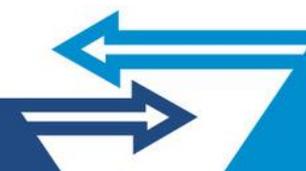# A new 'Gain-Sharing' business model to facilitate the physical internet via a competitive, collaborative logistics platform

Alix Vargas, PhD – Catapult Connected Places
Professor David Corne – Heriot Watt University
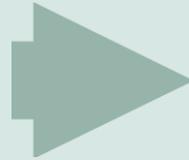
Consortium members

Freight facts

Empty Running[1] = 30%

Capacity Utilisation[1] = 68%

2/3 of the time is idle for trucks[2]

➤ Asset Efficiency = 15% - 16%

20% of all Km driven are by HGV and LCV[3]

➤ Congestion costs in UK £37billion[4]

Road transport accounted for 23% of the UK's CO_2 emissions in 2015[3]

[1] DfT (2016)   [2] Frost & Sullivan (2016)   [3] DfT(2017)   [4] INRIX (2017)

What is FreightShare Lab?

- Goal is to transform the way we move goods in the UK
- Technology to enable collaboration and sharing of assets
- Collaboration managed by a central authority or "Neutral Trustee"[5]
- The platform facilitates automation of administrative processes
- Gain sharing allocation for active members

[5] NexTRust

What is different from other platforms in the market?

FSL is a platform of platforms
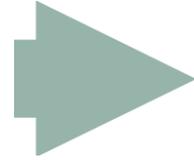
Horizontal collaboration and sharing of assets
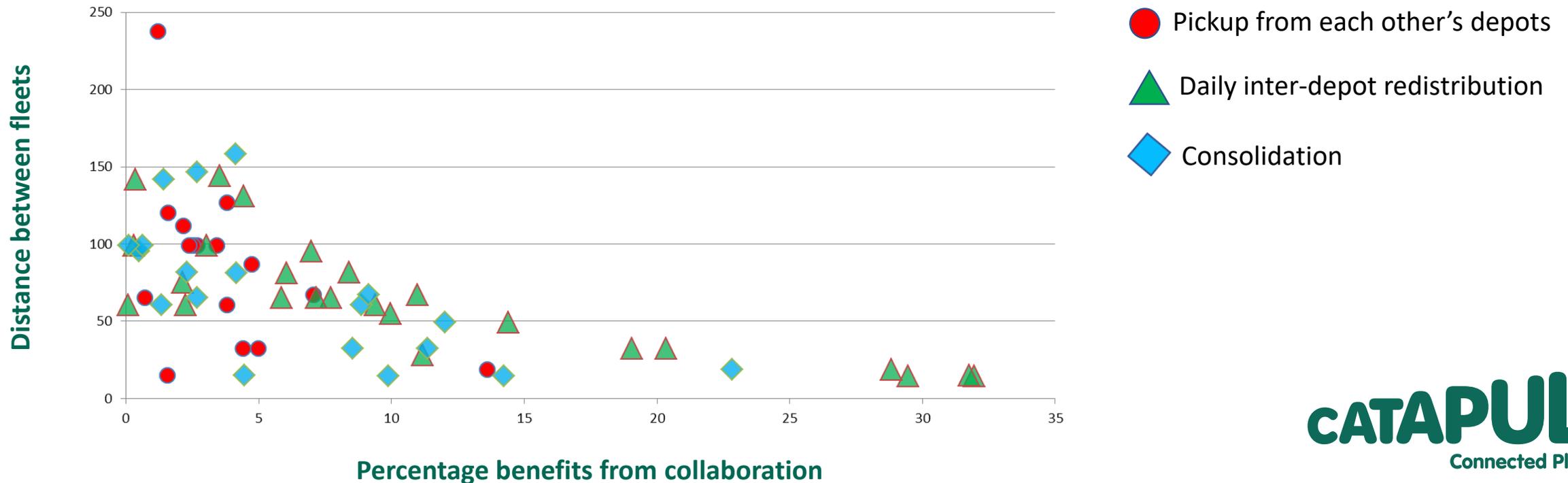
Extra revenue from collaboration

What is the underpinning research?

wbcsd Report in 2016:

