

FREIGHT DEMAND AND EFFICIENT ROUTING FOR A PARTIALLY AUTOMATED DELIVERY SYSTEM WITHIN CHALMERS CAMPUS

Background:

This master thesis will be connected to the project “Climate Neutral Urban Logistics” funded by Viable Cities. The project aims to explore and develop several technical and social aspects that are important for a transition from today's system to an automated delivery system. The project is lead by Hugo (<https://www.hugodelivery.com/>). The students will work on Work Package 3 lead by researchers at TME department and will work closely with Hugo Delivery AB and Chalmers Service. WP3 will focus on the assessment of the system that will be implemented in the campus at Chalmers University of Technology.

Master thesis potential objectives:

- Identify and quantify the magnitude of the freight flows (i.e., number of shipments, volumes or weights) that could be shifted to an automated delivery system within Chalmers
- Identify origins and destinations of these freight flows within Chalmers
- Explore supply requirements from an automated delivery system to fulfill demand at Chalmers
- Identify and assess the new trends, such as impact on existing traffic (on pedestrian/bikes lane), new travel times, handling constraints, etc.
- Produce a model and solution methodology to estimate efficient network design and routing of tours/trips for various scenarios. Provide the best combination of number of automated vehicles and routing.

Requirements:

- Knowledge in logistics
- Quantitative skills are preferred

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