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Abstract:

This deliverable has the objectives to compare the results obtained in the framework of the experimentations in Genoa, Florence and Barcelona with the goals planned in order to outline solutions that could be taken for future transferability of the model also in other European cities.

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1. Introduction

The model calibration of EleCTra project, highlighted in this deliverable, includes two tasks:

- **city pilot parameter check**, to synthesize project result effectiveness, based on target aims and pilot actions. In this way, technical results achieved are compared with aims planned, in terms of quantitative and qualitative parameters and indicators. This task has provided the non-pilot city support, in terms of:
 - exchange and validation of result indicators;
 - discussion about methods and steps used to reach the project aims;
 - identification of project issues, clarifying the critical points and their solutions, if they are applicable;
 - optimization and calibration of project parameters and elements to enhance the project effectiveness, mainly for non-pilot contexts.
- **model adaptation**, to optimize model and service plans by modifying their characteristics based on test results and the parameters check. In this way, the model will be available for future uses.

At a glance, this Report includes:

- comparison between test results and aims planned;
- solutions to optimize the model and to resolve problems and issues of the pilot actions.

More details about the model adopted are highlighted in Model executive planning Report and in Replication Plan, mainly regarding the synthesis of the most important aspects and the suggestions for future transferability.

2. Pilot parameter check

The following table shows the project impact in pilot cities through the planned/reached number of e-vehicles in use. It also states the number of stakeholders through the planned/signed agreements on cooperation and the planned/reached level of associated partner involvement.

SPECIFIC OBJECTIVE	Impacts, with SMART performance indicators and quantified targets	
	PLANNED	ACHIEVED
To create the urban mobility model through the analysis of current situation and monitoring the implementation conditions	No. of agreements of mobility managers with e-light vehicle suppliers (MIN 3/ per pilot city and 1 per non-pilot city): TOTAL: 16	GENOA: 5 FIRENZE: 12 BCNE: 3 LISBON: 2 MURCIA: 2 MALTA: 1 ZAGREB: 2 SKOPJE: 0 SUCEAVA: 1 EAST ATTICA: 1 TOTAL: 29
	No. of agreements of mobility managers with stakeholders (MIN 5 per pilot city and 2 per non-pilot city) TOTAL: 29	GENOA: 11 FIRENZE: 11 BCNE: 5 LISBON: 4 MURCIA: 0 MALTA: 2 ZAGREB: 3 SKOPJE: 8 SUCEAVA: 3 EAST ATTICA: 3 TOTAL: 49
To test and experiment the model by pilot actions in the pilot cities	No. of the e-light vehicles offered by the wide range of the EleCTra services. At least 300 e-light vehicles in 3 pilot actions (100 per city)	GENOA: 85 sold ; 62 made available for rent and sale (1 st semester 2015); 82 circulating FIRENZE: 131 sold + 100 sharing : total of 231 BCNE: 140 TOTAL: 456
	No. of the e-light vehicles offered by the wide range of the EleCTra services in 3 non-pilot cities. At least 300 in 3 non-pilot cities.	LISBON: 163 by the end of 2015 ; 231 by 2016 and 580 by 2020; MURCIA: 49 by the end of 2015 , 119 by 2016 and 1.179 by 2020 ZAGREB: 75 by the end of 2015 ; 200 by 2016 ; ~700 by 2020 (+ public fleet renewal + possible implementation of sharing)

