

LIPPSTADT (GERMANY)

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Climate-friendly and recyclable: NALYSES research project develops sustainable headlamp

- The research project looks at the entire product life cycle, from the purchase of materials to repair and recyclability.
- Approaches from the project are also to be transferred to other application and product areas.
- In addition to HELLA, other partners from industry and science are involved; the Federal Ministry of Education and Research is funding the project until 2025

HELLA is researching in collaboration with industry partners how headlights can be designed more climate friendly. To this end, the automotive supplier operating under the FORVIA umbrella brand, has now started the NALYSES research project, in which the BMW Group, Covestro, geba, Miele, the Heinz Nixdorf Institute of the University of Paderborn, the Fraunhofer Institute for Mechatronic Systems Design IEM and the Hamm-Lippstadt University of Applied Sciences are involved in addition to HELLA. The results of the project are to be incorporated into the development of future generations of headlamps but shall also be considered for other application and product areas. The three-year project is funded by the German Federal Ministry of Education and Research (BMBF).

"The aim of our research project is to design and produce our future products more resource-friendly and with lower emissions. We are therefore looking at options to reduce the CO2 footprint of a headlamp over its entire life cycle," says Dr Michael Kleinkes, who is responsible for development in the lighting Business Group at HELLA. In essence, the example of the headlamp will be used to research how products and raw materials can be reused as long as possible in the sense of a circular economy. The findings contribute significantly to HELLA's climate objective to manufacture its products CO2-neutral by 2045 at the latest. "The project is also relevant because the findings go far beyond the headlamp as a product. The approaches are also to be transferred to vehicle

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components from the electronics sector and to other industries, for example, to the production of household appliances".

"We therefore start with the selection of sustainable, low-emission materials and look at how recycled or bio-based plastics can be used, for example. In addition, product design also plays a decisive role: a sustainable headlamp should be both repairable and recyclable in order to increase its lifetime, conserve resources and contribute to the circular economy," says Dr Michael Kleinkes. Individual components should be able to be reprocessed and recycled at the end of the headlamp's life.

In addition to leading the consortium, HELLA is supporting the research project NALYSES primarily through its expertise in automotive lighting technology. The BMW Group defines the overarching system requirements of car manufacturers, while Covestro, geba and Hamm-Lippstadt University of Applied Sciences contribute their expertise in sustainable materials. The Heinz Nixdorf Institute at the University of Paderborn and Fraunhofer IEM are developing a digital product twin that can be used to evaluate recyclability and the effects of material selection or design on the carbon footprint in a very short time. Miele is involved in the research project in order to transfer findings to other industries.

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ABOUT HELLA

HELLA is a listed, internationally positioned automotive supplier operating under the umbrella brand FORVIA. Within this factual group, HELLA stands for high-performance lighting technology and automotive electronics. At the same time, the company covers a broad service and product portfolio for the spare parts and workshop business as well as for manufacturers of special vehicles with its Business Group Lifecycle Solutions. HELLA has 36,000 employees at more than 125 locations worldwide and generated consolidated sales of € 6.3 billion in the fiscal year 2021/2022.

ABOUT FORVIA

FORVIA comprises the complementary technology and industrial strengths of Faurecia and HELLA. With over 300 industrial sites and 77 R&D centers, 150,000 people, including more than 35,000 engineers across 40+ countries, FORVIA provides a unique and comprehensive approach to the automotive challenges of today and tomorrow. Composed of 6 business groups with 24 product lines, and a strong IP portfolio of over 14,000 patents, FORVIA is focused on becoming the preferred innovation and integration partner for OEMs worldwide. FORVIA aims to be a change maker committed to foreseeing and making the mobility transformation happen. www.forvia.com