

## **ABSTRACT**

Title of the thesis: Shipment planning process development in industrial gas engineering company

This thesis was initiated by Anton Golovan, who works at Linde Engineering Estonian Branch as a Project Logistics Manager. The case study conducted in the thesis was based on data from Linde GmbH, Linde Engineering. The thesis was supervised by Ott Koppel, PhD, a senior researcher at the Tallinn Technical University.

The problem addressed in this thesis was the lack of a shipment planning process that integrates with the Advance Work Packaging (AWP) method and enables the exploration of transport optimization opportunities. The objective of this thesis was to develop a strong, mapped, and defined shipment planning process for Linde Engineering that supports AWP method and increases process efficiency and effectiveness. This effort supports the company's Logistics department's strategy to enhance the supply chain's traceability, efficiency, and data quality.

In this thesis, both qualitative and quantitative research methods were applied. A data quality analysis was conducted on key data elements used in shipment planning. The shipment planning process was mapped out, and a cost-benefit analysis and multi-criteria analysis were performed to evaluate the automation solutions for the shipment planning process.

As a result of the thesis, it was concluded that the implementation of a well-defined, mapped, and streamlined shipment planning process enhances the integration with the AWP method and leads to increased project execution efficiency and effectiveness. Practical recommendations for data quality improvement and process automation, resulting from the case study, were provided to Linde.

Keywords: shipment planning, advanced work packaging, efficiency, effectiveness, process management, data quality, engineering projects, master thesis