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eHighway – An Infrastructure for Sustainable Road Freight Load. In: CIGOS 2019, Innovation for Sustainable Infrastructure. Springer-Verlag 2019.

**Abstract.** In all countries, road transport with heavy vehicles will have a high share in future freight transport. When using fossil fuels for those vehicles, the resulting emissions of carbon dioxide and pollutants such as particulate matter and nitrogen dioxide put a risk on the environment and on human health. Since heavy vehicles are already contributing significantly to greenhouse gas emissions, the "eHighway" system was developed, and it was identified as a possible solution to counteract these problems.

The eHighway system allows trucks to be fed with electric energy from a catenary which is mounted above the road. An efficient implementation of such system requires studies in different fields to understand the impacts of the eHighway system on today's road infrastructure. For that purpose, the German Federal Ministry for the Environment, Nature Conservation and Nuclear Safety is funding three field trials, and the ELISA project is the most advanced of them. In ELISA, a 5 kilometer section of the motorway A5 in the German Federal State of Hessen is equipped with the eHighway system in both directions. The project is led by the respective road authority Hessen Mobil, and Technische Universität Darmstadt is responsible for the accompanying research.

This contribution explains the contribution of road freight transport to greenhouse gas emissions and discusses approaches to make this transport sector more sustainable. The basics of the eHighway technology are briefly presented. The layout of the ELISA test track on motorway A5, the arrangements for the test operation, and the research program for the field test are described.