**NAME OF CASE**

*Electric freight vehicle with trailers: Cargohopper in Utrecht*

**KeyWords:**

Innovative Vehicles and Equipment, Business-to-Business (B2B) solutions and cooperation, Last-mile Deliveries, Environmental Standards and Policy

**Description:**

Cargohopper is a dedicated inner city delivery service using clean freight vehicles in Utrecht, Netherlands. The service was introduced in 1996 in order to efficiently perform last mile operations for local businesses, especially for tourist venues, restaurants and catering facilities. Currently, an electric powered road train is running on the streets of Utrecht for parcels deliveries using the Cargohopper name. Other innovative vehicles are also used or under development as part of Cargohopper.

**Benefits:**

- More flexible deliveries
  - no two-tonnes axis load restriction
  - no time windows
  - no one-way traffic
- Reduced emissions (CO₂, NOₓ)
- Reduced traffic congestion
- Improved working conditions

**Starting Point/Objectives/Motivation:**

The objective of Cargohopper is to deliver goods with innovative, clean vehicles to preserve the historical centre, relieving the pressure on road traffic and road space. Due to the large demand for goods deliveries in the city centre of Utrecht, there was much use of conventional trucks and vans for last mile operations. In the 1990s the local authority decided to devise and encourage different urban distribution solutions to alleviate this road traffic; examples include an environmental zone, vehicle load restrictions etc. In addition, last mile operations were limited by the narrow streets of the medieval inner city centre.

As part of these innovative solutions Hoek Transport (a private transport company based in Utrecht) introduced a new vehicle (the Cargohopper) which was designed in accordance with the characteristics of the city and the urban distribution restrictions.

The Cargohopper solution performs last mile parcel deliveries from the Hoek distribution centre outside Utrecht to shops, companies and citizens in the centre, using a multi-trailer, 16-metre long but narrow road train. It is powered by a solar & battery-electric motor, and pneumatic tyres. Its three containers are in fact separate boxes that can be loaded on and off the undercarriages by a forklift.

The Cargohopper road train is a zero emission vehicle (3 solar panels on top of the vehicle) and is allowed in the inner city at any time and any place. It is also quite narrow: only 1.25 meters wide so when it stops to make a delivery in narrow streets, most of the other traffic is able to pass.

**Success Factors:**

- The practice shows that sustainable transport can be performed in a profitable way, without the need for major investment support
- The flexibility of the vehicle allows deliveries in narrow streets
- Environmentally friendly zero-emission solution

**Supported Strategic Targets:**

- Competitive logistics and transport system
- Increased company profitability
- Increased efficiency, productivity of logistics processes
- Increased safety
- Attractive city centre

---

*Note: This document is a part of the Seventh Framework Programme for research and development.*
The Cargohopper was operational four months after the decision of its deployment was made. The road train Cargohopper vehicle performs a critical last mile operation of city logistics: deliveries in narrow, emission-restricted environment. In addition, it provides two-way services: from and to the distribution centre. Finally, it can be used for publicity or promotion, because there is space on the sides of the vehicle for advertisements.

Due to its success, a second type of vehicle was developed as part of the Cargohopper label (pictured below), this is a clean truck that can accommodate pallets and roll containers (not only parcels) and that can be operated outside the inner city (with a range of 200 km and a maximum speed of 60 km per hour).

One important point for the transferability of the concept is that the original solution did not rely on public/government subsidies in the implementation and operation phase; the Municipality of Utrecht facilitated the project only in its conception phase.

The new truck concept was financed by the funds obtained from the 2009 Award for Urban Distribution. In addition, it is an energy- and cost-efficient solution. However, the vehicle has several technical limitations (in terms of cargo, maximum speed and maximum range) and is best suited to short distance, low speed operations. In the case of Utrecht, due to the fact that the City distribution centre was located 11 km outside the city, an extra transshipment point for Cargohopper was created.

More information:

Cargohopper
Rutherfordweg 101
3542 CN Utrecht
Telephone number: +31 (0)30 6778080
E-mail: info@cargohopper.nl

Main actors involved
- Hoek Transport
- Local Authority of Utrecht

Transport mode or supply chain elements:
- Road trucks and delivery vans

Picture: New 2013 Cargohopper truck vehicle

More Best Practice cases and information about BESTFACT can be found at: www.bestfact.net

BESTFACT 2013