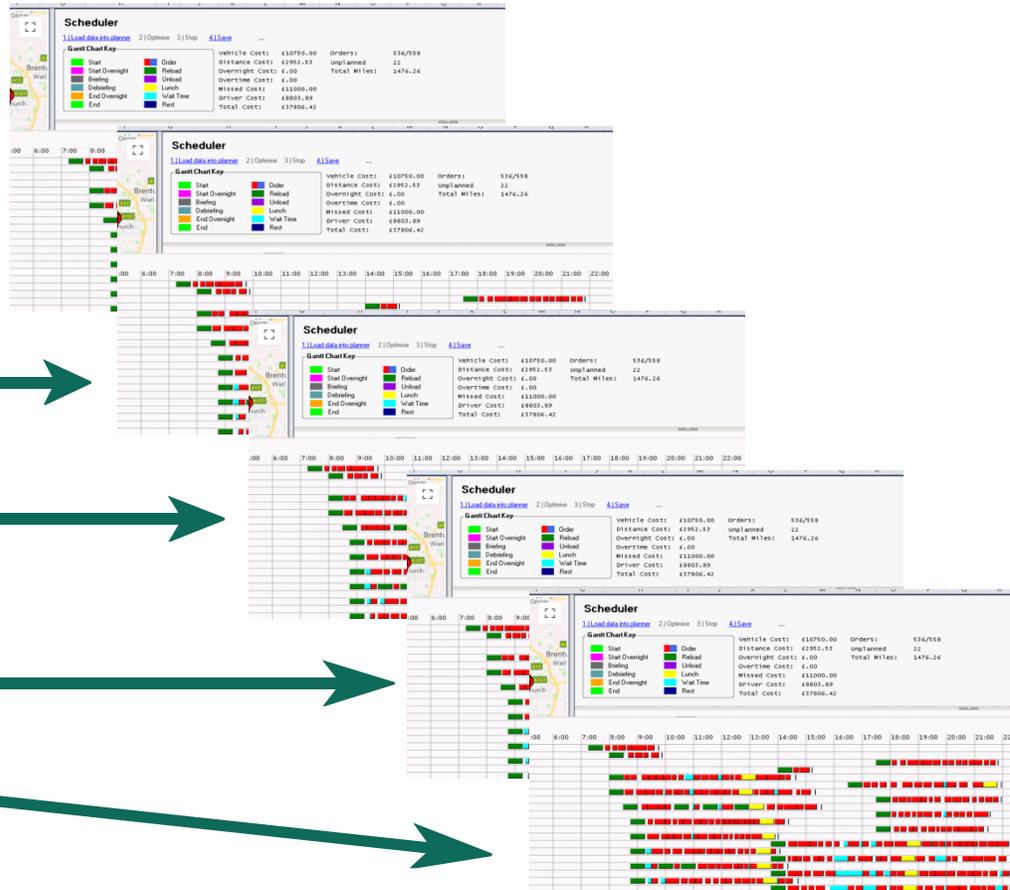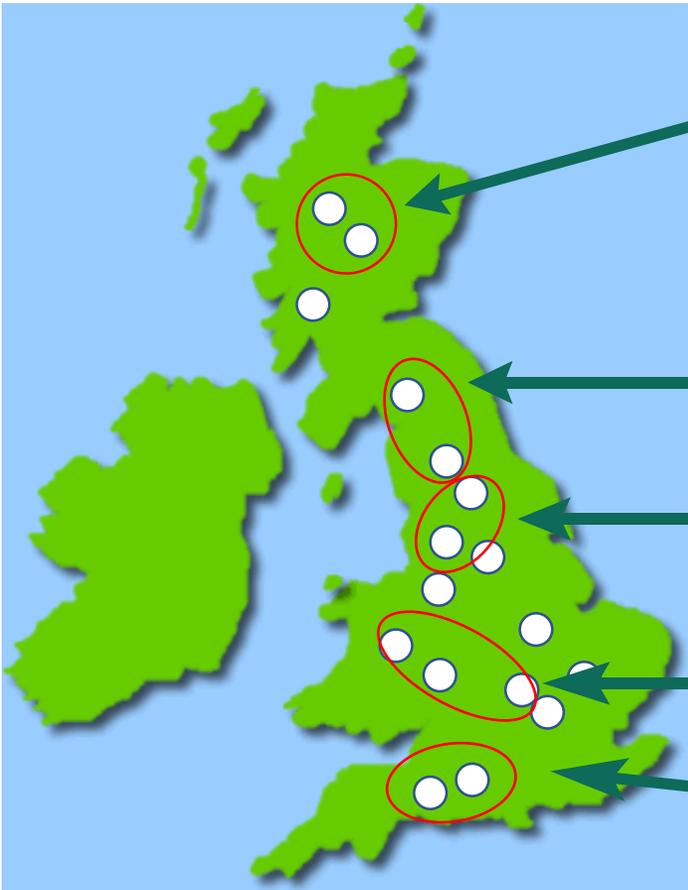Demonstrating the GHG reduction potential of asset sharing, asset optimisation and other measures

- **Modest asset sharing models can save 15% but only being used by 20% of operators**
- **Highly integrated vehicle and depot sharing can save 20% of cost but only used for 15% of commercial vehicle miles**

Legend:
- 🔴 Pickup from each other's depots
- 🔺 Daily inter-depot redistribution
- 🔷 Consolidation

Y-axis: Distance between fleets
X-axis: Percentage benefits from collaboration

CATAPULT
Connected Places

What are the algorithms?

Cluster based on specialised metrics

Solve each group with modified state of the art fleet planner

How does FSL work?

Business Model Proposal

1. Members negotiate and agree their terms and conditions, as well other algorithm inputs in advance.

Invitation

Test our virtualisation tool

And discover the benefits that you will obtain through FSL

Thank you

Alix.vargas@cp.catapult.org.uk

https://cp.catapult.org.uk/

D.W.Corne@hw.ac.uk

https://www.hw.ac.uk/