**NAME OF CASE**

**The Green Link: last mile deliveries with electric cargo cycles and vans in Paris**

**KeyWords:**
Freight consolidation and transhipment; Implementation of low emission technologies; Innovative vehicles, vessels and equipment; Transport management, fleet management; Access rules and restrictions of urban areas; ICT (e.g. routing, guidance), transport optimisation; Business to customer (B2C) solutions

**Description:**
The Green Link (TGL) is a company making parcels deliveries in central Paris with an entire fleet of battery electric vehicles. The business is proving to be profitable. TGL started operations in 2009 and is now using 3 urban depots (green hubs) in Paris and trying to develop in other French cities and other countries. At the end of 2013, the volume of parcels distributed was 2,500 per day, and the business is expected to grow to a volume of about 5,000 parcels per day in 2014. The scale of growth is limited by the size of the current depots.

**Benefits:**
The main benefits are the improved environmental situation, with virtually zero tailpipe emissions, no air pollutants and much reduced noise emissions during transport operations. Thanks to its electric fleet, TGL delivers over 2,000 parcels daily and estimates it has avoided the emission of more than 400 tonnes of CO₂ and the consumption of 130,000 litres of diesel since its creation in 2009.

**Starting Point/Objectives/Motivation:**
Before subcontracting last mile deliveries to The Green Link (TGL), each client was either delivering the goods in central Paris themselves or using another ‘last mile subcontractor’. Diesel van fleets were operated from the client’s depots, located in suburban areas of Paris, far from the city centre. These transport operations used fossil fuels and generated emissions in the morning peak on the congested main access routes and on the round trip within the city centre. By using TLG’s operations these emission problems have been overcome. Organisation of the TGL logistics process is as follows. A first delivery of parcels arrive at the TLG depots between 07.00, and 09.30. These parcels are brought by truck and vans operating from the clients’ distribution centres, they are unloaded at the depot on pallets, before being sorted and loaded onto TLG’s clean vehicles.

The TLG fleet consists of 2 small electric vans and 28 electric cycles (see pictures below).

**Success Factors:**
- A good mix of flows (one flow of parcels arriving early for delivery in the morning, one around lunch and a third later in the afternoon) and an efficient management of the transport chain though the information system
- Managerial qualities of the owner and depot manager and excellent contacts to local businesses and decision makers.
- Availability of space in Central Paris.

**Supported Strategic Targets:**
- For public actors: employment
- For private actors: increase efficiency; image; increased quality of the delivery service.
- For both: Limited climate change, reduced emissions and noise.
In terms of physical transport infrastructure, TGL operates 3 depots and a fleet of electrically assisted cargo cycles and electric vans. The 3 depots, called ‘green hubs’, are located in the centre of Paris. The main depot size is 350 m², the two other depots are about 200m². Depots are supplied outside rush hours, either by TGL or by the clients, generally by trucks. One of these hubs is located on the Seine river side and can be supplied by waterway. The 28 cargo cycles are self-manufactured. The cargo cycles have a volume capacity of 1.5-2.1 m³, an empty weight of about 100 kg, a load weight capacity of 200 kg (max. 30 kg per parcel), a gross vehicle weight of 400 kg, a maximum speed of 25 km/h and a range of 20 km with a lithium battery.

The main cost of this activity is manpower and the rent of the depots. The cost of a new cargo cycles is 7000 €; with the maintenance costing approximately 10€ per working day. The other fixed costs are insurance, accounting, and management. The operation has been established with private financing. In 2013, TLG employed, on average, 60 drivers and staff. The business is proving profitable and the current growth prospects are good. A key barrier to growth are the limited availability and cost of suitable space for depots located in central areas of Paris. Help from the municipality with this issue would be desirable.

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Relevant supply chain elements
• Road transport
• local, centrally located logistics depot
• cargo cycle and clean vehicles for the last mile

Main actors involved
• Private company freight operator: The Green Link
• Clients: TNT, FedEx, etc.

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