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TABLE OF CONTENTS

1. PLAN OF ACTIVITIES FOR THE INTRODUCTION OF THE E-LIGHT VEHICLE RENTAL SYSTEM..... 5

1.1. Introduction..... 5

1.2. Activities that can be implemented and the number of planned e-light vehicles 7

1.3. Key participants in the preparation and implementation of the LEV system 9

1.4. Promotional activities and education..... 11

1.5. Timeline for the implementation of the e-light vehicle sharing system for vehicles..... 14

1.6. Conclusions 15



1. PLAN OF ACTIVITIES FOR THE INTRODUCTION OF THE E-LIGHT VEHICLE RENTAL SYSTEM

1.1. Introduction

The city of Lisbon has been playing an important role in the adoption of green mobility solutions through its commitment and determination in investments in electric mobility, namely in the municipality fleet, sustainable mobility actions, participation in several studies and association to initiatives for the promotion of clean and more efficient electric transport.

The Light Vehicles fleet in Lisbon was estimated to be around 73 thousand units, in 2012, according to the most recent data available from ACAP, the National Association of Vehicle Retailers and Wholesalers. There are no official data referring to the existing fleet of LEV (Light Electric Vehicles), but informal estimates suggest that electric vehicles will represent less than 2% of total motorcycles and quadricycles, in the Lisbon District.

On the other hand, there are currently about 500 electric charging stations in Lisbon and a total of 700 stations is foreseen, in the future, in the scope of the MOBI.E network.

On the MOBI.E website (www.mobie.pt) the drivers can search for the location of all the e-stations, through an interactive map that contains all the relevant characteristics of each station.

The major barrier to the sustainability of the charging network results from the potential number of users (both 4 wheeled and 2 wheeled electric vehicles). Considering that electric mobility is not (at least so far) a mainstream option, the economic and financial sustainability of the model will be at risk if the number of users is too low.

As far as scooter sharing systems are concerned Lisbon doesn't have any. In terms of sharing systems, the Municipality launched a tender for third generation bicycles, in 2008. During the negotiation process only one bidder (JCDecaux) remained but due to budget unavailability the tender did not come to an end. An international tender for a sharing system with 1400 bicycles and 140 stations was just launched, being expected that it becomes operational in the summer of 2016.

Taking into consideration the pros and cons (including the experience of pilot cities in Ele.C.tra project), we can conclude that Lisbon is not prepared to implement an electric scooter sharing system. The main reasons are:

- ✓ Car drivers are not yet accustomed to have 2 wheels in the traffic. It is a matter of culture, civic, or other psychologic issues but 2 wheels drivers do not feel safe in the traffic mix.
- ✓ The city pavement and the tram tracks make 2 wheels driving unsafe, especially for people that are not used to drive in the city.



- ✓ Citizens are not familiar with sharing systems. Considering that the Lisbon Municipality is launching a bid for a public sharing system of e-bikes it is wiser to wait and understand the impact of the system before implementing an e-scooter sharing system.

Nevertheless, the analysis conducted in the scope of the feasibility study (D6.5) suggests that a renting system for LEV (with a focus on electric quadricycles) will benefit from better feasibility conditions compared to sharing solutions.

e-Sharing Solutions versus e-Renting Solutions

System Characteristics	e-Sharing		e-Renting	
	2 wheels	Quadricycles	2 wheels	Quadricycles
Degree of 2 wheels driver's habituation	✗	✓	✗	✓
% of 2 Wheels Owners	=	=	=	=
Short Trips	=	=	=	=
Purchasing Power	=	=	=	=
Sharing System Familiarity	✗	✗	✓	✓
Current Level of Congestion	✓	✗	✓	✗
City Slope	=	=	=	=
Drivers' Civic Behaviour	✗	✓	✗	✓
Public Security	=	=	=	=
Mild temperature	=	=	=	=
Rainy days	✗	✓	✗	✓
Investment effort	✗	✗	✓	✓
Opportunity	✗	✗	✓	✓
Global appreciation	--	-	+	++

Considering that Lisbon has seen a significant increase of tourists in the last two years, appropriate solutions based on renting of LEV for independent tourist trips could be considered the first target of the system. A second important target are the non-systematic resident trips, with a focus on younger citizens that do not own a private car.