SPECIFIC OBJECTIVE	Impacts, with SMART performance indicators and quantified targets	
	PLANNED	ACHIEVED
		<p>systems).</p> <p>SKOPJE: already existing: 5 e-scooters and 5 e-bikes for city administration, 10 e-bikes for the city rent-a-bike system (including 250 ordinary bikes) and 12 light e-vehicles for tourists (sightseeing tour in the city center).</p> <p>Of course the City plan to expand this range of offered services in the future and share the Ele.C.Tra model continuously.</p> <p>SUCEAVA: 0 by 2016. 18 EV by 2017, 10 ebikes by 2017.</p> <p>EAST ATTICA: 0 by 2016 / 3 scooters & 1 light e-vehicle per municipality of East Attica (13 municipalities): 39 scooters & 13 light e-vehicles by 2020 / 30 scooters for 30 brands of Hellenic Post Agency located in East Attica by 2020.</p>
	<p>No. of new electric charging points for e-light vehicles in the pilot cities</p> <p>No quantitative target was planned</p>	<p>GENOA: 7 FIRENZE: 240, of which 91 for municipal fleet BCNE: 49</p> <p>TOTAL: 296</p>
	<p>No. of facilitation tools/services for users and for each pilot city in order to promote the EleCTra benefits</p> <p>No quantitative target was planned</p>	<p>GENOA: 2 (+2 Italian level) FIRENZE: 6 (+2 Italian level) BCNE: 2 (+2 Spanish level)</p> <p>TOTAL: 10</p>
	<p>Utilisation rate of the EleCTra e-light vehicles in each pilot (km travelled by e-light vehicles)</p> <p>No quantitative target was planned</p>	<p>GENOA: 343,378 during the Electra project period FIRENZE: ~4 million per year BCNE: ~1 million per year</p>
To promote the best practices and to disseminate knowledge, benefits and solving solutions for main issues	<p>No. of associated partner cities/areas interested in the model within the project lifetime (MIN 5)</p>	<p>GENOA: 1 (Rapallo Municipality) FIRENZE: 1 (Scandicci Municipality) LISBON: 1 (Parques de Sintra) BCN: 2 (Viladecans, L'Hospitalet de Llobregat)</p>

SPECIFIC OBJECTIVE	Impacts, with SMART performance indicators and quantified targets	
	PLANNED	ACHIEVED
		ZAGREB: 3 (Ivanic-Grad; Sisak, Varaždin)
	No. of associated partner cities/areas who request assistance to create assumptions for the implementation of the EleCTra model in their own contexts (MIN 2)	See above
	No. of associated- partner cities/areas starting the model application (MIN 2)	GENOA: 1 (Rapallo Municipality) FIRENZE: 1 (Scandicci Municipality) Both municipalities has approved Deliberations about the improvement of e-mobility
	No. of e-light vehicles offered by the wide range of the EleCTra services for the associated partners' experimentations No quantitative target is planned	No data are now available by associated partners about the no. of e-vehicles

3. Solutions

The following table includes the main results achieved thanks to the project (positive, improvable aspects as well as critical issues), indicating the solutions for possible future implementations also tuning what already done in the framework of the project.

These aspects give a good overview of the issues encountered in the duration of the project as well as the offered solutions.

POSITIVE RESULTS	IMPROVABLE ASPECTS	CRITICAL ISSUES	SOLUTIONS
<p>AGREEMENTS The stakeholders' involvement and the agreement signature have been a very successful activity of EleCTra project, collecting a total of 78 agreements with a minimum target of 45 and in spite of the initial difficulties due to administrative procedures. In this way, a very wide and strong network was built for the enhancement of e-mobility in all urban areas involved.</p>			/
	<p>E-LIGHT VEHICLE OFFERED TO CITIZENS IN PILOT CITIES The total number of e-light vehicles offered and made available by the project stakeholders and partners has been reached and overtaken (456). Only the pilot city of Genoa has monitored the purchase of 85 e-light vehicles by the e-vehicle providers throughout the project period</p>		<p>People needed time to adapt to two big changes, related to:</p> <ol style="list-style-type: none"> 1. electric engines; 2. sharing system which ought to substitute the vehicles property. <p>Solutions:</p> <ol style="list-style-type: none"> 1. economic incentives for the private fleet renewal, also using public funding; 2. public fleet renewal, raising the citizens' awareness of e-



