

“Teleoperation and automated operation in tram systems”

The task of this thesis is to analyse and evaluate the use of innovative technologies in tram operations with a focus on teleoperation and automated operation. Despite staff shortages and the need to increase cost efficiency, it shall be examined under which conditions their use is feasible and what effects they have.

The first step is to describe the current situation of tram operations in Germany. The objectives typically pursued with the use of new technologies in tram systems shall be identified. Based on a detailed literature research, the prerequisites for an implementation for each innovation are to be presented. In addition, at least three international examples are to be included and analysed with regard to implementation approach, objectives, and key success factors.

Subsequently, the use of teleoperation and automated operation is to be evaluated by comparing advantages and disadvantages as well as opportunities and risks (e.g. using a SWOT analysis). Finally, the boundary conditions and recommendations are to be derived for the use of teleoperation and automated operation in tram systems.