An Integrated Approach Combining Different Transport Modes

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Integration modes

- Integration and combining transport modes is preferred taking into account complete door-to-door chain

- Transport mode is extension production chains / lines

- Future challenge: making sustainable profitable, profitable sustainable

- Harmonisation policy measures and operations seamlessly between producers, receivers and transport operators
Integration = Collaboration, Consolidation
…. in Supply Chains

- Consolidation and bundling of cargo
  important success formula

- Increasing load factors, reducing deliveries

- Making better use of existing infra, saving resources
## Supply Chain Decarbonisation Measures

**World Econ. Forum, 2009**

<table>
<thead>
<tr>
<th>Measure</th>
<th>Explanation</th>
<th>Potential abatement (Mt CO2e)</th>
<th>Feasibility</th>
</tr>
</thead>
<tbody>
<tr>
<td>1 Clean vehicle technology</td>
<td>Introduce clean and environmentally efficient technologies</td>
<td>175</td>
<td>High</td>
</tr>
<tr>
<td>2 Slowing down product flow</td>
<td>Decrease transport speed and increase load fill</td>
<td>171</td>
<td>High</td>
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<tr>
<td>3 Localized sourcing of agricultural produce</td>
<td>Optimize the location of agriculture</td>
<td>178</td>
<td>Medium</td>
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<tr>
<td>4 Optimization of logistics networks</td>
<td>Improve network planning through transformation projects</td>
<td>124</td>
<td>High</td>
</tr>
<tr>
<td>5 Increased energy efficiency of buildings</td>
<td>Minimize emissions from operating activities</td>
<td>93</td>
<td>High</td>
</tr>
<tr>
<td>6 Improved packaging design</td>
<td>Reduce weight and volume of packaging</td>
<td>132</td>
<td>High</td>
</tr>
<tr>
<td>7 Enable low carbon production</td>
<td>Optimize manufacturing location</td>
<td>152</td>
<td>Medium</td>
</tr>
<tr>
<td>8 Training and communications</td>
<td>Provide training to road transport contractors and building operators</td>
<td>117</td>
<td>Medium</td>
</tr>
<tr>
<td>9 Freight modal shift</td>
<td>Transfer freight from air and long-haul road freight to ocean, road and rail freight</td>
<td>115</td>
<td>Medium</td>
</tr>
<tr>
<td>10 Reverse logistics / recycling</td>
<td>Improve percentage of total supply chain waste which is</td>
<td>94</td>
<td>Medium</td>
</tr>
</tbody>
</table>
- Highly competitive nature urban freight market

- Collaboration, sharing data to optimise planning often challenging

- Good news: new collaboration models exist: neutralisation sensitive data exchange between players; EU competition rules respected

- Competition on the shelf, not on the road
Markets UFT
(Urban Freight Transport)

- Retail (including e-commerce): diversity versus econ. of scale
- Express, courier and post: planning & bundling in networks
- Hotel, restaurant and catering: less regular shipments
- Construction
- Waste
Conclusion

- UFT most efficient (load factors, routing and deliveries) when economies of scale & bundling, larger operators/operations.

- Road (electrified / smartly loaded): last mile deliveries

- Rail & waterborne large-scale freight distribution parks on outskirts of urban areas

- Need for ‘Disseminating good practice in UFT throughout Europe’
  (MDS Transmodal study for DG MOVE ‘Study on Urban Freight Transport‘ 2012)

- New webportal for dissemination of (intermodal / urban) best practices: BESTFACT
Interporto Padova: Consolidation and Clean Vehicles

Cityporto 2 miles outside the city centre
Urban delivery of goods with a fleet of hybrid and CNG vehicles

Savings in:
- Mileage: 1200 km/day
- Fuel: >30,000 litres/year
- Emissions of CO2 and pollutants
Binnenstadservice Consolidation in Netherlands

Binnenstadservice operates warehouse & distribution service on behalf of joint retailers (inner) city.

Started in one city (Nijmegen);
covers now many cities in NL

- Goods delivered at distribution centre just outside city;
- Goods are bundled and shipped to shops in city centre;
- Simultaneously empty equipment, packaging etc. taken back to distribution centre.
Benefits of Binnenstadservice

Financial benefits:
- Shop keeper: reduced stock at expensive shop floor
- Transport company/shipper: reduced time loss for last mile

Benefits in field of services:
- Shop keeper: pays a little fee for time consuming activities

Benefits for society:
- Less congestion, more liveable city centre.

Environmental benefits:
- Reduced CO$_2$ and PM due to bundling of freight and cleaner vehicles
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