CACTUS

Models and Methods for the Evaluation and the Optimal Application of Battery Charging and Switching Technologies for Electric Busses

www.cactus-emobility.eu

>> On the Way to the Green Public Transport <<

Project Data

Funding/€	Total cost/€	Duration
773.590	838.380	36 months

Partners

Institut für Automation und Kommunikation e.V.
Magdeburg, DE
Fraunhofer Institute for Materialflow and Logistics, DE
Silesian University of Technology, PL

Main Results

- Models and methods for the evaluation and the optimal application of battery charging and exchanging technologies for electric busses in public transport have been developed.
- The models and methods address technical, transport, economic and ecological aspects of electric busses in public transport.
- The individual best solution for a public transport company from the available battery charging and exchanging technologies is found by using the developed tool in which all models and methods are integrated.

Project conclusion

Electric busses become a topic for more and more public transport companies. While electric private cars have low sales numbers public transport can accomplish the step into electrification practice now.
When a public transport company considers entering the field of electric busses it is faced with a number of questions that can now be answered by the results the CACTUS project: Which technology should be selected (long charging at the depot or at certain charging points, continuous charging on the run, application of super-capacitors, changing of the battery)? Where do I have to place the charging facilities? Which capacity should the batteries have?
The CACTUS tool has already been applied to three German and one Polish public transport companies. If batteries become smaller, light weighted and more powerful in the future, the CACTUS results will become obsolete. However, for the following years such a breakthrough in the field of battery research cannot be expected.
What does the future bring to the CACTUS results? The CACTUS tool will be available on the CACTUS homepage. The developed source code can be retrieved via e-mail request. For the time being the CACTUS tool covers the core features developed within the project. For further improvements such as a smarter user interface, an immediate visualisation of the results and for making the user actions more intuitive and easier, additional effort will be necessary. Finally some simulation models could improve the tool by raising their degree of detail.

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