Combined Transport Interexchange Point
The Missing Link for Shifting Freight to Rail

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Ocado Technology (www.ocadotechnology.com) – UK, PL, ES, BG, SE
A division of Ocado Plc. - the world leading online grocery technology provider

Patented and patent pending solution for an automated ”switchyard” capable of 800 trailer or container movements between trains per hour

In-house expertise: AI-based Control System, High Fidelity Digtal Twinning, Flow Optimisation

Combined Transport Interexchange Point
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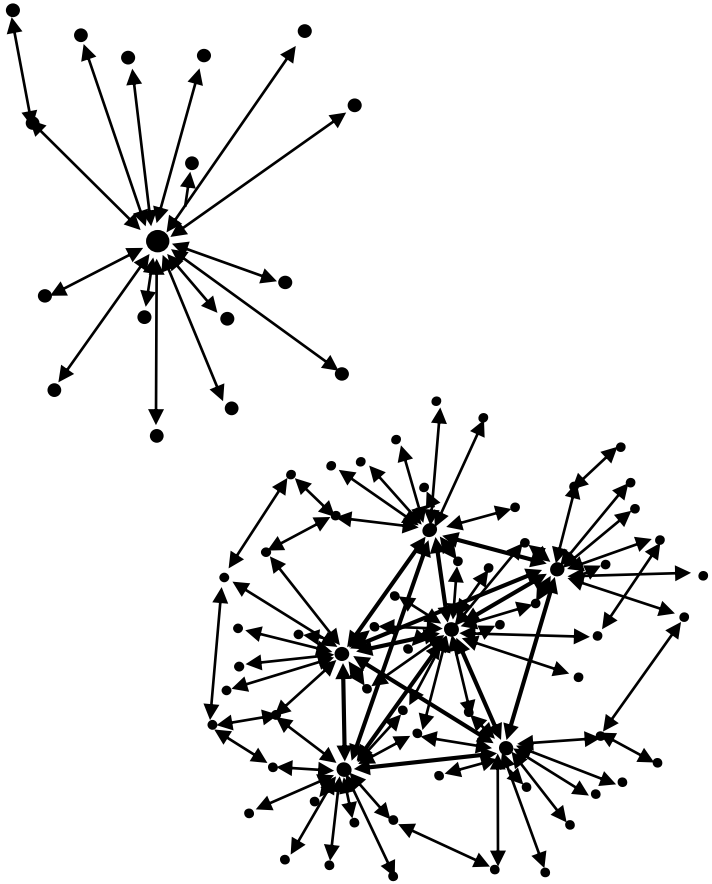
Combined transport really only works point to point at long distances.

What is needed is a way for trailers and containers to ”change trains” cheaply and quickly at interexchange points

Connecting ”everywhere to everywhere” requires just a few exchange points, and makes use of all existing terminals

The aim is to make road/rail combined transport viable in both cost and time terms from 300 km upwards, using mainly existing infrastructure

Ocado Technology believe we have the solution, but it needs further study and development



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Solution

A steel Grid over an existing switchyard
- Example: 20 tracks, 40 cars per train

Numerous Automatic Load Handlers, travelling X/Y on the Grid, moving trailers and containers between trains and to holding positions or road interface

Entire train re-loaded in 15 minutes

800 moves per hour, or more

Works with existing rolling stock

Would work even better with bespoke rolling stock

High speed freight trains on high speed track?

Ocado runs thousands of similar but smaller load handlers in commercial production

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Ocado patented and patent pending technology

Project idea

Phase 1 – Feasibility and Benefit analysis

- Conceptual design of Grid and Load Handlers
- Conceptual design of Freight cars with automated locking features
- Exchange point simulation based on conceptual design performance and real-world goods flow data
- Evaluation of cost/benefit of train speed and acceleration and its impact on slot availibility
- Analysis of ideal first locations and required infrastructure investment
- Benefit calculation, financial and environmental
- Identify any regulatory issues which may need to be resolved
- Firming up scope and deliverables for Phase 2

Estimated cost €1-2m

Phase 2 – Build a working demonstrator

Assuming a desireable outcome of Phase 1, the next phase could be:

- Select demonstrator site
- Design and build small Grid and 1-2 Load Handlers
- Design and build Freight car for automated securing of both trailers and containers
- Verify simulation parameters in the working demonstrator

Rough cost estimate €6-8m

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Partners sought

	Type	Skills	Roles
Ocado	Large company	Simulation, Control System	TBD
Crane technology	Large company and/or SME	Feasibility, cost and performance of Load handlers	
Rolling stock	Large company and/or SME	Feasibility, cost and performance of bespoke rolling stock	
Analysis	SME and/or Academic	Access to goods flow data, costs, regulations etc.	

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