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News Release

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Brightening the Dark – BMBF funds research project to develop a fully adaptive light projection system in order to increase traffic safety

Darmstadt, Germany, May 19, 2014 – With the goal of improving traffic safety at dusk and in low-light conditions, the German Federal Ministry of Research and Education (BMBF) will be sponsoring the research project “VoLiFa2020” over the next three years. This joint effort is working to develop a fully adaptive automobile headlight system and is being financed under the "Photonics Research Germany" program. Project partners include lighting systems manufacturer HELLA, heading the effort, Elmos Semiconductor AG, Merck KGaA, Darmstadt, Germany, the Porsche Engineering Group, Schweizer Electronic AG and the University of Paderborn. As a team, this group of contributors possesses the expertise required for all stages of the project.

The latest road accident statistics for Europe show that driving has never been safer than in 2013. Over the last years, numerous innovations have helped improve traffic safety significantly. Despite this progress, the risk of a fatal traffic accident at night or dusk continues to be considerably higher than during daylight hours.

In order to increase road users’ safety when driving in low-light conditions, the German Federal Ministry of Research and Education (BMBF) will be sponsoring the “VoLiFa2020” project, which is working to develop a fully adaptive light projection system for intelligent, efficient and safe vehicle lighting. The BMBF is providing around EUR 2 million under the



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auspices of the "Photonics Research Germany" program. The planned system will enable lighting that can intelligently and seamlessly adapt to various specific driving conditions in almost real-time. Vehicles therefore will be able to selectively illuminate a wide variety of traffic conditions, thereby allowing drivers to detect dangerous situations and obstacles much faster.

The research consortium, led by the lighting systems manufacturer HELLA (<http://www.hella.com>), covers nearly the entire research and value chain of a headlight system, from development to the user. While the chemical and pharmaceutical company Merck KGaA, Darmstadt, Germany, (www.emdgroup.com) is supplying special liquid crystals and thereby laying the foundation to manufacture the headlight system, the chip and hardware producers Elmos Semiconductor AG (<http://www.elmos.com/>) and Schweizer Electronic AG (<http://www.schweizer.ag>) are designing the electronic components as well as customer-specific circuit boards. HELLA is responsible for developing the optical systems as well as integrating the various components into an overall system.

In the truest sense of the phrase, the consumer's point of view plays a key role in the project "VoLiFa2020". L-LAB, the research institute for lighting technology and mechatronics supported by the University of Paderborn (<http://www.l-lab.de>), and the automobile manufacturer Porsche (<http://www.porsche.com/germany/>) are drafting the system requirements, taking into account the subjective perceptual aspects of all road users.

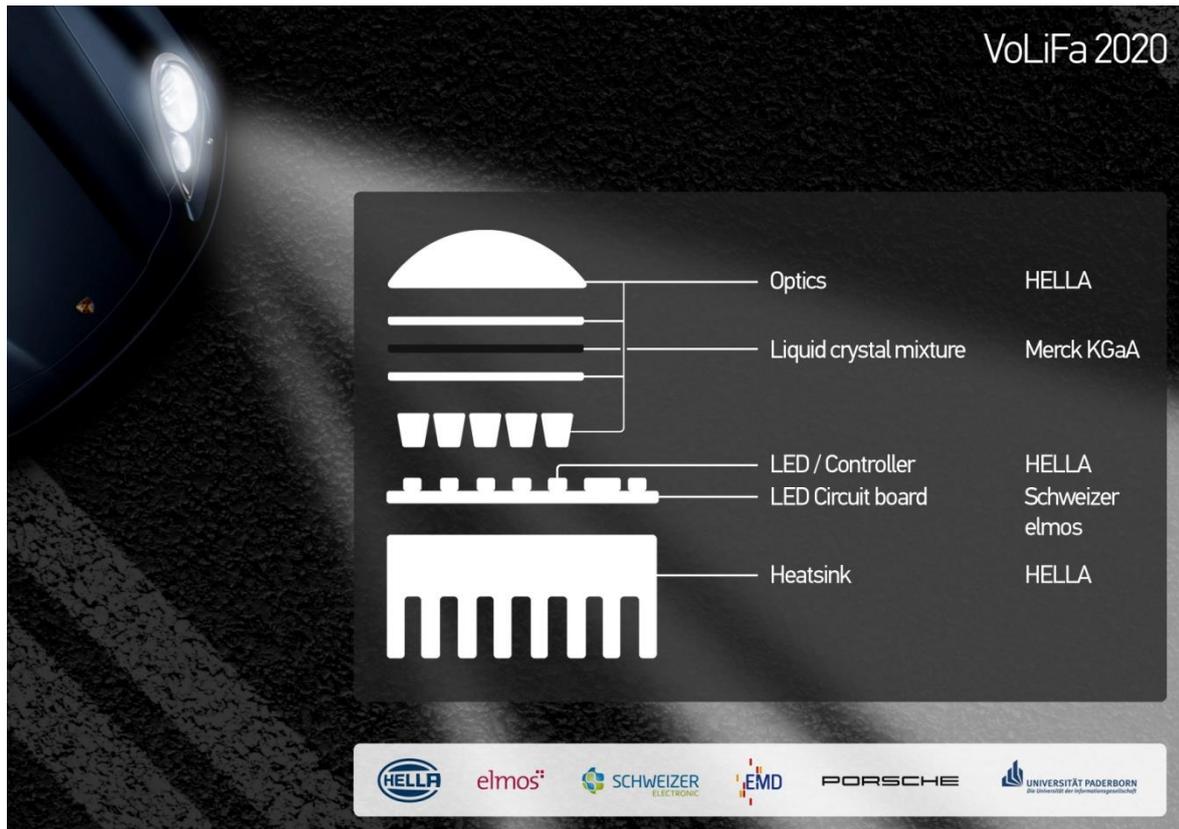
For those participating in the project, the headlight system being developed offers a diverse range of potential applications, from use in cars and other classes of vehicles such as trucks and buses, to the application of individual project components in other branches of industry. Given the growing volume of traffic, the increasing need for safety, and the trend toward ever more advanced driver assistance systems, there will be considerable demand for intelligent lighting systems.

Besides the direct application of the research results, the successful completion of the project also bears significant potential to strengthen Germany's technological competitiveness since nearly the entire value chain falls within its borders.



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Image: Schematic showing the fully adaptive headlight system as well as the various sub-systems



Source: HELLA KGaA Hueck & Co.

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