POSITIVE RESULTS	IMPROVABLE ASPECTS	CRITICAL ISSUES	SOLUTIONS
			mobility; 3. economic incentives to allow sharing private operators to keep low the prices, mainly for short periods 4. non-financial incentives to promote the use of e-vehicles (impacts are weaker and it is more difficult to obtain results, mainly in short terms), such as: access for EVs to limited traffic zones, reserved parking 5. raise citizens' and providers' awareness of technological solutions that it is useful to use and adopt
<p>E-LIGHT VEHICLE OFFERED TO CITIZENS IN NON-PILOT CITIES Good results were achieved. In particular, thanks to EleCTra actions, 141 e-light vehicles have already available in 3 non-pilot cities (Murcia, Zagreb and Skopje) by the end of 2015 and at least 300 will be available by the end of 2016 in the same 3 cities.,</p>			/
	<p>LACK OF E-CHARGING INFRASTRUCTURE The shortage of the e-charging networks in</p>		1. new charging points, mainly involving private subjects 2. promotion of sharing



POSITIVE RESULTS	IMPROVABLE ASPECTS	CRITICAL ISSUES	SOLUTIONS
	<p>urban areas has been highlighted as one of the main important problems by the ex-ante surveys. Results achieved in the project concerning the implementation of new e-charging points were very interesting and satisfying. In particular, pilot cities used public funding or through private actions, implementing a total of 296 e-points. Anyway, suggestions collected and test results pointed out the infrastructure for e-charging is not so essential, in consideration of the relatively short day use of light vehicles and the possibility to have removable batteries.</p>		<p>systems, with no need of spread recharging infrastructure</p> <p>3. promotion of the commercialisation of e-light vehicles with removable batteries (already on the market)</p>
<p>FACILITATIONS IN PLACE In order to promote the use of EVs, mainly e-light, the pilot cities implemented 8 non-financial and financial incentives in their own contexts, also promoting the possibility to use national incentives. Finally, Florence and Barcelona have implemented sharing systems of e-light vehicles.</p>			
	<p>ASSOCIATED PARTNERS' INVOLVEMENT Quantitative targets regarding the associated partners in terms of e-light vehicles offered are not available. Indeed, more detailed assessments and evaluation studies must be fulfilled by the associated partners in order to identify the best solutions, actions and business models for them.</p>		<p>To carry out the tasks concerning the involvement of external cities already during the last phases of the pilot experimentation, in order to allow the associated public bodies to outline together with the project consortium the better solutions for their own context.</p>



POSITIVE RESULTS	IMPROVABLE ASPECTS	CRITICAL ISSUES	SOLUTIONS
		<p>INEFFECTIVENESS OF SHARING SYSTEM MANAGED BY MOTIT IN BARCELONA Currently there does not exist enough users for critical mass, creating low profitability and logistic problems. Charging mode and battery exchange is inefficient and may become very costly to employ enough individuals to constantly be changing out batteries in random placements, as scooters can be parked virtually anywhere when rental session is finished. There is a problem for the scooter location in urban areas with narrow streets, as the GPS is not able to identify the exact location point of the scooter. Limited servitude area which is located in a flat zone, and around very well connected public transport systems. Motit may also have the design impression of not being “safe” enough to ride in traffic, as the design has less coverage security and mass than a traditional scooter.</p>	<ol style="list-style-type: none"> 1. The sharing service should be organized in a proper area, covering the entire city or town. In this way, the system can have the critical mass of demand in order to make sustainable the service. 2. The implementation of a free-flow service, defining an area enough large to be appealing 3. Service areas should include also peripheral, hill areas or with a lower public transport accessibility, where competitors are lacking provisions and where users would find sharing services more valuable.
	<p>TECHNOLOGICAL ISSUES IN ORDER TO EASE THE USE BY CITIZENS Some aspects can be improved in order to</p>		<ol style="list-style-type: none"> 1. GPS navigation devices 2. E-charging points reserved



POSITIVE RESULTS	IMPROVABLE ASPECTS	CRITICAL ISSUES	SOLUTIONS
	increase the friendliness of EVs for citizens both shared and owned.		for e-light vehicles and easy to use
		<p>USE OF BUS TRACKS BY E-LIGHT VEHICLES</p> <p>Only in Barcelona, this facilitations for EVs has been implemented and only for a specific road without positive results.</p>	<p>1. This facilitation is not really effective and it can create problems in terms of safety.</p>

