Off the streets and into the museum

Chandelier with control technology by Casambi.

Automotive lighting has undergone a number of changes in the last decade – at considerable speed, and thanks to state-of-the-art technology. While drive technology barely differs from one car manufacturer to the next, automobile companies are resorting to other means to ensure they stand out vis-à-vis their immediate competitors. Headlight design is highly popular in this context and complements the "seeing" part of what a headlight does with a convincing "being seen" component. Not surprising, then, that BMW and designer Bernhard Dessecker got their heads together and used a car lighting solution as the basis for a highly original art piece.

At the special exhibition entitled "Zukunftslichter" (Future Lights) at the BMW pavilion in Munich there is a lot to see in relation to automotive lighting, including some interesting ideas that free vehicle lighting from its literal context and demonstrate how specific technologies can be used for unconventional applications. For example, as a chandelier – exterior goes interior, so to speak. Each of the three designs by Bernhard Dessecker that go by the name of "85 Iconic Eyes" consist of 85 iconic BMW LED headlights. They may not come in series like BMW models, but certainly make for an unusual functional art piece that has made its way into the Bavarian National Museum as part of the foyer lighting.

It is not only the appearance of the headlights chandelier that is so striking, but also the way the lighting is controlled. Unlike the function they perform as the sources for car headlights, the LEDs needed to be dimmable, and lend themselves to remote control. Finnish wireless lighting control specialists Casambi had the technology that was required: modules the size of a matchbox and based on energy-saving Bluetooth Low Energy (BLE). When applied they automatically form a secure wireless

mesh network so that a large number of fixtures can be controlled from any point. Identifying one another, forming groups, and lending themselves to a variety of functions – all works perfectly. The three-wire Casambi modules are controlled directly by the user – in this case without sensor technology – or in relation to daylight over the course of the day (Daylight Harvesting). Thanks to their compact size they can be integrated into practically any luminaire system, and can even be built-in subsequently, if required. They offer enormous flexibility and can be addressed and controlled individually or as a group via a specially developed app using a smartphone or tablet. Switching on and off can be done using a classic light switch. The technology developed by the Finnish start-up company to switch, dim, and change the colour temperature of the lighting in the space from warm white to cool white also comprises the possibility to generate access rights.

Each hand-made elliptical-shaped chandelier comprises 640 individual pieces, is 85 centimetres tall, 60 centimetres wide, and weighs 30 kilos. Each headlight module is equipped with three LEDs: one positioned centrally plus two further LEDs installed at the rim to feed the fibre optic ring. Two high-intensity LED modules are installed in the core of the chandelier and serve as a combined uplighter and downlight. These can be controlled independently from the headlight modules thanks to two separate switching circuits. "85 Iconic Eyes" give the sophisticated automotive lighting elements a new artistic perspective. BMW serial parts have been used here to create unique light art pieces, with an experienced designer acting as the catalyst between the automobile industry and the lighting world. Similar to the latest headlight designs we are seeing on new car models, here too there is evidence of the innovative use of unexpected components – which all works thanks to the integral multifunctional technology developed by Casambi.

Project team:
BMW – Bernhard Dessecker

Products applied:
BMW LED headlights
Casambi lighting control technology;
www.casambi.com

Photo: Dirk Daniel Mann