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Unlimited design variety meets energy efficiency

OSRAM Opto Semiconductors' reception building is lit entirely by LEDs

The new, freestanding reception building at OSRAM Opto Semiconductors' head office in Regensburg (Germany) shows the variety of applications of light-emitting diodes (LEDs); all the lighting functions – workspace, general room, effects and outdoor lighting – are handled by LEDs. In contrast to conventional lights LEDs make completely innovative lighting designs possible while saving energy too – for example, 35 percent alone in the case of white light illumination.

OSRAM Opto Semiconductors in Regensburg (Germany) is one of the world's largest manufacturers of optoelectronic semiconductors for lighting, sensing and visualization applications; its recently completed reception building is one of the first buildings in Germany to be lit inside and out exclusively by light-emitting diodes.

More than 4,500 white and colored LEDs provide the accent, effects and room lighting. This is made possible by new LED systems, which have a huge array of colors and a very high light yield. Because of their small size they save space and can be fitted inconspicuously. This means they now provide unlimited options in general lighting applications.

With this new building OSRAM Opto Semiconductors presents a kind of showroom that displays a collection of applications that can be implemented today. With the aid of a multitude of lights from various producers the company demonstrates how white and colored LEDs are not only able to create a special atmosphere via accent and effects lighting but can also illuminate rooms and workspaces in an energy-efficient way.

35 percent energy saving

Many of the LEDs used in the reception area are dimmable and their brightness can be adjusted between five and 100 percent. Presence and daylight sensors in the washrooms ensure light is only used when needed. Along with the LED's general energy-efficiency, this enables savings of 35 percent with white LED lighting compared with conventional light sources. Another advantage of light-emitting diodes is that with a life of more than 50,000 hours they are extremely durable and virtually maintenance-free.

Design versatility

What is especially striking is the design versatility of LED applications – in the visitor reception area there are no ceiling lights, for example. A 17 square metre wall of light, which consists of a highly elastic, translucent foil only 0.4mm thick, provides variable lighting conditions. In the panel's frame there are LED strips ("LI-EX profiles"), which emit their light sideways, i.e. parallel to the wall. The profiles of luminaire manufacturer LI-EX on the upper and lower screen frames are fitted with warm and cold white Golden Dragon Plus LEDs, the profiles on the right and left with colored Golden Dragon RGB LEDs. Thus the wall of light is capable of dynamically displaying all the chromaticity coordinates between warm and cold white but also colors and moving color transitions.

LED strips in red, green and blue were also installed behind the large, four square metre glass area of the visitor counter and enable an extraordinary variety of lighting set-ups. Behind the counter the diodes backlight the monitors and provide room lighting for an ergonomic and fatigue-free working environment. Apart from the wall of light and the counter, OSRAM Opto Semiconductors' LEDs set the tone in other areas of the building. White Power TopLEDs were used for the mirror and ceiling lighting in the lavatories, for example, as well as for accent lighting on door frames. Outside LEDs illuminate the pathway and handrail.

A remarkable feature of the building lighting is that there are almost no visible lamps and light switches. The wall of light, for example, is controlled via a Traxon touch-wheel.

Artur Grösbrink, project manager at OSRAM Opto Semiconductors, about the foyer in Regensburg: "Illuminating the building with LEDs all-round proves that the LED technology has left its niche. It can be used in any area of professional lighting and is also eminently suited for showcasing rooms and buildings. Decorative effects are just as feasible as stimulating workspace or atmospheric room lighting."



The reception building of OSRAM Opto Semiconductors in Regensburg (Germany) is one of the first buildings in Germany that is lit completely by LEDs inside and out.



The wall of light provides all the lighting for the visitor area. With various lighting scenarios the 17 square metre area produces various degrees of brightness and moods.



Workspaces can also be lit ergonomically with LEDs, by backlighting monitors, for example. Apart from this, color LEDs can also achieve interesting effects, as shown here on the screen.

Images: OSRAM

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