish national colors and transport the names of the goal-scorers to the outside. Proof that with the right light, true size knows no limits.

**Find out more!**

Further information about LMS for architecture can be found on the following website:

www.traxontechnologies.com

As comprehensive as our solutions

Service and support by OSRAM

Customer service for us doesn't just end with a purchase. On the contrary: OSRAM provides overall professional service. From planning your project, via selecting the right product all the way to realization and comprehensive technical support, we are always at your side with advice.



Questions about LMS?

Simply contact us at the following email address:

lms-support@osram.com



OSRAM GmbH

Headquarters:

Marcel-Breuer-Strasse 6
80807 Munich, Germany
Phone +49 (0)89-6213-0
Fax +49 (0)89-6213-20 20
www.osram.com

Customer Service Center
(CSC) Germany:

Parkring 33
85748 Garching, Germany
Phone +49 (0)89-6213-60 00
Fax +49 (0)89-6213-60 01