Space technology solutions for urban transport

Freight transport challenges

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Institute for Sustainability

Our mission
The Institute is an independent charity established to significantly accelerate the delivery of economically, environmentally and socially sustainable cities and communities.

About us
Our mission is delivered through projects which:
• Create market confidence to encourage investment and the take up of innovation
• Identify financial, economic and social models which allow transformation at scale
• Connect communities with jobs and skills development opportunities and improve quality of life
• Inform and support a step change in industry practice
• Drive economic growth and UK competitiveness.
Our role
We deliver innovative demonstration projects and develop programmes to actively capture and share learning and best practice. The Institute plays a number of roles in supporting and enabling projects:

• Independent facilitator of strategic and operational partnerships
• Leveraging funding, and managing shaping and guiding projects from inception to delivery.
• Demand-led innovation brokerage
• Sharing knowledge and best practice

Our main focus is on systemic innovation at district scale which can be replicated widely to accelerate sustainable development, climate change mitigation and adaptation
Consistent Challenges

1. Transnational multi-modal logistics opportunities not realised
2. Market fragmentation and company competition hinder efficient use of existing infrastructure through incomplete data sharing
3. How to optimise supply chain coordination, without being anti-competitive: Co-opetition:
4. Port city interface: shared problems such as congestion & air pollution; and the gateway concept for joined up thinking.
5. Consolidation and systems challenges
6. Real time data
Data Sharing

WEASTFLOWS: european project of green corridor east/west
Data Sharing

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Intermodal route planning

- EU transport white paper ambitions – modal shift freight can reduce carbon emissions, congestion and air pollution
- Weastflows intermodal route planner allows optimisation for time, cost and carbon emissions for freight.
- Only as good as data on available freight options for water, rail which is incomplete and companies unwilling to share
- Win-win solutions need independent brokerage.
Sharing information and learning to:

• Connect communities with employment and skills opportunities
• Inform industry, policymakers and future projects
Co-opetition

• Large non-competing companies to share information to reduce freight costs and carbon footprint.
• Kimberly-Clark and Kellogg’s arrangement; Andrex from Northfleet to Trafford Park; Cornflakes on reverse journey.
• Wider opportunities for SMEs to use empty space in freight vehicles
• Major retailers interested in sharing but difficult to optimise efficient delivery without being seen as anti-competitive?
• Need independent trusted real-time brokerage
Port city interface

Portsmouth Port
Port-city interface

• Gateway concept to address poor engagement between Ports and Cities:
  – Encourage joined up investment
  – Tackle shared problems e.g. congestion, air pollution
  – Increase efficiency of land-sea operation
  – Identify new opportunities e.g. local manufacturing, renewables
Consolidation – different tracking systems
Suppliers and customers have different systems.

- Lack of a universal system that can be used at the decoupling point, is a hindrance to the 3PL companies operating the consolidation centres.
- In Brussels, City Depot, who operates the UCC, has its own IT system whilst the transporters (6 in total) have their own. This is challenging for drivers too, who need to carry the transporters’ scanners with them so that goods can be traced and live information fed back to them.

Scope for industry standard:
- A universal tracking system that can improve cross docking and allow smoother communication between carriers, retailers and consumers would be beneficial to the stakeholders involved in the supply chain.
Real time route optimisation
e-cargo bikes: Paris, Brussels, Camden

- E-Bikes. Tend to have large staff turnover.
- Electric cargo bikes can optimise routes in real time during congestion incidents.
- Cargo bikes are not classified as motorised vehicles and can use bus lanes, cycle lanes and narrow access points. Due to their size, they can also travel down narrower roads compared to standard vehicles.
- In order to assess whether cargobike deliveries can be improved, the Green Link is developing IT system to optimise routes.
- The system is currently being developed in conjunction with ATOS Worldwide and tested with TNT and DHL parcels. 11 TGL bikes are currently involved in the testing of the system (on a daily basis).
- Opportunity to integrate with real time traffic data with virtual reality system, also to capture local data for integration with satellite data for city management systems.
Data integration e.g. UHI monitoring

Rotterdam – Real time monitoring using bicycles 2009

6 augustus 22:00 – 24:00 LT
Sharing information and learning to:

• Connect communities with employment and skills opportunities
• Inform industry, policy makers and future projects

Inter-city
• Intermodal route planning
• Co-opetition - large companies and SMEs

Urban
• Common data systems to enable data sharing
• City-scale decision support to inform joined-up investment

Opportunities
• Data integration
• Independent trusted brokerage
Further information

- www.lamiloproject.eu
- www.weastflows.eu
- www.lopinod.eu
- www.instituteforsustainability.co.uk
Thank you