System Characteristics versus main Target Groups



System Characteristics	Residents	Tourists
Degree of 2 wheels driver's habituation	✗	✓
% of 2 Wheels Owners	=	=
Short Trips	=	=
Purchasing Power	✗	✓
Sharing System Familiarity	✗	✓
Current Level of Congestion	=	=
City Slope	=	=
Drivers' Civic Behaviour	✓	✗
Public Security	=	=
Mild temperature	=	=
Rainy days	=	=
Investment effort	=	=
Opportunity	✗	✓
Global appreciation	-	+

1.2. Activities that can be implemented and the number of planned e-light vehicles

The activities that should be implemented are summarised hereafter, involving multi steps and fronts:

ACTIVITY 1: Selection of the Location of the Main Office

- ✓ For this kind of business, the office and storage/parking area have to be located in a strategic place. Taking into consideration the major target group, it has to be set in a touristic place (in order of preference: Downtown, Belém or Park of Nations);

ACTIVITY 2: Business Information and Partnerships

- ✓ In order to strengthen the system development, it is crucial to inform and motivate all potential stakeholders, trying to build a business network. In this scope, the increasing number of tourism cruise vessels arriving at Lisbon harbour, suggests that it will be very important that those cruise tourists might have the opportunity of pre-booking on the Internet, in order that the vehicles are available on the harbour at the ships' arrival.

- There are several tourism agencies that can promote the rental service to their clients, on the basis of pre-arranged benefits (publicity on the vehicles and/or website, raising fees, defined as a percentage of the renting revenue, etc.)
- Places to visit with electric free charging columns in their vicinity could be added to the tourist route, as a suggestion to the rental clients (restaurants, monuments, etc.)
- The e-renting system should be promoted on the Internet through several channels (e.g. company website, social networks), including the Electra project app.

ACTIVITY 3: Investment on the fleet (20 vehicles)

- The most important component of the business investment refers to the fleet. It would be very important to identify financing solutions for this investment, namely European/national co-funding through programmes supporting sustainable mobility, or sponsors interested in advertisements in the cars.
- For the proposed system, a fleet of 20 Renault Twizy (or equivalent vehicles) was considered, with an autonomy of 100 km. The unit price is about 7200€ (considering a commercial discount of 10%), plus a monthly additional operational cost for battery rental of 50€.

ACTIVITY 4: Business promotion

- The business sustainability depends on good promotion solutions of the system and its benefits. Lisbon Municipality is very committed with electric mobility and people are aware of the pollution problems. The appealing design of the vehicles and their zero emission standards should contribute for mainstreaming the system and the company should be promoted as an environmentally responsible business.
- Internet should be one of the most important promotional channels, but the company offices should have a store front impact, in order to hold the attention of potential clients;
- Information sessions in schools and universities should be organised to draw the attention to the electric mobility benefits, including test drives to give people the opportunity to drive an electric car.
- Development of promotional campaigns with offers/discounts for a ride in off-peak hours should also be considered.

ACTIVITY 5: Guarantee the sustainability of the system



- The company should participate in Electric Vehicles Associations (both associations of users and vehicle retailers) to contribute to guarantee the operability of the charging network and to support boosting of electric mobility (financial incentives, toll free, BUS corridor access, free parking restrict areas in the city, among others);
- The company should be aware of European and Portuguese supporting programmes for sustainable mobility, in order to benefit from possible incentives for the system, namely for fleet renewal.

1.3. Key participants in the preparation and implementation of the LEV system

The key participants in the LEV system and in the promotion of the new business are very important to contribute for the success of the system implementation:

Business

- Lisbon Mobility Agency (EMEL);
- Renault, Nissan, Zeev, Zevtech and Ecocritério (e-vehicles manufacturers and/or retailers);
- Mobi.E (Charging network manager);
- Galp and Prio.E (Charging stations operators);
- EDP (Energy provider and charging stations operator);
- Efacec, Magnum Cap and Siemens (Charging Stations Developers and sellers);
- Veículos Eléctricos Magazine (media);

Demand

- Directorate-General for Cultural Heritage (responsible for the management of major tourism attractions - monuments and museums) on the river front (Downtown and Belém);
- Incoming tourism agencies;
- Cruisers operators;
- Universities (Lisbon University, Nova University, Polytechnic Institute of Lisbon, ISCTE/IUL – Lisbon, Lisbon Catholic University)
- Commercial Areas
- Hotels and Restaurants

Institutional

- Lisbon Municipality (mobility, urban planning and environmental departments)
- Lisbon Tourism Association (ATL)
- Portuguese Electric Users Association
- Portuguese Electric Vehicles Association

The new rent-a-LEV business should be able to make the convergence of the three specific stakeholders' categories interests that are:

Business Stakeholders

- Sell their products and services for implementation and operation of the Rent-a-LEV system;
- Widening their penetration levels in the market;
- Managing and controlling mobility in the city;
- Taking part on the change of mentalities;
- Opportunity for networking among different business contributing to achieve synergies;
- Taking part in building the future.

