



ADVANCED LOGISTICS
PLATFORM WITH
ROAD PRICING AND
ACCESS CRITERIA TO
IMPROVE URBAN
ENVIRONMENT AND
MOBILITY OF GOODS

21st September 2021

PROJECT FINAL CONFERENCE

LIFE ASPIRE: Project Overview



With the contribution of the
LIFE financial instrument
of the European Commission



Città di Lucca



MUNICIPIA LUCENSE
GRUPPO ENGINEERING



Stockholms
stad



GRAD ZADAR

Pamela Salvatore
Lucca Municipality

GENERAL OVERVIEW OF THE PROJECT

LIFE ASPIRE is a project co-funded under the program
LIFE "Environment and resource efficiency"

Start: 1st October 2017 - End: 30th September 2021

Consortium of 6 partners from 3 EU countries:

City of Lucca

Lucense SCaRL

MemEx Srl

Municipia SpA
*Engineering
Group*

City of
Stockholm

City of Zadar

The objective of ASPIRE is the implementation of a set of regulatory, organizational, operational and technological measures that extend/integrate those already implemented in Lucca, in order to achieve higher standards of **energy efficiency and urban air quality** and consequently improve the quality of life (especially of residents).

THE CONSORTIUM OF THE LIFE ASPIRE PROJECT

CITY OF LUCCA

- Project coordinator, main technological site

LUCENSE (Lucca, IT)

- Design and management of the demonstration site

MEMEX (Livorno, IT)

- Technical support and environmental impact assessment

MUNICIPIA SpA Engineering Group (Roma, IT)

- ITS manufacturer, development and management of the integration of the system that controls the RFID antennas, parking bays and cargo bike stations (LOCMAP)

CITY OF STOCKHOLM (S)

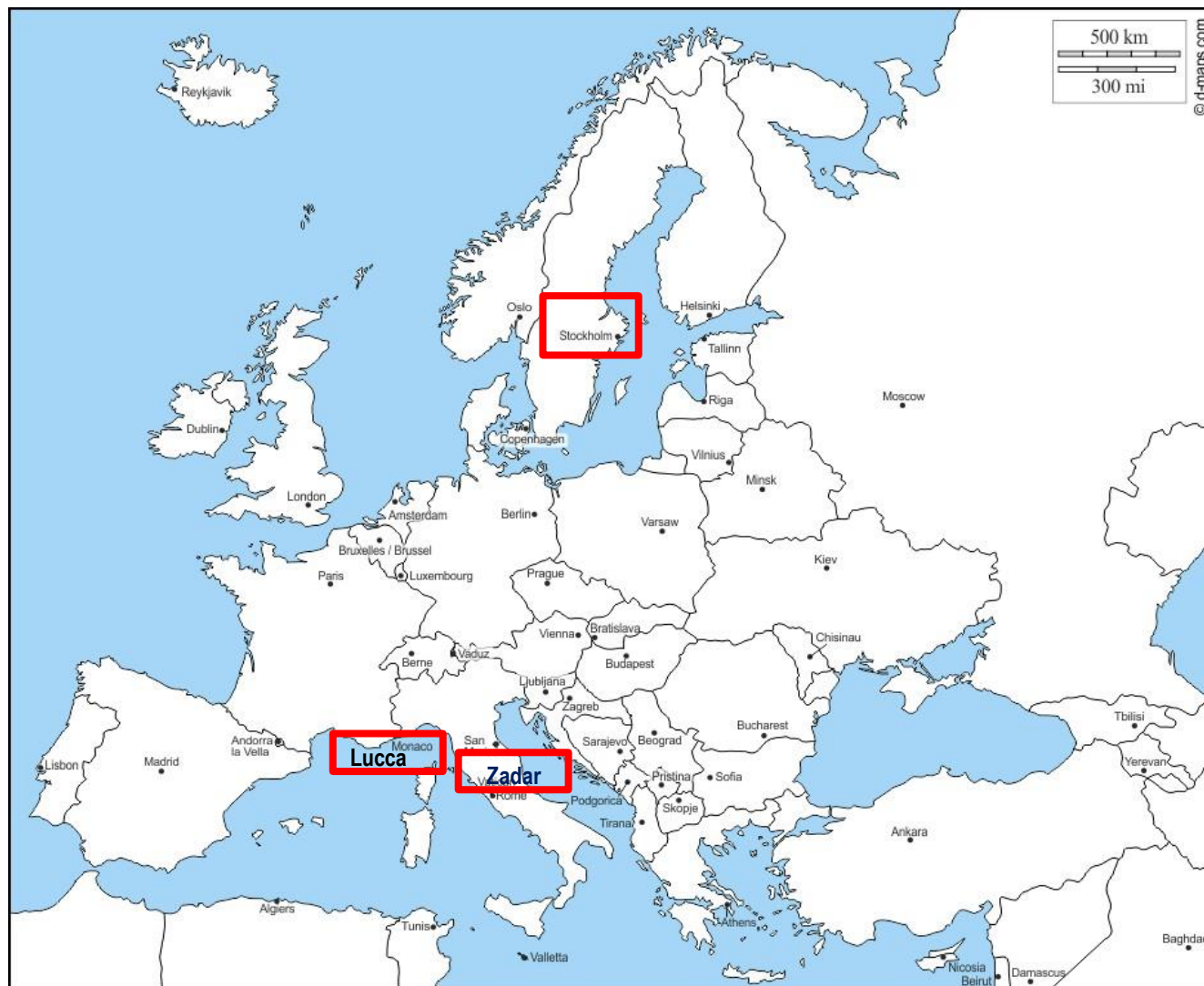
- Assessment of logistical schemes + transferability to metropolitan areas

