

### International Forum on Automotive Lighting, China (IFAL): HELLA Showcases Its Innovative Lighting Technologies

- Comprehensive lighting system integrating intelligent safety with individual comfort
- HELLA experts to share insights on lighting

**Shanghai, June 22, 2018.** Lighting and electronics expert HELLA was recently a featured participant in the sixth annual International Forum on Automotive Lighting, China (IFAL) in Shanghai, China. HELLA showcased comprehensive lighting solutions along the automotive trends efficiency & electrification, connectivity & digitalization, autonomous driving and individualization and thus once again demonstrated the technical innovation capabilities and industry leadership in the automotive lighting field. Also, HELLA's technical experts were on hand to share their insights on latest adaptable head lighting solution for low and mid-level car segments, lighting solutions for adverse weather and new ideas for car interior lighting.

#### Comprehensive and innovative lighting technologies

In order to provide optimal visibility on the road, HELLA is dedicated to developing lighting systems for various driving conditions. In this context, HELLA showcased for example its first high definition digital lighting system, the matrix HD84 headlamp module model. Each precision LED module has 84 LEDs arranged in three lines which can each be controlled individually. The light intensity is adjustable in the range of 0%-100%, and accurately controlled by a single LED chip. The headlamps can adjust the proper light distribution to weather, road and traffic conditions. While driving, the Matrix LED high beam of the head lamp illuminates the road most dynamically and precisely without blinding other traffic participants.

Besides safety functions, the appearance of headlamps and rear combination lamps is ever more important. They are no longer only at nighttime an important distinction characteristic for automotive manufacturers. Especially homogenous lighting functions



are of increasing importance here. HELLA showcased several examples how OEMs can create an individual lighting design.

Also the company presented a full-LED rear lamp consisting of two pieces. The rear lamp is available in versions for the European (ECE), Chinese (CCC) and American (SAE) market. The special feature of the ECE version consists in a so-called "multi-level circuit" - at night, the intensity of the lighting functions can be reduced in order to prevent glare for other road users. The SAE version of the sidewall light mounted on the mudguard/wings incorporates a combined tail, brake, direction indicator lamp, plus a side marker reflector and side marker light. In all versions, the reversing light is integrated in the direction indicator area. The tail light of the trunk lid light is realized by a light guide with a diffuse and a sculptural additional lens.

With HELLA's Coming Home and Leaving Home scenarios, the front and rear lighting units make an important contribution to vehicle individualization.

Current trends such as autonomous driving and the desire for individualization strongly impact interior vehicle design. Drivers increasingly want the option to adjust lighting to their requirements, for e.g. creating an individual feel-good atmosphere during their commute. HELLA thus presented options for creating an individual lighting language inside the vehicle with ambient lighting and Matrix LED reading lamps. When the driver enters or leaves the car, the horizontal light belt between the ceilings handles will present a flowing lighting effect, which will create a pleasant atmosphere when driving. An optional Matrix LED reading lamp located in the rear ceiling of the car provides targeted lighting.

Other products highlighted at the IFAL included the innovative carpet light with light projection function. The light from the illuminator is bright, and can be evenly projected in the same direction to a distance over 4 meters. This makes the vehicle highly identifiable in a dark parking lot.



In addition to the innovative lighting products, HELLA exhibited radomes that can effectively prevent disturbance of radar sensor signals and allow better penetration of signals thanks to the special materials used.

### HELLA experts delve deeper into new ideas for automotive lighting

After launching the impressive HD84 module, the high-resolution LED matrix system for high-end vehicles, HELLA now eyes on applications for low- and mid-level adaptive driving beam (ADB) systems. In order to seize this opportunity, HELLA developed Bi-matrix system by application of an effective number of pixels, combined with an intelligent pixel distribution and geometry. It can meet the needs of system complexity, power consumption and comfortable package size from automotive OEMs, while ensuring best-in-class performance and functionality to provide auto makers with flexibility in various adaptive headlamp applications.

Beyond a focus on lighting systems under normal weather conditions, HELLA experts also study lighting under adverse weather conditions. High-resolution headlamps and camera-based systems represent a useful technological basis for realizing adverse weather light functions. Through the in-depth algorithm of the sensor, the new highresolution adaptive front lighting system could easily reduce the self-glare by decrease the light in the near field and effectively increase visibility in adverse weather conditions to achieve a comfortable driving experience in all weather conditions for the drivers.

HELLA experts introduced new ideas in the field of car interior lighting. With the rapid development of autonomous driving and individualization, car interior lighting technology is moving towards the direction of high resolution. It provides greater flexibility in design to realize dynamic effects and enable new functions such as combining radar sensors and cameras for providing more intuitive warning functions to the driver. On the choice of car interior lighting components, HELLA experts recommended the adoption of a more flexible gateway plus subsystem solution, offering



flexibility in matching different customer's requirements of the LED light source and micro control unit.

#### HELLA demonstrates strength in innovation and deep local cooperation

With automotive lighting systems certain to play an increasingly important role in the industry, HELLA is committed to continuing its innovation in the field of lighting technology and to working closely with Chinese customers to provide more innovative solutions for the Chinese market.

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**HELLA GmbH & Co. KGaA, Lippstadt:** HELLA is a global, family-owned company, listed on the stock exchange, with around 40,000 employees at over 125 locations in some 35 countries. The HELLA Group develops and manufactures products for lighting technology and electronics for the automotive industry and also has one of the largest retail organizations for automotive parts, accessories, diagnostics, and services within Europe. With nearly 7,000 people working in research and development, HELLA is one of the most important innovation drivers on the market. Furthermore, with sales of 6.6 billion euros in the fiscal year of 2016/2017, the HELLA Group is one of the top 40 automotive parts suppliers in the world and one of the 100 largest German industrial companies.

**HELLA in China:** HELLA started its China experience in 1982 and has production facilities in China since 1992. HELLA China has 14 locations including production and development with 3 joint venture locations within. Furthermore, the company employs more than 5,000 members of staff, thereof around 1000 in Research & Development. HELLA China develops and manufactures lighting technology and electronic components and systems for the automotive industry and also has an aftermarket trading company and service center for automotive parts, accessories, diagnostics, and services. In addition, with sales of approx.6.3 billion RMB in fiscal year 2016/2017.

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