Identifying Collaborative Shipping Opportunities

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A meeting of friends: Jeroen

**Reality**

**Role Today**

Owner of Spalding

Production of basket balls
A meeting of friends: Stefan

<table>
<thead>
<tr>
<th>Reality</th>
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<tbody>
<tr>
<td><img src="image1.jpg" alt="Reality Image" /></td>
<td>Owner of Asics</td>
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A meeting of friends

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<td>![Spalding Logo]</td>
<td>![Wheelchair User]</td>
<td>![Running User]</td>
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Horizontal Cooperation

• **What** = cooperation where companies bundle their orders/join shipments

• **Why** = to reduce transport costs, CO2 emissions, and congestion

• **How** = by using the available space in truck hauls of one company to ship items of another company

• Vertical cooperation = cooperation with companies at different level of the supply chain (e.g., supplier & buyers)

• Horizontal cooperation = cooperation with companies at the same level of the supply chain
Examples of Horizontal Cooperation

- Tupperware
- P&G
- Nestlé
- Pepsi
- UCB
- Baxter
Bundling
Simple Roundtrip
Complex Roundtrip
Simple Collect and/or Drop
Complex Collect and/or Drop
What is a **good** opportunity?

- Total Distance/volume/tkm
- Shared distance/volume/tkm
- Ratio of shared distance/volume/tkm
- Closed distance/volume/tkm
BBaRT: Bundling, Backhauling, and Roundtrip Tool

• **What** = tool that identifies bundling, backhauling, roundtrip, and collect and/or drop opportunities in a large database of transport lanes

• **Why** = impossible to analyze a database of 100,000 transport lanes manually (or even using Excel)

• **How** = clever combination of a bounding-box approach, sorting, and efficient search algorithms

• Collect and/or drop opportunities are found by rotating the system of coordinates

• Implementation of the opportunity itself is done at a later stage, we only care about identifying the best opportunities
TRI = VIZOR
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