



factsheet

Last mile urban deliveries
with cargo cycles



**Wuppertal
Institut**

UN HABITAT
FOR A BETTER URBAN FUTURE



This paper was prepared by:
SOLUTIONS project
This project was funded by the Seventh
Framework Programme (FP7) of the European
Commission

www.uemi.net

The graphic design was prepared by Barbara Lah

Berlin, 2017

UEMI Secretariat

www.uemi.net
secretariat@uemi.net

Oliver Lah
+49 (0)30 2887458-16

Solutions project

UEMI SOLUTIONS

Supported by



The project has received funding from the European Union's Seventh Framework Programme and Horizon 2020 under the grant agreements no 604714 (SOLUTIONS) and no 723970 (FUTURE RADAR)

Urban Electric Mobility Initiative (UEMI) was initiated by UN-Habitat and the SOLUTIONS project and launched at the UN Climate Summit in September 2014 in New York.

UEMI aims to help phasing out conventionally fueled vehicles and increase the share of electric vehicles (2-,3- and 4-wheelers) in the total volume of individual motorized transport in cities to at least 30% by 2030. The UEMI is an active partnership that aims to track international action in the area of electric mobility and initiates local actions. The UEMI delivers tools and guidelines, generates synergies between e-mobility programmes and supports local implementation actions in Africa, Asia, Europe and Latin America.

SOLUTIONS aims to support the exchange on innovative and green urban mobility solutions between cities from Europe, Africa, Asia and Latin America. The network builds on the SOLUTIONS project and brings together a wealth of experience and technical knowledge from international organisations, consultants, cities, and experts involved in transport issues and solutions.

The overall objective is to make a substantial contribution to the uptake of innovative and green urban mobility solutions across the world by facilitating dialogue and exchange, promoting successful policy, providing guidance and tailored advice to city officials, fostering future cooperation on research, development and innovation.

SOLUTIONS_UEMI supports urban mobility implementation actions that contribute to the Paris Agreement and the New Urban Agenda.

Sustainable energy and mobility can make positive contributions to a number of policy objectives, nationally and locally. In particular in cities there is a great potential to create synergies between for example safety, air quality, productivity, access and climate change mitigation. A UEMI resource centre will provide opportunities for direct collaboration on projects focusing on sustainable urban mobility and the role e-mobility can play in it. The UEMI will pool expertise, facilitate exchange and initiate implementation oriented actions.

UN-Habitat, the Wuppertal Institute & Climate Action Implementation Facility jointly host the resource centre for the Urban Electric Mobility Initiative, aiming to bridge the gap between urban energy and transport and boosting sustainable transport and urban e-mobility.

UEMI

Solutions

Aims

In brief	5
Examples/Measures	6
Results	7
Financial considerations	7
Technical considerations	8
Transferability	9
Case Study: The Green Link - Paris	10
In action	11
Results	12

Table of Content



In many cities with severe congestion, trucks and vans struggle to deliver goods into city centres. Using bicycles to deliver small packages and mail and tricycles for heavier goods can be a solution. Electric motors often assist these cargo-cycles, which ride on normal roads, bike lanes and if local regulations allow even in pedestrian areas.

In brief



Examples

Small cargo-cycle companies are emerging in many countries. Some companies have environmental and social objectives and work with public subsidies. Their main objective is to cut emissions and employ young and socially excluded people. For others, efficiency is the key objective, with cargo-cycles providing an opportunity to avoid congestion and use routes that vans cannot.

Services provided by cargo-cycle companies range from distributing parcels to delivering goods from large stores to homes. Some companies replace diesel vans that make direct deliveries from a suburban depot, and instead take goods to a small consolidation centre before dispatching them to the final customer with a fleet of electric cargo-cycles.

Examples Measures



Results

Cargo-cycles have clear environmental advantages: they cut pollution, greenhouse gas emissions and noise; improve safety; and sometimes ease congestion. There is also a benefit to the local economy as cargo-cycle companies create jobs. Cargo-cycles can go where small vans and other light-commercial vehicles cannot, such as city centres reserved for pedestrians and tourist areas, and into other areas where diesel vans are restricted.

In Copacabana, Rio de Janeiro (Brazil) the Associação Transporte Ativo (Active Transport Association) assessed the activity of the many cargo-cycle operators and concluded that they make a positive contribution to the creation of local jobs.

Cargo-cycles need to have access to the road network, and bus and bicycle lanes to operate effectively. The use of cargo-cycles generally requires one or several depots in the city centre for transferring goods from larger trucks from where the cargo cycles then take over the last mile of distribution. However, these terminals can be relatively costly and distribution requires logistical planning.

