



**Product and Technology Communications**

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## **Audi presents latest lighting technology at the IAA in Frankfurt**

- **Matrix OLED technology makes its debut in a concept car at the IAA**
- **Light attains a new level of homogeneity**
- **Flat light sources open up new design possibilities**

**Ingolstadt, July 28, 2015 – Audi is presenting its next step in automotive lighting technology at the IAA in Frankfurt. The new Matrix OLED lights enable a previously unattainable level of lighting homogeneity, opening up further creative opportunities for design.**

As the leading brand in automotive lighting technology, Audi has systematically developed all aspects of OLED technology over the years. Matrix OLED lights combine high-tech engineering and design ideally – initial projects are currently underway to implement OLED technology in production tail lights. They are being shown for the first time in a concept car at the IAA.

OLED is an English acronym for “organic light emitting diode.” In each OLED unit, two electrodes – of which at least one must be transparent – incorporate numerous thin layers of organic semiconductor materials. A low DC voltage – between three and four volts – activates the layers, each of which is less than one-thousandth of a millimeter thick, to light them. The color is based on the molecular composition of the light source.

In contrast to point light sources – such as LEDs – which are made of semiconductor crystals, OLEDs are flat light sources. Their light attains a new level of homogeneity, and its dimming is continuously variable. The lights do not cast any shadows and do not require any reflectors, light guides or similar optical components – and this makes the OLED units efficient and lightweight. In addition, they hardly need any cooling.

Progress in OLED technology is being made rapidly – in part due to the driving force of Audi. As soon as further increases in light density are realized, OLEDs will soon be able to generate turn signal and brake lights too. The thin glass sheets that are used today to encase the organic material will be replaced by plastic films. These new flexible substrate materials will lend themselves to three-dimensional forming, and this will open up entirely new creative spaces for designers.



Audi has already shown the potential of OLED technology in many models and demonstrators. Special highlights are “OLED lighting” with transparent, multi-colored OLEDs in the silhouette of the car and “the swarm” with a three-dimensional OLED display.

Another benefit of OLEDs: They can be subdivided into small segments that can be controlled at different brightness levels. In addition, different colors and transparent OLED units will be possible. This enables new lighting scenarios with extremely fast switchover times. The illuminated sub-surfaces exhibit very precise boundaries with one another. This is what distinguishes OLED technology at Audi, transforming it into the Audi Matrix OLED technology that supplements Audi Matrix LED and Matrix Laser technologies for headlights.

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More information on Audi lighting technology is available at the Audi Media Center.

Link: <http://www.audi-mediacenter.com/en/lighting-and-design>

In 2014, the Audi Group delivered approximately 1,741,100 cars of the Audi brand to its customers. The company achieved revenue of €53.8 billion and an operating profit of €5.15 billion in 2014. Audi operates globally in more than 100 markets and has production facilities in Ingolstadt and Neckarsulm (Germany), Győr (Hungary), Brussels (Belgium), Bratislava (Slovakia), Martorell (Spain), Kaluga (Russia), Aurangabad (India), Changchun and Foshan (China) as well as Jakarta (Indonesia). The brand with the Four Rings will start producing cars in Curitiba (Brazil) this year and in San José Chiapa (Mexico) in 2016. Wholly owned subsidiaries of AUDI AG include quattro GmbH (Neckarsulm), Automobili Lamborghini S.p.A. (Sant’Agata Bolognese, Italy) and sports motorcycle manufacturer Ducati Motor Holding S.p.A. (Bologna, Italy). The company currently employs approximately 80,000 people worldwide, thereof around 58,000 in Germany. Total investment of about €24 billion is planned from 2015 to 2019 – primarily in new products and sustainable technologies. Audi is committed to its corporate responsibility and has anchored the principle of sustainability for its products and processes in its strategy. The long-term goal is CO<sub>2</sub>-neutral mobility.