Summary

In this thesis, the models of a manufacturing floor with different intralogistics and smart manufacturing options are built, simulated, analyzed, and compared by utilizing Visual Components software. During the simulation analysis, each model's speed, efficiency, and cost aspects are explored in the context of smart manufacturing.

The goal of this thesis was to define the intralogistics options that can be utilized for a manufacturing floor and explore how the software simulation solutions can be used for pre-determining the approach and detail the process of building the visual representation of the manufacturing floor in the simulation software as well as the models that will be iterated with different intralogistics options with an analysis of the simulation of the built models. The defined goals were achieved and documented in this paper.

For the further development and analysis, placement of the components in the models and the navigation paths of the AGV and AMRs can be changed based on the insights obtained from visualizing the model in real-time with a VR system to evaluate different optimization methods.