Results

Financial Considerations



From a technical perspective, use of electric propulsion or support technologies involves issues related to the battery, such as chemical (aqueous sulphuric acid), the risk of the release of hydrogen during loading, and manual handling and institutions. For example, in San Sebastian (Spain), cargo-cycle company Txita and the municipality cooperated with an institute of logistics, a university, and the city's public transport managing authority to set up and manage an initiative, which included a freight consolidation centre and clean vehicles for last-mile distribution.

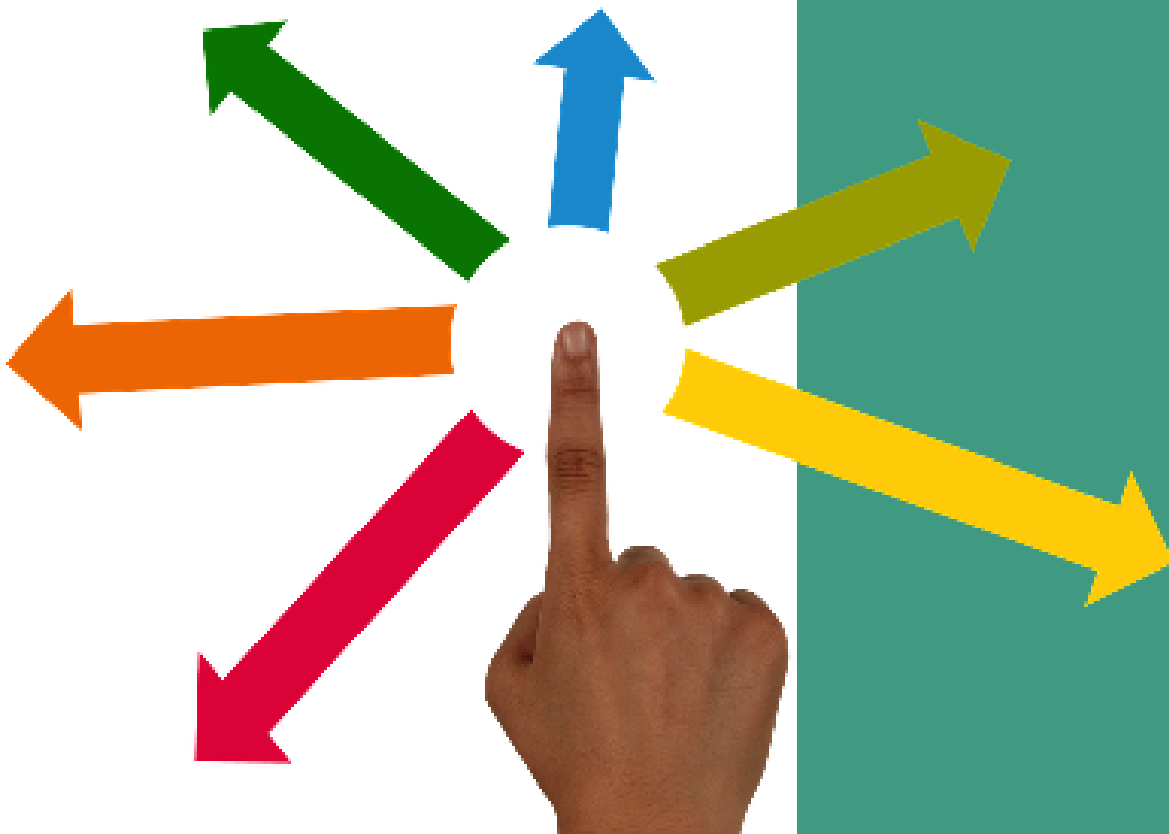
Technical Considerations



Transferability

Many cities in Europe and around the world have been using cargo-cycles. As last-mile delivery vehicles, they are especially effective in dense and congested major city centres. Several cargo-cycle companies are planning to develop their activity in other cities. For example, La Petite Reine in Paris (France) has already exported its tricycles and Txita has already established its service in other Spanish cities, such as VanaPedal in Barcelona.

Transferability



Context

The Green Link (TGL), established in 2009, is a company that delivers parcels in central Paris using a fleet of battery-electric vehicles. Before subcontracting last-mile deliveries to TGL, clients were either delivering the goods in central Paris themselves or using a different subcontractor which used diesel vans from the client's depots, located in suburban areas and which had to travel on congested main access routes and on the delivery round trip within the city centre.

Case Study: The Green Link PARIS



In action

TGL operates three depots in Paris which are supplied outside rush hours either by truck and/or boat by TGL or by its customers. The parcels are consolidated in the hubs before being delivered by clean vehicles. The first parcels arrive at the depots early in the morning, between 07.00 and 09.30, brought in by trucks and vans belonging to the clients. The parcels are unloaded, sorted and then loaded onto TGL's clean vehicles. The TGL fleet consists of two small electric vans and 28 electric cycles. Some 60 part- and full-time drivers deliver the goods. Most deliveries start in the morning at around 09.00 and end in the early afternoon, usually before 15.00. A few evening rounds collect the parcels.

