

News Release

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BASF brings daylight into dark spaces

- **Innovative light guidance system illuminates windowless rooms**
- **Improved well-being and lower energy consumption**
- **Wide range of design possibilities for architects**

How can natural daylight be brought into building interiors so even windowless rooms do not need artificial light during the day? And how can sunlight be used optimally behind glass facades without creating glare? BASF has found a smart solution to these two problems. The system is based on the principle of light guidance and comprises three components: a film, a light shaft and light fixtures. The film is embedded in insulated glass and optimally guides the light from there into a light shaft containing reflective film. The shaft brings sunlight deep into the interior of a building, where light fixtures shine the daylight into the rooms. These light fixtures are also equipped with LED lamps that provide light in the rooms when natural daylight is unavailable or insufficient. Together with Bartenbach GmbH, BASF will be presenting this innovative daylight management system with a 1:10 scale model on display at the Light + Building trade fair in Frankfurt, Germany, from March 18-23, 2018 (stand A92 in hall 3.0).

“In the winter months in particular, many people see almost exclusively artificial light if they leave their houses before sunrise and return only after dark. Yet the wide spectrum of colors in natural light has an important influence on our well-being and our performance,” said Cristobal Garrido Segura, head of the Smart Daylight Management project at BASF. “The perception of light varies greatly from person to

person. My vision is to have rooms where the natural light mood adapts to the personal preferences of the user.”

Human centric lighting concepts

Human centric lighting (HCL) refers to holistic lighting concepts that put the emphasis on humans and their well-being. HCL encompasses the visual, emotional and biological effects of light. BASF’s daylight system can contribute to improving spatial quality in places such as schools, hospitals, shopping malls and office buildings. Because people feel better in natural light, they concentrate better, are more motivated to work and less likely to get sick. Furthermore, using natural light over the course of the day enables artificial light usage to be reduced by significantly more than half. The consulting firm A.T. Kearney has calculated that the benefits of HCL to the general public could be as high as €870 million in Europe in 2020.

Wide range of design possibilities for architects

This system enables daylight to be transported far into the interior of buildings without requiring any additional structures on the facade. Inside the building, the system can be used flexibly – either concealed within a suspended ceiling or as a visible element as part of the interior design of the building. Through the light fixtures, daylight can penetrate into areas far from windows as well as hallways and rooms without natural light. The system can be integrated into existing facades and new facade concepts without limiting design options. In addition, it creates possibilities for new design concepts, such as office environments with working and lounge areas that include natural green zones to improve quality of life.

From idea to market-ready system solution

The idea for the daylight management project emerged during the Creator Space™ program put on by BASF in 2015 to mark its 150th anniversary. Based on this idea, teams from Switzerland explored the topic of light and energy inside buildings. Together with BASF experts from various specialist units, they created a concept that became an incubation project and was developed into a market-ready system solution. An initial prototype is already being used in the headquarters of Bartenbach GmbH in Austria.

Further information about the daylight system is available at:

www.basf.com/daylighting

About BASF

At BASF, we create chemistry for a sustainable future. We combine economic success with environmental protection and social responsibility. The more than 115,000 employees in the BASF Group work on contributing to the success of our customers in nearly all sectors and almost every country in the world. Our portfolio is organized into five segments: Chemicals, Performance Products, Functional Materials & Solutions, Agricultural Solutions and Oil & Gas. BASF generated sales of €64.5 billion in 2017. BASF shares are traded on the stock exchanges in Frankfurt (BAS), London (BFA) and Zurich (BAS). Further information at www.basf.com.