Demand Stakeholders

- Solve their mobility issues in a green way;
- Increase accessibility levels by enhancing mobility efficiency;
- Increase the number of tourists;
- Marketing actions taking into consideration the fashion of “being electric”;
- Adding one sustainable solution for city trips to be proposed to their clients (tourism agencies and cruisers operators);
- Using electric mobility campaigns to promote their own businesses;
- Taking part in building the future.

Institutional Stakeholders

- Increasing social responsibility;
- Contributing to reduce oil dependency;
- Increase quality of life of citizens;
- Support new technology application in mobility issues,
- Taking part in building the future.

1.4. Promotional activities and education

Target group selection

As described in the previous sections, the target groups are: i) tourists; ii) young local residents, with a focus on students.

In one hand, we have to understand that electric mobility is associated to a different way to drive and to think about mobility. Changing mentalities has to be done on a long term perspective. In this line, education and promotional school activities should be carried on, to achieve a structural change.

On the other hand, it is also necessary to understand that electric mobility is technologically advanced and new for the majority of people; therefore the target publics are primarily (young) adults more prone to new technologies (early adopters).

In the case of the rent-a-LEV proposed in the current action plan, the major focus is on tourists and young local adults/students. Nevertheless, on a second step, the business could expand to other type of services, such as delivery services, especially on the winter period.

Competitive positioning and differentiation attributes

The competitive positioning of the rent-a-LEV business should be based on the following differentiation attributes:

- ✓ Advantages of green mobility – zero emissions resulting in eco-friendly trips;
- ✓ Cost-effectiveness for users, compared to renting of conventional (non-electric) vehicles, including zero cost for charging;
- ✓ Convenience and comfort – easy to drive, easy to park, easy to charge (considering the extensive charging network available in Lisbon).

Marketing Mix Strategy

Product/Service – rental of electric light vehicles



The product/service proposed is the rental of LEV, with a focus on quadricycles, providing green and efficient mobility solutions.

Considering that tourists are the most important target group of the service, the vehicles will be provided with predefined touristic routes supported by GPS guidance, to help drivers to easily reach the most important Lisbon landmarks and other tourism facilities (e.g. hotels, restaurants).

Price

Pricing policy should be based on a competitive offer compared to conventional renting solutions. That is to say that the rental of LEV should be less expensive than the offer of non-electric equivalent vehicles (2 or 4 wheeled).

Place (Distribution)

The selection of the distribution channels (i.e. the range of actors that will bring together the e-rental demand and supply) is extremely important to guarantee that the target segments are successfully reached.

The distribution strategy should be based in direct selling (offices of the rent-a-LEV business), combined with indirect selling through a network of associated partners (e.g. travel agencies, tourism operators, cruise operators, hotels, hostels, students associations), on the basis of raising fees, or other suitable collaboration agreements.

For instance, collaboration agreements including cross selling solutions between the rent-a-LEV business and selected stakeholders can be envisaged. The example of restaurants may illustrate this option. A given restaurant in the vicinity of a charging point is included in a touristic rout available in the vehicles. The clients of the rental service are entitled to a discount of 10% when having meals in the restaurant. On the other hand, the clients of the restaurant can benefit from a promotional discount when renting an e-vehicle.

Finally, it must be stressed that distribution solutions through the Internet are crucial for the successful placement of the service, as described before.

Promotion

Designing and implementing a cost-effective communicational mix to promote the rent-a-LEV services will require to combine an appropriate online and offline promotional mix, which can include advertising, public relations and any other forms of communication to reach the target consumers. These techniques are usually organised in two different categories – *above and below the line*.

Above the line (ATL) promotion can include, for instance, publicity on press, radio, television, Internet or poster campaigns. These options tend however to be rather expensive.

The Electra project was very useful to connect companies and general public through the National Supporting Group, which can have a crucial role backing up the promotion of the e-rental business.



