



HELLA to showcase the passion for clean mobility in Electric Vehicle Technologies Conference 2018

- **HELLA contributes to the development of new energy vehicles and low-emission powertrain in China**
- **HELLA's high-performance Battery Management System ensures driving safety**

October 22, 2018, Shanghai, China. Lighting and electronics specialist HELLA provides China auto industry innovative solutions and products related to autonomous driving, efficiency & electrification, connectivity & digitization, and individualization. HELLA's steady development also benefits from the products and technologies under those four trends. At 2018 EVTec (Electric Vehicle Technologies Conference 2018), an event held on October 22nd and 23rd in Shanghai to present and further discuss the development of China new energy vehicles, HELLA as a member of the event committee exhibits products for energy efficiency & electrification. Adhering to clean mobility and keeping up with the trends and pace of China's new energy vehicles development, HELLA showcases its advanced innovative technologies and solutions to make further contribution to the development of China's new energy vehicles and low-emission powertrains.

HELLA's high-performance BMS ensures driving safety

The rapid development of new energy vehicles is leading the transformation of China's auto industry. As the power source of electric vehicles, battery packs play a vital role in the development of new energy vehicles. The battery's charging and discharging efficiency, energy density, cruising range and safety are all highly concerned, but there is still much room leaving for technologies improvement for those aspects to better facilitate the development of new energy vehicles.



BMS is an electronic control system that implements battery management functions. With the corresponding measure and control function, it provides the battery with suitable working environment, to ensure the battery's operational efficiency and safety. Taking advantage of the diagnosis and fault response mechanism, the vehicle allows the user to have a timely grasp of vehicle safety and performance status for making corresponding measures, or it may automatically execute the preset safety mechanism.

HELLA's BMS is equipped with leading industry core components, which can provide accurate measurement, and a solid foundation for battery state calculation and optimal control. The bountiful hardware resources utilized can meet electrical architecture design and functional requirements. Its unique high-voltage safety mechanisms can provide reliable diagnostic results. The synchronization mechanism ensures the algorithms real-time efficiency such as power calculation. The high/low-voltage isolation design ensures the system safety. The passive equalization design is simple and reliable. The underlying software design conforms to the AUTOSAR 4.3 standard and provides a variety of possible collaboration patterns for the algorithm development.

HELLA offers complete BMS that can be adapted for different platforms in a modular and extensive way. HELLA BMS with cost-effective system architecture does not depend on the battery technology. HELLA BMS includes: Battery Monitor Unit (BMU) for battery monitoring algorithms, extensible Cell Monitor Unit (CMU) for cell equalization, voltage and temperature measurements, and isolation measurement device based High Voltage Current Sensor (HVCS). HVCS is developed on the basis of HELLA star product Intelligent Battery Sensor (IBS, detecting the battery state of the traditional 12V start-stop system) which has up to ten million sales volumes. Those mature products and HELLA's abundant technology accumulation ensure the safety of lithium batteries. As one of the

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draft makers for ISO 26262 functional safety, HELLA has a deep understanding of safety and can guarantee the safety of BMS.

Currently, HELLA's BMS is supplying to well-known automobile manufacturers in Europe. In order to better serve local OEMs and local market, HELLA China increased its investment in BMS research and development by establishing a localized R&D team in China to develop BMS for the Chinese market.

HELLA adheres to the principle of "Technology with Vision" and the pursuit of technology, which urges HELLA to create safe and reliable BMS to serve Chinese customers.

For more information, please visit us at: www.hella.cn

HELLA GmbH & Co. KGaA, Lippstadt: HELLA is a family-owned, listed company operating on the international stage and currently employing approximately 40,000 members of staff at more than 125 locations in about 35 countries around the world. The HELLA Group develops and manufactures lighting technology and electronics products 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. In addition, the HELLA Group is one of the top 40 automotive suppliers in the world and one of the 100 largest German industrial companies. HELLA has achieved preliminary sales of approx. 7.1 billion euros in fiscal year 2017/2018.

HELLA in China: HELLA started its China experience in 1982 and has production facilities in China since 1992. HELLA China has 14 locations of production sites, Research & Development and management facilities, and 4 joint ventures included. Furthermore, the company employs more than 5,000 members of staff, thereof around 1,000 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. 6.9 billion RMB in fiscal year 2017/2018.

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