

Fast-Charging Network for Axes and Metropolises

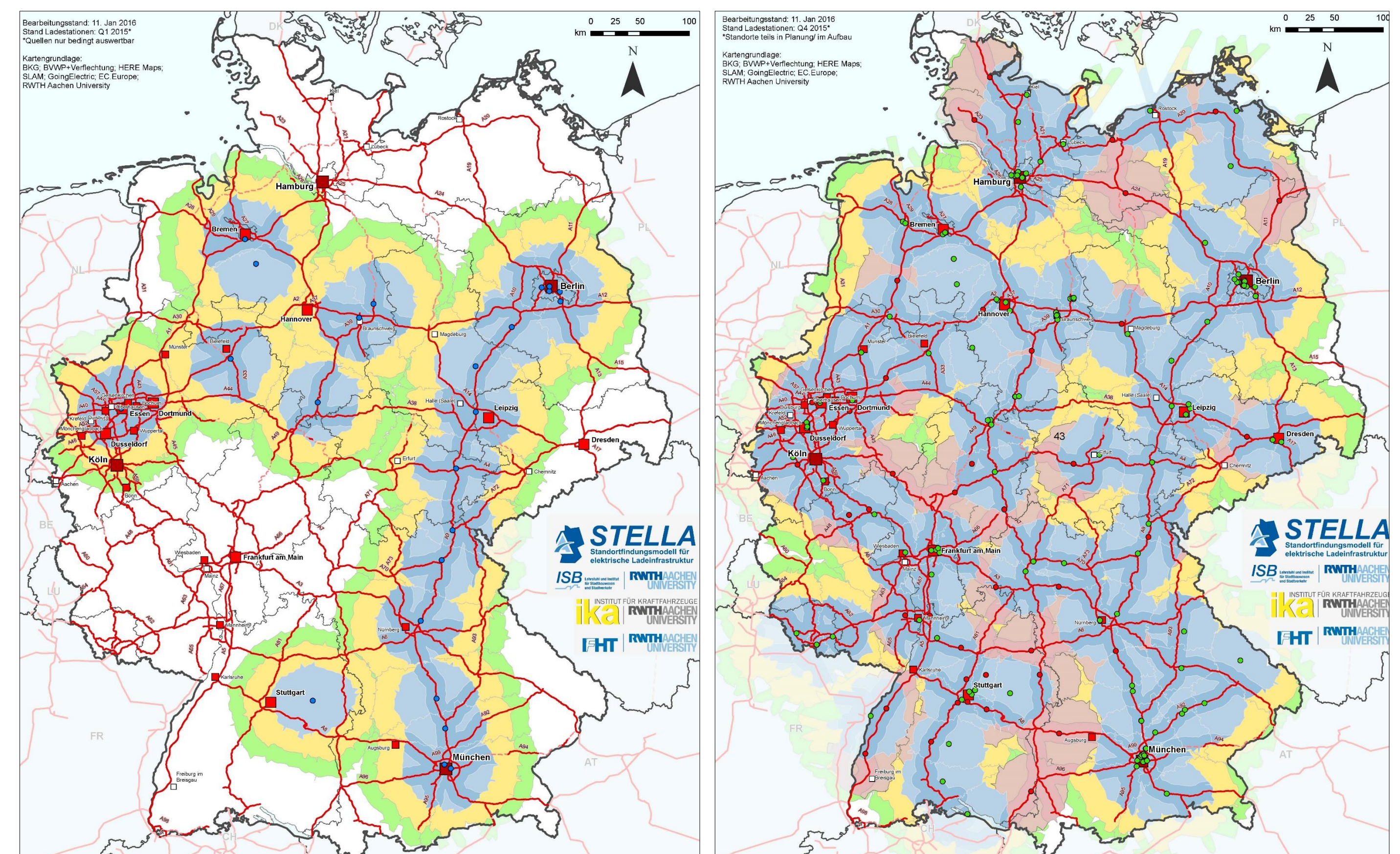
german title: SLAM – Schnellladenetz für Achsen und Metropolen

Concept and Objectives

The federal government and the automobile industry of Germany are committed to promoting electric mobility in order to benefit from its environmental advantages as well as a precaution regarding the limited resources of fossil fuels. However, a consistent spread of electric mobility can be achieved only if a reliable and easily accessible network of charging stations is available for the users so that they can charge the adequate amount of energy for their daily travels as quickly as possible.

