Press

Munich, March 8, 2018

Osram provides first insight into innovations for Light + Building

The lighting company presents several highlights at the Osram World of Light in Munich

"How will you live in the future?" – under this motto Osram will present its latest future technologies at the Light + Building 2018 in Frankfurt am Main, from March 18-23. Just under two weeks before the trade fair opens its doors, Osram is providing a foretaste of some of the highlights that visitors will be able to see. The main focus is on innovations from the areas of horticulture, street lighting, building management, indoor tracking and automotive lighting.

High-rise lettuce: Horticulture Growlight

Providing consumers with freshly harvested foodstuffs is a real challenge in view of the growing population and continuing urbanization. Vertical farming is a possible solution to this problem. The term refers to the cultivation of plants and vegetables in indoor spaces such as high-rise buildings, cellars and warehouses avoiding the need for perishable goods to be sent on long journeys to the consumer. Artificial light plays a vital role in indoor farming. With the Horticulture Growlight, Osram is presenting an LED-based solution for targeted plant lighting. The Growlight was developed within the "LED Light for you" network in collaboration with several partners. Osram has contributed its expertise in the form of a range of Oslon SSL LEDs in several aligned light colors. The ability of these LEDs to resist temperature and humidity, plus their special beam angle, makes them ideal for stimulating plant growth. The use of special light colors not only accelerates and controls growth, it also influences the taste of the produce. Depending on the light color chosen, the same basil plant can have a sweeter or sharper flavor.

Street lighting helps locate parking spaces: Streetlight 11

On average, German car drivers spend more than 40 hours a year looking for a place to park – only one of the reasons why intelligent traffic management and parking space management will grow in importance in the future. To prevent drivers wasting this

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enormous amount of time – equivalent to an entire working week – Osram has developed its Streetlight 11 family of luminaires. By means of optionally integrated camera and data transmission modules, it is able to detect free parking spaces and communicate this information to drivers. In combination with its video analysis software, the camera module is also capable of a whole lot more. As well as keeping track of parking spaces, it can monitor traffic density and detect traffic jams, accidents and vehicles traveling on the wrong side of the road. It turns the city's lighting infrastructure into a network that helps control and secure traffic. The Streetlight 11 from Osram is a future-oriented, technology platform for a wide range of smart city scenarios. The luminaire is available as an already customized smart city solution or as street luminaire with free module slots that can be upgraded. Its modular concept permits integration of control and monitoring systems, including radio (RF). Thanks to an optional mechanical interface, it's also simple to add sensors or camera systems in the field.

Intelligent office lighting: HubSense

[According to a study conducted by the German Economic Institute in Cologne, 45 percent of employees in cities such as Munich and Düsseldorf are now working in offices](#) – and the trend is continuing. This makes it all the more important to ensure that people in office rooms are able to spend their working day in as comfortable an atmosphere as possible. One aspect of this is providing them with light that is adapted to the time, place and type of activity. Most existing office buildings, however, are still equipped with inefficient lighting. With HubSense – an intelligent, hybrid and modular light management system that individually adapts to the various conditions in office buildings and helps operators cut energy costs – Osram has the ideal answer for scenarios such as these. Thanks to wireless communication, older buildings can be equipped with the latest form of lighting control without any changes to the existing infrastructure. This approach means buildings are readied for an intelligent building infrastructure that can be extended in accordance with requirements. Osram's HubSense also ensures simple and intuitive commissioning and cuts installation costs to an absolute minimum. The system detects luminaire failures within the building and reports their precise location via an app. The application is supported by the specially developed Dexal (Digital Exchange for Advanced Lighting) LED driver that makes it easier for manufacturers to construct intelligent luminaires. The Dexal technology allows

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simple connection of a wide range of sensors and permits data exchange between the luminaire components. This data can be used as the basis for remote or predictive maintenance. With HubSense and the Dexal driver, Osram is responding to the trend toward digitalization and utilizing the existing lighting infrastructure for new and intelligent applications.

**Digitalization of building spaces: Einstone Track & Trace**

Because more and more of our working lives are being spent in large building complexes, the subject of indoor tracking is growing in importance. For asset tracking – the location of movable objects in buildings – Osram is presenting its Einstone Track & Trace solution. Using a hospital as an example, Osram shows how medical equipment or beds can be tracked in real time on an analytics dashboard. In order to be able to track assets, miniature radio transmitters called "beacons" are integrated into the lighting infrastructure. These form a Bluetooth Low Energy mesh network by means of which data can be transmitted and received. The assets to be tracked are equipped with "asset beacons" that also send out signals via Bluetooth. This signal data is transmitted via the mesh network and passed on to a gateway. Analysis of the data allows the locations of the objects to be calculated and displayed on the user's dashboard. In addition to identifying asset locations, it's also possible to create heat maps or analyses of tool utilization, and perform temperature monitoring for sensitive objects. Einstone Track & Trace is suitable for use in sectors such as retail, logistics or healthcare, as well as for installation in smart buildings.

