The Physical Internet for City Logistics

Research Problem:
This research proposes a sharing system which allows private carriers share freight requests through an auction platform in order to achieve cost saving and profits increasing. In addition, parcel lockers are introduced as transshipment hubs to enable freight parcels can be transshipped at any pick-up and delivery node.

Research Objective:
The overall goal of the present research is to explore the application of the PI to transform or transit the current network of urban freight logistics into a hyper-connected network.

Methodology
- Static pick-up and delivery with transhipment and time-window problem optimization.
- Dynamic pick-up and delivery with transhipment and time-window problem optimization.
- Agent based modeling design and simulation for the sharing system.
- Learning methods developed to help carriers improve their bids strategy in the auction platform.