CITY OF ZADAR (HR)

- Assessment of logistics schemes + transferability to other small and medium-sized historic European cities



GEOGRAPHICAL DISTRIBUTION OF THE PARTNERS



TECHNOLOGICAL OBJECTIVES OF THE PROJECT

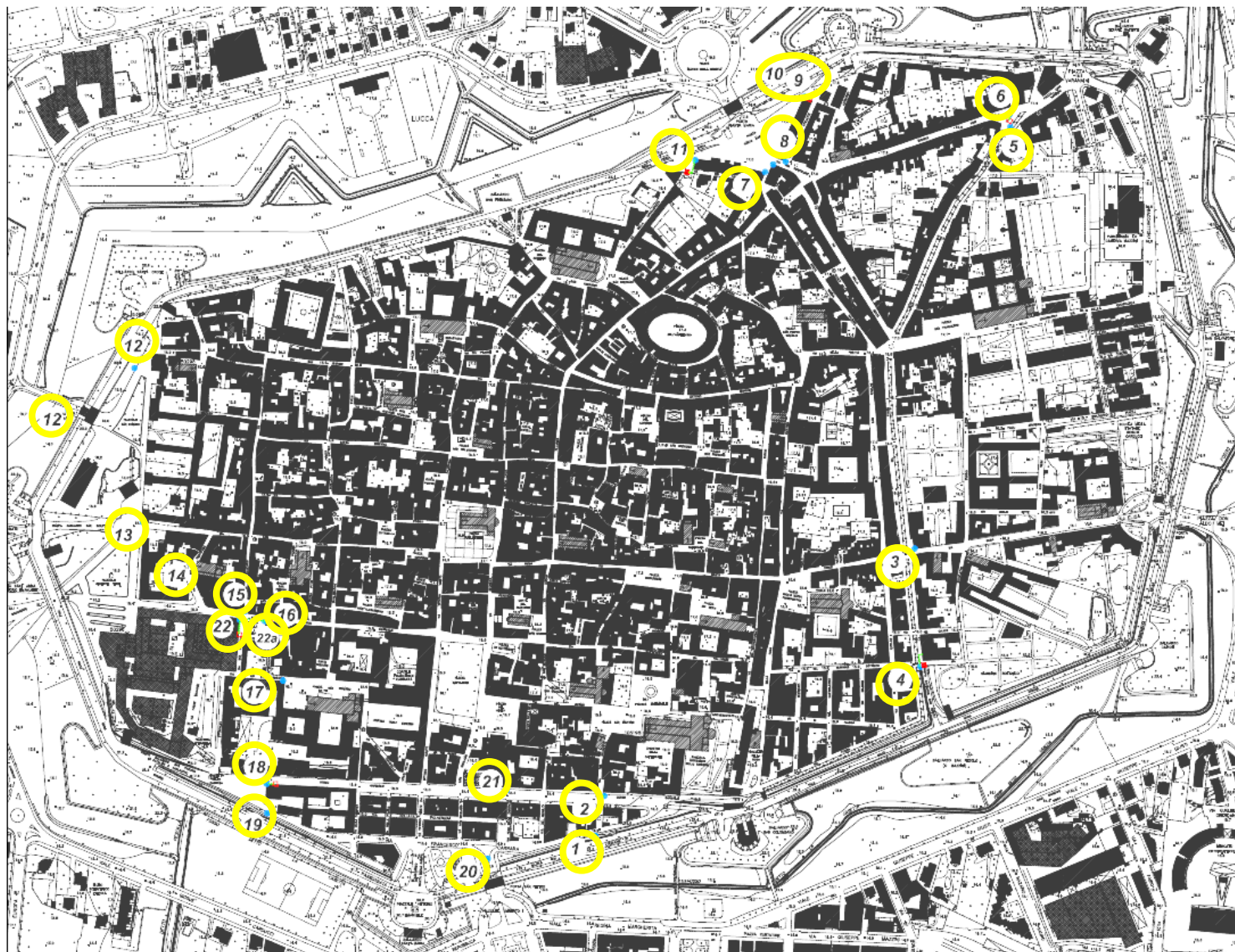
The project has created an innovative system at the service of the city by pursuing **3 technological objectives**:

