Press

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Project team led by Osram demonstrates the invisible light switch

In response to the growing demand for maximum comfort and sense of security while granting large savings in energy consumption, Osram started the project SceneUnderLight, together with the University of Verona and the Istituto Italiano di Tecnologia (IIT) in Genova in 2015. Today the project has successfully combined advanced research in computer vision and modern technology in lighting to create the invisible light switch. Thanks to it, each person in the office perceives the entire office as "all lit", while lights, which are not visible, are switched off. Moreover the project offers savings in energy consumptions of up to 65 percent. SceneUnderLight was funded by the EU within the Horizon 2020 framework as a Marie Skłodowska-Curie Actions Project.

The invisible light switch follows latest technology which estimates the light propagation in offices in real-time and computes how much of it is perceived by the people. Smart lighting control adjusts lighting autonomously based on the presence of people and on their position within the offices. Especially in large open-plan offices, farther away luminaires may be dimmed without altering the comfort of employees and their sense of security.

Fabio Galasso, head of the computer vision R&D activities at Osram, brought together the team consisting of Marco Cristani, heading the department of Vision, Processing and Sound of University of Verona, and Alessio Del Bue, head of the Visual Geometry and Modelling Lab of IIT. Since 2015, the project members have targeted two main goals: the understanding of the light and scene structure in an office as well as the understanding of the human factor in an illuminated scene.

IIT provided unique expertise in the 3D light estimation in large and complex office scenes, from color and depth images provided by a modern RGB-D camera. University of Verona brought in expert knowledge and design skills for estimating the gaze of people and their future motion with deep neural network model. Bringing the goal of the project – the invisible light switch for offices – into applications, would now be possible.

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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 26,200 employees worldwide. It generated revenue of more than €3.8 billion from continued operations 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.