During the deliveries, TGL sends real-time information on the status of their orders to the clients. The main costs are on staff and renting the depots. New cargo cycles cost €7,000, while maintenance amounts to approx. €10 per working day. Other fixed costs include insurance, accounting and management.

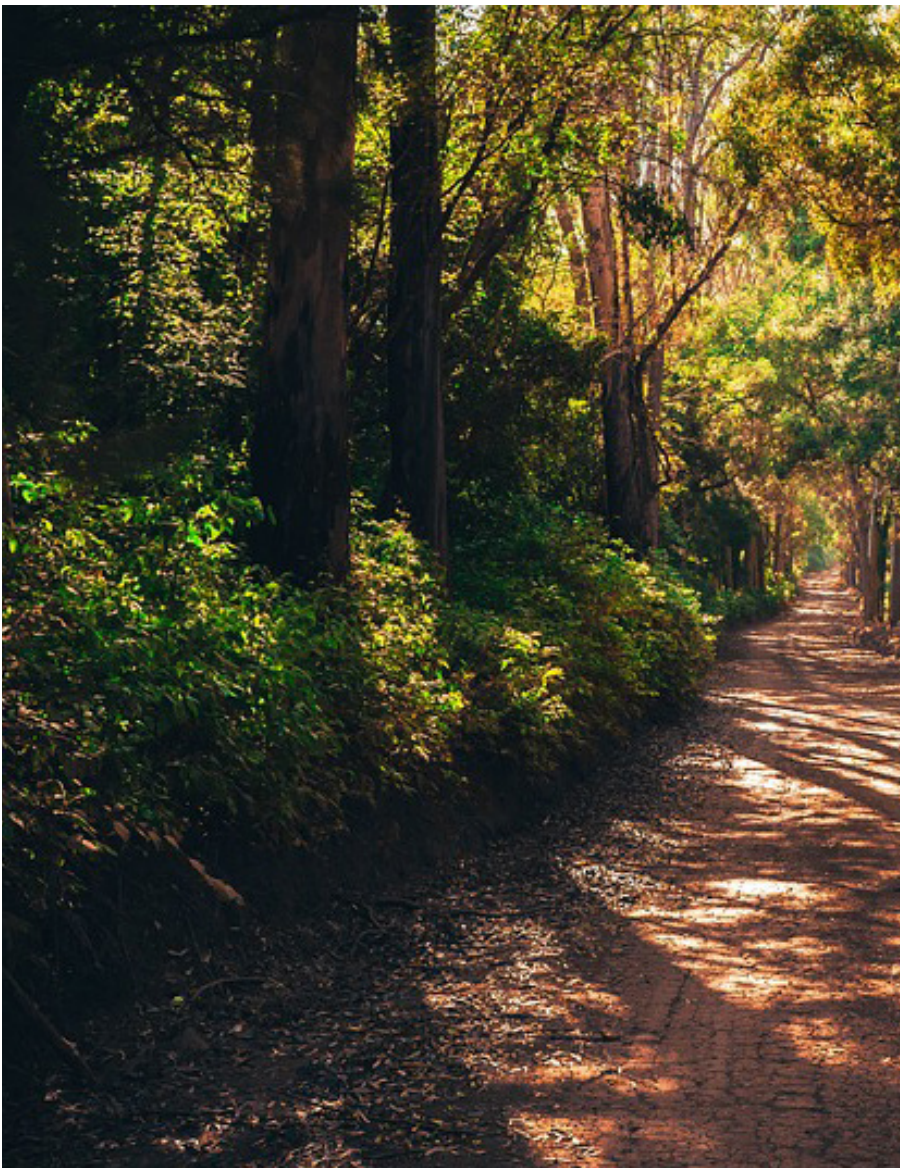
In action



Results

At the end of 2013, TGL delivered 2,500 parcels per day. Its environmental profile (with virtually zero tail-pipe emissions) and the fact that it emits no air pollutants and produces little noise during deliveries are positive. Thanks to its electric fleet, TGL delivers over 2,000 parcels daily and estimates that it has avoided emitting over 100 tonnes of CO₂ and consuming of 30,000 litres of diesel a year. A key barrier to growth is the limited availability and cost of suitable depot space in central Paris – something with which the municipality could help. The company's turnover has slightly decreased between 2014 and 2015 (down by 6%) after 5 years of growth, and the business is not yet profitable.

Results





www.uemi.net



More Information

Implementing
Partners

Supported by



The project has received funding from the European Union's Seventh Framework Programme and Horizon 2020 under the grant agreements no 604714 (SOLUTIONS) and no 723970 (FUTURE RADAR)