Solving Large-Scale Dynamic Collaborative Vehicle Routing Problems
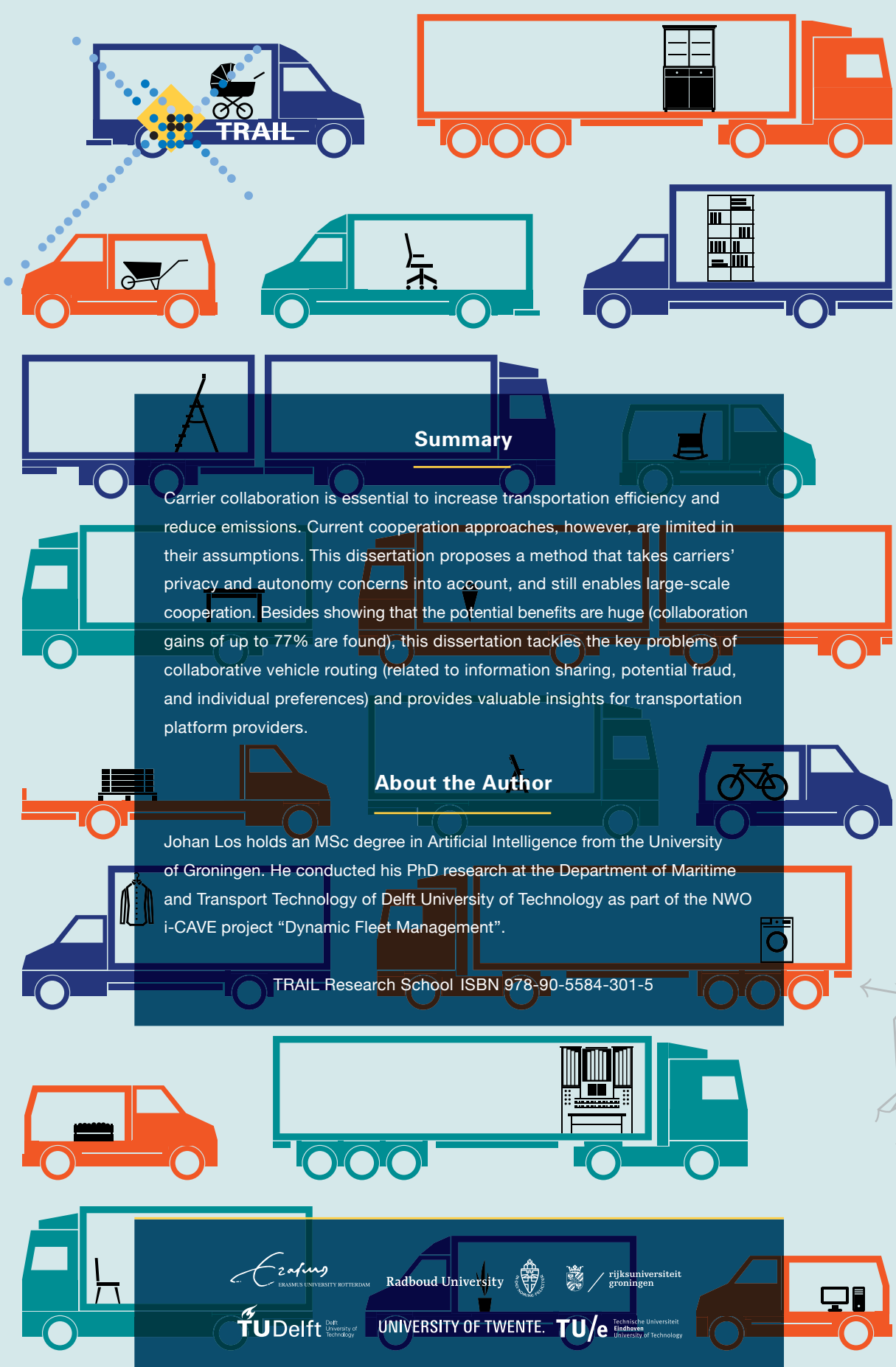An Auction-Based Multi-Agent Approach

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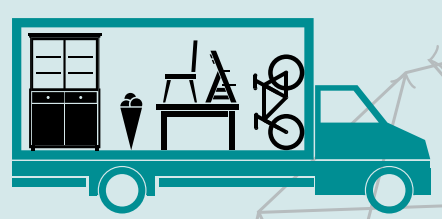
Johan Los

Summary

Carrier collaboration is essential to increase transportation efficiency and reduce emissions. Current cooperation approaches, however, are limited in their assumptions. This dissertation proposes a method that takes carriers' privacy and autonomy concerns into account, and still enables large-scale cooperation. Besides showing that the potential benefits are huge (collaboration gains of up to 77% are found), this dissertation tackles the key problems of collaborative vehicle routing (related to information sharing, potential fraud, and individual preferences) and provides valuable insights for transportation platform providers.

About the Author

Johan Los holds an MSc degree in Artificial Intelligence from the University of Groningen. He conducted his PhD research at the Department of Maritime and Transport Technology of Delft University of Technology as part of the NWO i-CAVE project "Dynamic Fleet Management".

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