1. The creation of an **intelligent control system** for the access and transit of goods transport vehicles using **22 RFID antennas** capable of monitoring the entrances, exits and the time spent in the RTZ



Example of RFID Gates in Lucca RTZ

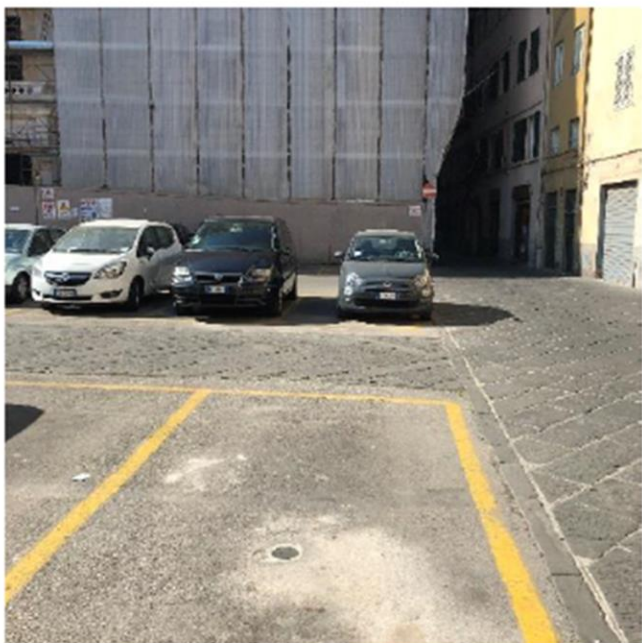
RFID ANTENNAS – OVERVIEW MAP



TECHNOLOGICAL OBJECTIVES OF THE PROJECT

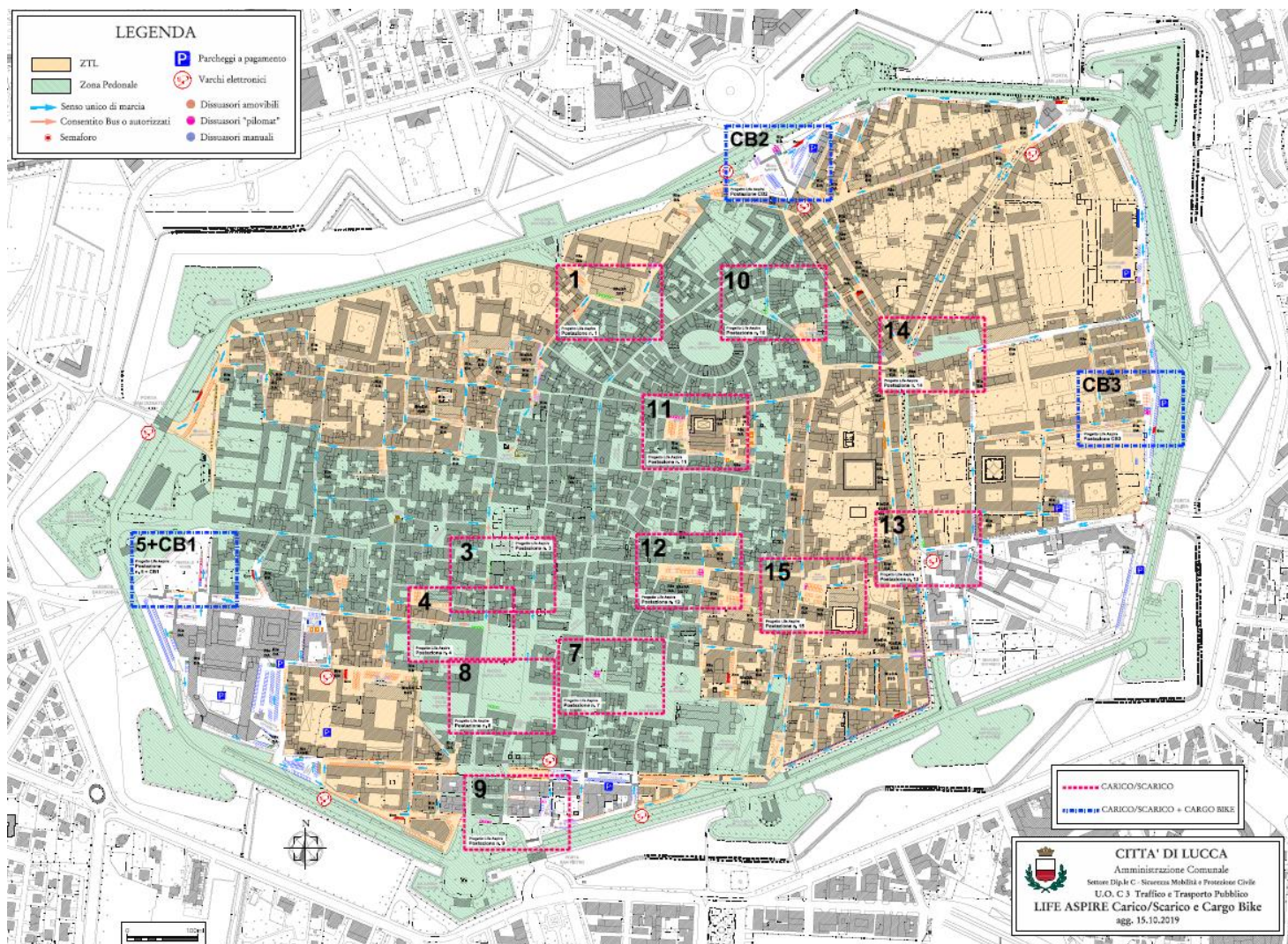
2.

The use of an innovative system of loading/unloading cargo areas for transport operators, **equipped with sensors (34 bays)**, smart monitoring parking, to reduce congestion in the areas most interested in commerce and tourism





PARKING SENSORS – OVERVIEW MAP



TECHNOLOGICAL OBJECTIVES OF THE PROJECT

3.

The realization of a "pilot" **cargo-bike sharing system (3 stations with 3 cargo bikes each)** for the transport of goods within the historic center, to offer to the most sustainable logistics operators the possibility of making small deliveries in the historic center with **zero-emission vehicles** and to access the RTZ even beyond the time slots allowed for cars.





Piazza S. Maria



Piazzale Verdi



Via dei
Bacchettoni

RFID TAG distribution

Activity in collaboration with METRO SRL, Municipal Company in charge of the release of RTZ access permits.