It will be important to have the support of the local administration (Lisbon Municipality), as well as to promote the rent-a-LEV service through publicity in general media and specialised media (electric mobility and tourism). These stakeholders (e.g. Lisbon Municipality, Regional Authority for Tourism in Lisbon and Tagus Valley, Publication “Veículos Eléctricos”) are represented in the NSG.

As mentioned before, Internet should be one of the most important promotional tools, including several solutions, in particular an appealing website of the company, pages on social networks, online advertising, and last, but not least, the Electra project app.

Below the line promotion (BTL) covers more focused activities such as participation in tourism fairs and similar events, public relations, tailored email campaigns, organisation of press trips and workshops.

In this scope, promotion actions targeting students associations should also be done, including LEV exhibitions and test driving, taking into consideration that younger people are more open to change and to adopt new mobility solutions.



1.5. Timeline for the implementation of the e-light vehicle sharing system for vehicles

GANTT CHART OF ACTIVITIES		1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	
ACTIVITY 1: Selection of the Location of the Main Office																										
	Obtain licenses and permits.																									
	Space remodelation																									
ACTIVITY 2: Business Information and Partnerships																										
	Build the website																									
	Specific meetings with institutional stakeholders (Municipality, Lisbon Mobility Agency, etc.)																									
	Specific meetings with media (internet, magazines, tv and other information channels)																									
	Specific meetings with potential sponsors (publicity on the vehicles or site, percentage of the total amount, etc.)																									
	specific meetings with tourism Associations, travel agencies, cruisers companies, pre-booking agencies (agreements)																									
	specific meetings with potential stakeholders for a e-tourist route (restaurants, monuments, etc.)																									
	specific meetings with others users and associations (Universities, EV Associations)																									
	Official kick-off meeting in order to present the Rent-a-LEV system and the site																									
ACTIVITY 3: Investment on the fleet (5+15 vehicles)																										
	Finding Financing (own capital, european and national projects, publicity, partnership)																									
	Investment in 5 Light Electric Vehicles																									
	Testing business model (prices, cars, booking, web-site); Evaluation																									
	Business reformulation, site improvement, increase contacts																									
	Investment in more 15 Light Electric Vehicles																									
ACTIVITY 4: Start of commercial activity. Business promotion																										
	Kick-off of commercial activity																									
	Promotional activities taking advantage of green business fashion, vehicle design, users feedback;																									
	Information sessions on schools, universities, including test drives																									
	Develop promotional campaigns with offers/discounts for a ride in off-peak hours.																									
ACTIVITY 5: Guarantee the sustainability of the system																										
	Monitoring the service in order to make necessary adjustments																									
	Be active part of Electric Associations (users and vehicles); regular meetings with them																									

1.6. Conclusions

The proposed approach based on a renting system for LEV is deemed to be the best option to promote e-mobility solutions in Lisbon, capitalising the experiences and lessons learnt from the Ele.C.Tra model.

Taking into consideration the pros and cons (including the experience of pilot cities in Ele.C.tra project), we can conclude that Lisbon is not prepared to implement an electric scooter sharing system. The main reasons are:

- ✓ Car drivers are not yet accustomed to have 2 wheels in the traffic. It is a matter of culture, civic, or other psychologic issues but 2 wheels drivers do not feel safe in the traffic mix.
- ✓ The city pavement and the tram tracks make 2 wheels driving unsafe, especially for people that are not used to drive in the city.
- ✓ Citizens are not familiar with sharing systems. Considering that the Lisbon Municipality is launching a bid for a public sharing system of e-bikes it is wiser to wait and understand the impact of the system before implementing an e-scooter sharing system.

The Electra project was very useful to connect companies and general public through the National Supporting Group, which can have a crucial role backing up the promotion of the e-rental business.

The target groups defined and the results of the feasibility study suggest that the implementation of a rent-a-LEV business could be sustainable and therefore interesting to attract the attention of potential entrepreneurs.

Critical issues to ensure the success of the business relate, in particular, to the following aspects:

- ✓ Adequate positioning of the offer, supported on differentiation attributes based on responsible green mobility, cost-effectiveness, comfort and convenience for users;
- ✓ Creation of a reliable network of partners, jointly engaged in the promotion and distribution of the e-rental services.
- ✓ Focus on efficient promotion (with positive client testimonials) in order to maintain the companies on the media.