Smart automotive lighting for greater safety: SMARTRIX car lighting

Mobility is undergoing a process of radical change. With the aid of sensors from Osram, cars will be able to navigate partially or fully autonomously in future. Osram is already building intelligence into car headlights. With its SMARTRIX (an amalgam of "smart" and "matrix) modules, the lighting company is demonstrating what car lighting of the future can look like. The matrix modules, developed in collaboration with Varroc Lighting Systems, feature innovative silicone lenses and ensure optimum night-time visibility even in extremely poor weather conditions. The smart distribution of light ensures that the driver is able to see hazards in good time without dazzling oncoming road users. The glare-free LED light, already being used in vehicles such as the new Jaguar E-

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PACE or Range Rover Sport, automatically improves the distribution of light while ensuring that oncoming drivers are not dazzled. This is achieved with a forward facing camera in the windshield linked to image processing software and smart lighting technology.

Visit us at the Light + Building 2018, March 18-23 in Frankfurt am Main, stand B50 in hall 2.0.
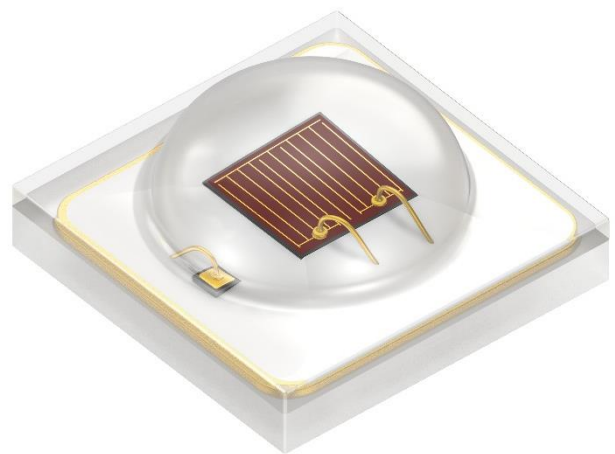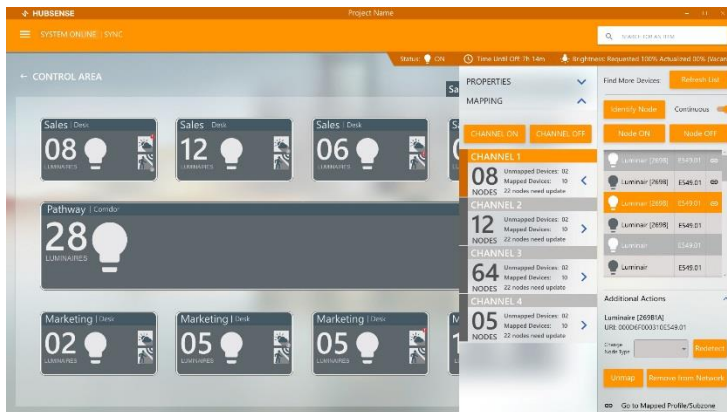

The Horticulture Growlight stimulates targeted plant growth using Oslon SSL LEDs.
Pictures: Osram

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By means of optionally integrated camera and data transmission modules, Streetlight 11 is able to detect free parking spaces, for example, and communicate this information to drivers.
Pictures: Osram

Left image: HubSense is able to detect luminaire failures and report their precise locations via an app.
Right image: The Dexal technology allows simple connection of a wide range of sensors and permits data exchange between the luminaire components.
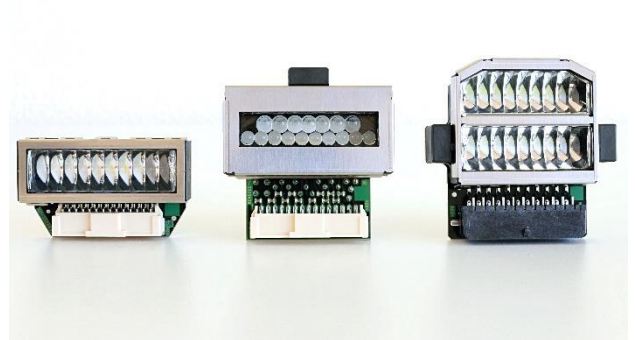Pictures: Osram

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EINSTONE Track & Trace – Process Optimization and Efficiency Enhancements

❶ The Asset Beacon is attached on a movable object and sends signal.
❷ An EINSTONE Beacon, integrated in the lighting infrastructure, receives the signal from the Asset Beacon.
❸ Dats is transferred via a Bluetooth Low Energy mesh to a gateway.
❹ The gateway sends data to the secured cloud.
❺ The data is displayed for easy review in a dashboard, e.g. current location, temperature, state, heat maps, statistics and analytics of utilization.

Picture: Osram

The refreshingly angular headlight design on the Range Rover Sport 2018 is made possible by innovative SMARTRIX modules from Osram.

Picture 1, on the left: Jaguar Land Rover

Picture 2, on the right: Osram

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light + building 2018
Visit us at hall 2.0, booth B50

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ABOUT OSRAM
OSRAM is a globally leading high-tech company based in Munich with a history dating back
more than 110 years. Most of the company's products are semi-conductor based, a feature that
enables them to be used in the widest range of areas that extend from virtual reality,
autonomous driving and smartphones to connected smart lighting solutions for buildings and
cities. As part of this work, Osram uses the virtually unlimited possibilities of light to improve the
lives of people and societies. With the help of OSRAM's innovations, we will be able to not only
see better, but also communicate, travel, work and live better. At the end of fiscal year 2017 (as
of September 30), OSRAM employed about 26,400 people around the world and generated
revenue of more than €4.1 billion. The company is listed on the stock exchanges in Frankfurt
and Munich (ISIN: LED 400 (WKN) and OSR (trading symbol). You will find other information at
www.osram.de.

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