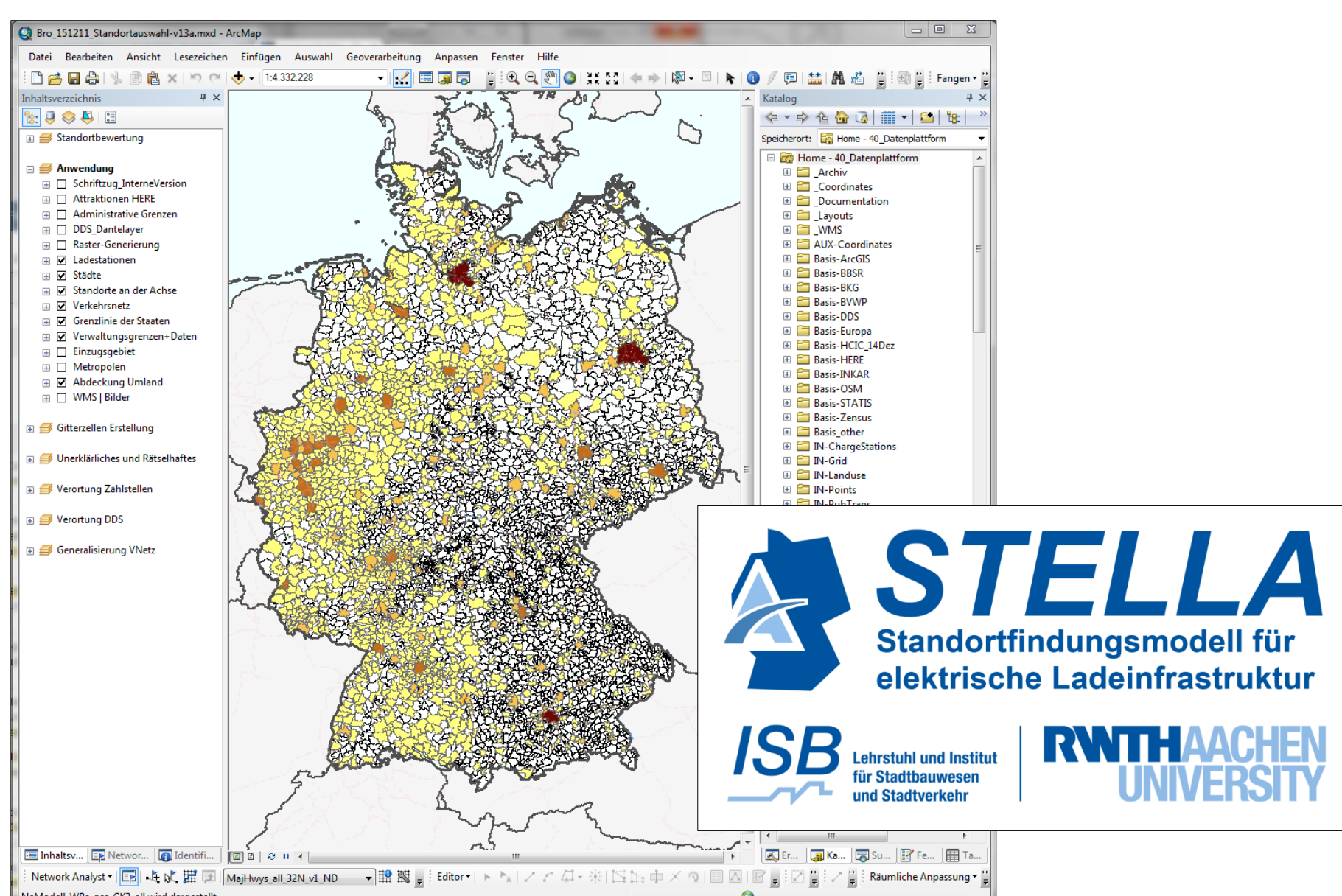
For this purpose, project SLAM aims to develop a basis network for an economical and demand-oriented distribution of fast-charging infrastructures in order to facilitate the growth of electric vehicles and to make transregional mobility possible. Analyzing the issues to establish an extensive fast-charging infrastructure as well as proper business models, setting up a test-network and accompanying a user study to analyze the users mobility behaviour are essential cornerstones of this project.

In this context, the main objective of RWTH Aachen University is to develop a location concept for the fast-charging infrastructure in densely populated areas taking into account of traffic junctions, traffic flows, available charging infrastructure, user studies, density of electric vehicles, future electric vehicle fleets and mobility concepts. A simulation tool based on this concept with help investors to choose optimal sites for fast-charging stations. The Institut of Urban und Transport Planning (ISB – Institut für Stadtbauwesen und Stadtverkehr) will research the location concept and consult the potential investors.



Development of fast charging station (CCS; ≥ 43 kW) in 2014

Development of fast charging station (CCS; ≥ 43 kW) in 2015



STELLA - GIS-based data bases for the objects spatial definition



Construction site of fast a charging station

Aims of the Project

The aim of project SLAM is to facilitate the installation of a nationwide fast charging station network in Germany. To do so in a sustainable, holistic and the best possible way, several issues should be implemented and some intermediate goals should be achieved, in particular the following:

- Identification and analysis of the criteria for an optimal location
- Implementing a simulation tool to determine the locations of fast-charging stations
- Developing a sustainable business and provider models taking the economic aspects into account
- Setting up a research charging network sponsored by private investors
- Conducting the user studies using the research network
- Standardizing data transfer interfaces and billing systems
- Developing universal multi-standard system in order to ensure the compatibility of different vehicles with the charging stations
- Investigating the impact of the fast charging network on the German energy grid

Funding Federal Ministry for Economic Affairs and Energy (BMWi)

Funding period March 2014-August 2017

Homepage www.slam-projekt.de
www.isb.rwth-aachen.de/go/id/gikl

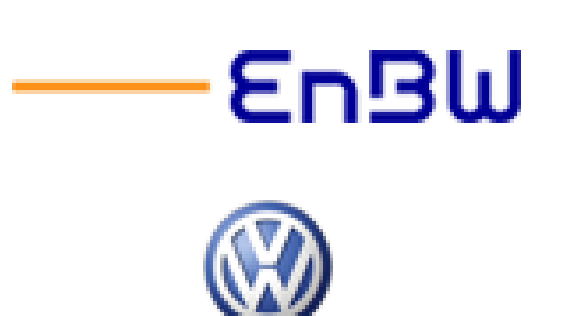


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International Conference

E-Mobility: Challenges for Technology and Urban Infrastructure Development

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