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Photonics for a Smarter Life: OSRAM Will Showcase Latest Technologies that Improve Mobility, Connectivity, Safety and Security, Well-Being and Health at CES 2019

Osram reaches into strategic markets beyond illumination

LAS VEGAS and WILMINGTON, Mass. - Osram, a global high-tech lighting company, returns to CES in 2019 to demonstrate its break-through technologies in a range of applications including Mobility; Connectivity; Safety and Security; and Well-Being and Health. Technologies beyond visible illumination enable selfdriving vehicles, as well as Advanced Driver-Assistance Systems (ADAS), and biometric identification applications. In addition to automotive lighting technologies, Osram will showcase the future of light: Horticultural sensing and lighting solutions (used by NASA researchers), and will prove how the right light at the right time can improve our quality of life through applications such as Human Centric Lighting (HCL) technology, which has been used by world-class athletes and racecar drivers. HCL applications can be experienced in Osram's booth at CES with devices such as Osram's Chronogy™ Human Centric eyewear and a dynamic HCL ceiling. Osram's textile products, including backpacks and vests with embedded illumination to increase visibility and ultimately safety, also will be demonstrated at CES; and Osram will showcase building space optimization applications that can be used by facilities managers and employees via a mobile app. Osram's booth will be located in the North Hall of the Las Vegas Convention Center, Booth #8521.

Additionally, two of Osram's Chronogy HCL chairs, which provide users with specific doses of light to achieve the desired outcome, such as cool, bright light to increase levels of alertness, or amber light to help one wind down at the end of the day, will be available for demonstrations in the lobby area of The Sands Hotel and Casino.



"Osram is continuing to push the innovation envelope," said Stefan Kampmann, Chief Technology Officer of OSRAM Licht AG. "Our investments into research and development, as well as our M&A strategy, have positioned us as a photonics champion, offering innovative technologies in a range of markets and applications designed to help improve quality of life."

Visitors to Osram's booth at CES 2019 will experience interactive displays, demos and live presentations including but not limited to:

- Iris Scan and Facial Recognition: With the introduction of two new infrared LEDs, Osram enables biometric applications such as iris scan, driver monitoring, as well as facial and gesture recognition in vehicles.
- XLS Automotive Lighting: OSRAM has successfully launched a new standardized eXchangeable LED lightSource (XLS), which covers all automotive signal functions. A uniform platform with four different light sources for brake, tail, backup, turn indicators, daytime running lights and fog lighting are now available. OSRAM's yellow LY5 and white LW5 light up Koito rear lamps being assembled into the new Toyota Corolla and Lexus ES models seen on the road today.
- Illuminated Children's Backpack: OSRAM has teamed up with Scout to provide easy-to-manage LED lighting within children's backpacks. Compared to reflective strips which reflect the captured light from vehicle headlights, the Safety Lights from Osram are actively flashing to provide earlier detection. The Scout Exclusive Safety Light uses an integrated rechargeable power bank with charge level indicator, which also can be used as a flashlight.

Osram also will showcase its expertise in LiDAR technology for autonomous driving with demonstrations from some of Osram's key LiDAR partners, and will demonstrate a range of technologies in its interactive Mobility Table. The Mobility Table allows booth visitors to have a hands-on experience with Osram technologies including LiDAR; facial recognition,iris scan and biomonitoring applications; and Osram's Eviyos hybrid LED which enables smart headlight technology to improve illumination of the road ahead, and communicate with pedestrians and others via image projection. For example,



Eviyos can project an image of a crosswalk on the road to notify pedestrians that the vehicle has stopped and it is safe to cross the road.

Fluence Bioengineering of Austin, Texas, a recent Osram acquisition, also will be displaying its solutions in the Osram booth at CES. A leading horticulture lighting provider committed to creating powerful and energy-efficient LED lighting solutions for commercial crop production and research applications, Fluence will demonstrate its new RAZR 4 and SPYDR 2 light systems for controlled-environment cultivation in vertical applications. RAZR 4, SPYDR 2, as well as VYPR 2, are well-suited for controlled environment agriculture lighting applications addressing virtually every cultivation need across the produce, herb, cannabis and ornamental growing markets.

Osram is once again partnering with <u>Rinspeed</u> on its innovative concept car to provide visible and invisible light to increase safety, security and comfort in the cars of the future. This is the third year Osram has teamed up with Rinspeed to push the boundaries of concept cars, developing unique solutions for tomorrow's vehicles. Rinspeed's microSNAP concept car, featuring Osram's biometric identification, human centric lighting, health tracking, LiDAR and exterior lighting technology, will be on display during CES 2019 in the Harman exhibit at the Hard Rock Hotel. Osram will provide shuttles during CES from the North Hall of the Las Vegas Convention Center to the Hard Rock Hotel, where Osram guests will receive exclusive tours and demos of the Rinspeed concept car.

Follow Osram on <u>Facebook</u> and <u>Twitter</u> for updates throughout the show. Osram will be located in the North Hall of the Las Vegas Convention Center, Booth #8521.

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Osram's Phytofy RL connected horticulture research lighting system is comprised of smart lighting software coupled with a unique setup of connected grow light fixtures, which is being used to supplement the lighting technology used in NASA's Food Production Research.

Picture: OSRAM





OSRAM has successfully launched a new standardized eXchangeable LED lightSource (XLS), which covers all automotive signal functions. Picture: OSRAM





Osram's Chronogy™ HCL chairs provide users with specific doses of light to achieve the desired outcome, such as cool, bright light to increase levels of alertness, or amber light to help one wind down at the end of the day. The chairs' side screens also provide privacy and reduce ambient noise, resulting in privacy and convenience when making phone calls, reading or relaxing. The chairs will be available for demonstrations in the lobby area of The Sands Hotel and Casino.

Picture: OSRAM

ABOUT OSRAM

OSRAM, based in Munich, is a leading global high-tech company with a history dating back more than 110 years. Primarily focused on semiconductor-based technologies, our products are used in highly diverse applications ranging from virtual reality to autonomous driving and from smartphones to networked, intelligent lighting solutions in buildings and cities. OSRAM utilizes the infinite possibilities of light to improve the quality of life for individuals and communities. OSRAM's innovations will enable people all over the world not only to see better, but also to communicate, travel, work, and live better. As of the end of fiscal year 2018 (September 30), OSRAM had approximately 27,400 employees worldwide. It generated revenue of more than €4.1 billion in fiscal year 2018. The company is listed on the stock exchanges in Frankfurt and Munich (ISIN: DE000LED4000; WKN: LED400; trading symbol: OSR). Additional information can be found at www.osram.com.

ABOUT OSRAM SYLVANIA

OSRAM SYLVANIA is part of OSRAM Americas, a group of OSRAM companies located in North and South America. As a leader in lighting solutions and services specializing in innovative



design and energy-saving technology, the company sells products under the brand names OSRAM, Traxon, ENCELIUM and SYLVANIA. The portfolio ranges from high-tech applications based on semiconductor technology, such as infrared or laser lighting, to smart and connected lighting solutions in buildings and cities. The OSRAM SYLVANIA and OSRAM Americas regional headquarters is located in Wilmington, Massachusetts. For more information, visit www.osram.us or follow us on Facebook and Twitter.

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