LAMİLO
sustainable city logistics

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Customers
THEY TRUST US...
Executive Summary

- The Green Link (TGL) is a business of parcels deliveries and pick-ups in central Paris with a fleet of 100% battery electric vehicles;
- The Green Link started operations in 2009 and is now operating 3 urban delivery centres (green hubs) in Paris and is starting to develop in other towns and other countries;
- The company has more than 80 Green Messengers and recently acquired its cargo bikes supplier named Trikescity;
- End of 2013, the volume of parcels distributed was 2,500 per day, and the business is profitable on the market and expected to grow;
  - We work for companies for whom the last mile is becoming less efficient due to congestion, new regulations regarding the quality of air in cities, and evolution of the business with more B2C deliveries with a 35% growth per year;
  - Our solution is ecological and more efficient in city centre for parcels of less than 30 kg;
- The Green Link aims to become the Europe’s preferred and most successful supplier, both for businesses and local city authorities, for efficient and ecological city logistics;
The Green Link Analysis

Observations

- **Traditional Logistic Model**
  - High congestion in urban area
  - No pooling and low efficiency

- **Urban Goods Delivery**
  - 20% of urban transport (and resulting CO2 emissions) (1)

- **Communication**
  - Need for alternative models

Potential Solutions

- **Outsource the last mile activities through intra-city hubs (deliveries and collect)**

- **Shift to ZERO emission small vehicles (3 wheels electric bikes)**

- **Use an innovative communication tool**

Results

- Sustainable and profitable growth
- Value creation for all stakeholders (Municipalities, clients, suppliers, communities and shareholders)

(1) Source: Ademe
The Green Link Concept

1. Creation of an intra-city network of Hubs...
   - Located in the city instead of outside of it
   - Pooling of goods and flows
   - Refill of City Hubs is done very early morning

2. ...from which the Outbound “Last Mile” is exclusively performed with « Green » Vehicles...

3. ...carrying high impact Advertising for our partners contributing to their corporate social responsibility (optional)

- Objective to launch operations in the main European cities
- Pan-European expansion
The Green Link Concept

• The Green Link operates 3 Green Hub and a fleet of electrically assisted cargo bikes and electric vans;
• The 3 hubs are supplied outside rush hours either by truck and/or boat by us or by our customers;
• The parcels are consolidated in the hub before being optimized into rounds and being delivered exclusively with clean vehicles.
The Electric Feeders

By Pierre Delion
The Green Link Fleet

Performance

Real Operational Data

<table>
<thead>
<tr>
<th>Loading Capacity</th>
<th>2,3 m³ / 350 kg (max 30 kg/package)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Speed</td>
<td>25 km per hour</td>
</tr>
<tr>
<td>Autonomy</td>
<td>15 km (6 hours to reload) – <em>Pocket size lithium batteries with possibility to carry extra ones in the bike for replacement</em></td>
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</table>
Challenges & Solutions
Challenge No 1. Reduce CO₂ Emissions on last mile

The Green Link is offering an innovative approach to deliver parcels....

1. Creation of an intra-city network of Hubs
2. Pooling of goods and flows / Bundling
3. Use of assisted Electric Cargo Bikes
4. Innovative & Collaborative approach from Leaders
Challenges & Solutions

Challenge No 2. Reducing not-at-home B2C delivery failures

B2C Delivery Failures

- **16% reduction**

Before | After
--- | ---
20% | 15%
15% | 10%
10% | 5%
5% | 0%

The Green Link is offering additional services...

1. Deliveries: before 8 AM, after 6 PM
2. Send an SMS 60 minutes before coming
3. Deposit Point in one of our Green Hub

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urban mobility solutions
Challenges & Solutions
Challenge No 3. Reduce the cost of distribution

Distribution Cost

The last mile is more efficient by passing through intra-city hub and use cargo bikes...

1. **Tour Optimization** (Minimizing Distances of Tours / Taking into account the specificities for bikes / Minimum stops per round in order to be profitable)

2. Use of bike lanes, and bus lanes – no traffic

3. No additional charges for gasoil, CO2 taxes, congestion charges,…(related to future policies)

4. Combining delivery and pick-up

5. Multi-client deliveries
The Information System

TOUR OPTIMISATION

Parameters:

- Minimizing Distances of Tours
- Taking into account the specificities for bikes
- Maximum duration per round
- Minimum stops per round in order to be profitable

Early warning file

Tour Optimisation

Dispatch

Proof of Delivery

Real Time Information

Reporting Business

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The Information System

MOBILE APPLICATION

(1) Early warning file
(2) Routes Optimisation
(3) Dispatch
(4) Proof of Delivery
(5) Real Time Information
(6) Reporting Business
The Information System

REAL TIME INFORMATION

1. Early warning file
2. Routes Optimisation
3. Dispatch
4. Proof of Delivery
5. Real Time Information
6. Reporting Business

Livraison

Colis de Michel Dupont

13/16/0

06/12/2013
Tournée Nespresso Matin

Destinataire
Philippe Leprevost
Cyrille DAVY
Samuel H
Margaux Bertin
Christophe Harrer

Apporteur
Nespresso
Nespresso
Nespresso
Nespresso
Nespresso

Statut
DELIVERED
DELIVERED
DELIVERED
DELIVERED
DELIVERED

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Story Board
1 - FEEDERING

1. TNT Truck 1 leaves their Sorting Center at 5:30am

2. Truck arrives at The Green Link city hub at 7am

3. Unloading and unwrapping of pallets

4. Dispatching per rounds starts immediately
Bikers arrive at 7:45 am for warm up

Sorting per round is finalized with the help of the IT system and the dispatcher

Bikers scan and load the parcels in the sequencing order prepared by the dispatcher
Story Board

4 - LOADING AND GO!

Biker rigorously loads his bike (2 cubic meter)......Reverse order of delivery (LIFO Method) and then GO!

1st Delivery takes place 15 minutes later

1st Client is successfully delivered and signs the Proof of delivery
Next Steps
THE GREEN LINK DEVELOPMENT PLAN

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<tbody>
<tr>
<td>Develop network of intra-city hub network</td>
<td>Multiply number of hubs, explore new geographies</td>
<td>Saturate existing cities, launch other geographies if applicable</td>
</tr>
<tr>
<td>Operate single and multi-client recurrent delivery rounds with light and clean vehicles. Launch pick-up rounds</td>
<td>Test multi-client recurrent delivery rounds, combine with pick-up rounds, negotiate security and quality requirements</td>
<td>Roll out of multi-client recurrent delivery rounds, test multi-sector feasibility, launch combined rounds</td>
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<tr>
<td>Develop software and other tools</td>
<td>Further build European network</td>
<td>Include client service level tool</td>
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<tr>
<td>Optimize tools, best practices</td>
<td>Develop pool of expertise, share best practices across network</td>
<td>Standardize and optimize network</td>
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<td>Develop European Network</td>
<td>Initiate early contacts with municipalities to build pooling centers outside city</td>
<td>Start building of dedicated facilities</td>
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<tr>
<td>Develop consulting approach to...</td>
<td>...Consolidate partnerships with clients, municipalities (real estate) and financial community</td>
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For further information, please contact:
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