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Innovation in Products and Services: A Case Study on the Evaluation of the Charging Efficiency of a Plug-in Hybrid Vehicle in Different Charging Modes*

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Abstract

One of the key issues concerning the issue of green technologies is the development of innovation in the area of products and services. In the era of the ongoing transformation of individual mobility, special emphasis is placed on the evaluation of technological solutions around electromobility. This article discusses the different strategies for charging a plug-in hybrid vehicle of the brand Mercedes C Class 300 de one of the forerunners of electric technology in the modern automotive market. The paper presents the possibilities of charging a high-voltage battery. with a capacity of 13.5 kWh. The aim of the research is to indicate how the method of charging the battery affects its life and degree of charge. In the analyzed vehicle, the analysis concerned several charging modes: super charger mode and three charging modes for 230V (max, 8A and 6A). Studies have shown that charging the battery with low current increases the vehicle's range in electric-only mode by several kilometers. The research is dedicated to all stakeholders of the dynamically developing electromobility sector.

Keywords: product and service innovation, hybrid vehicles, battery charging, power station, market analysis.

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