Lucca Mobility Pass

**The distribution target of RFID has been widely reached,
with 2596 RFID TAGS released
(to ALL relevant cat. E, U, M, D involved in the trial phase)
until 31/12/2020**



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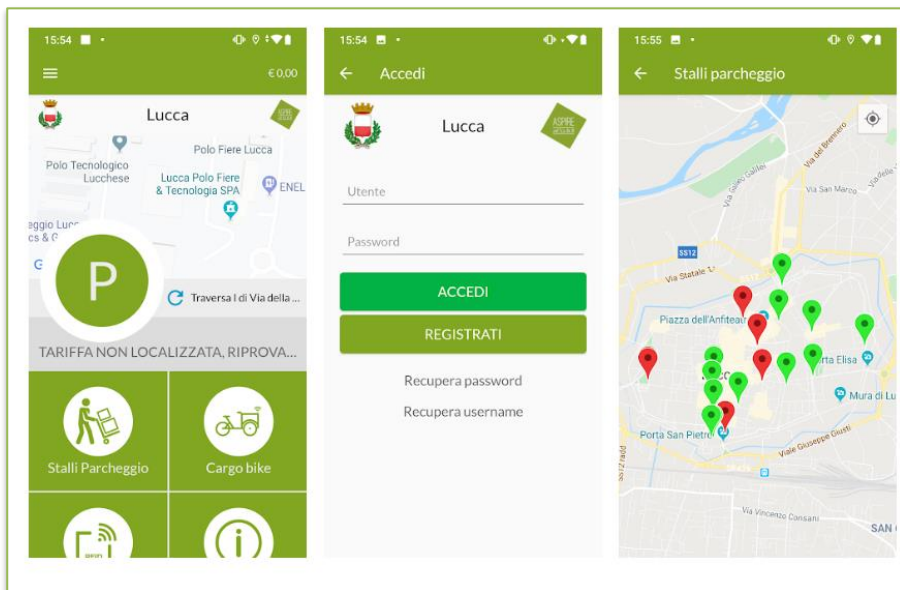


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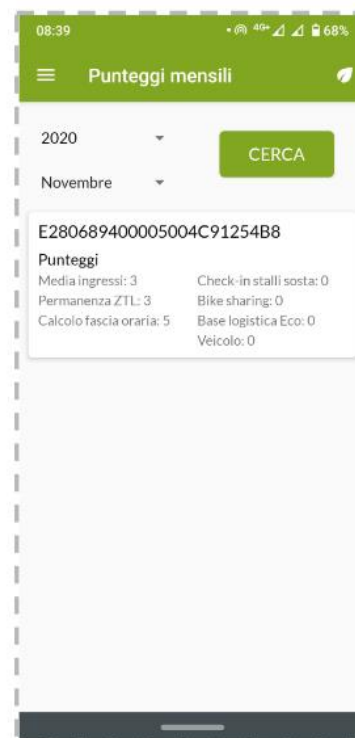
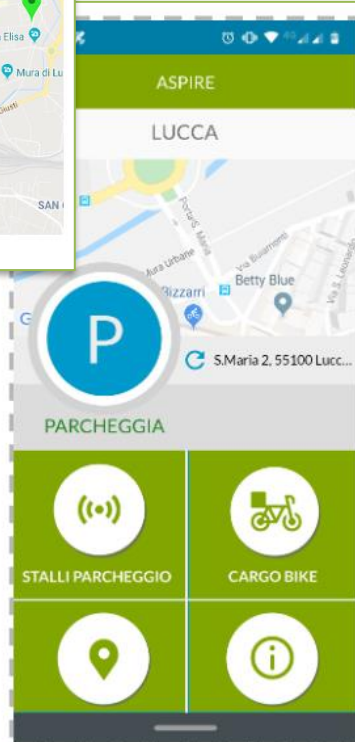


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LIFE ASPIRE APP



Home



EcoPoints



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LOCMAP PLATFORM

VEICOLI ASSOCIATI:

Codice TAG	Targa	Num. Auto	Intestaz.	Codice fiscale/PIVA/Note	Tipo Veicolo	Dir.	Data Attivazione	Attivo	Opz.
E280689420005004C9126414	VIRTUAL-TARGA-20210111-2356110932-1625	1	se stesso		N1	Euro5D	11-01-2021 23:56	sì	[Dettaglio]

PUNTEGGIO COMPLESSIVO PER MESE

Mese	Anno	Base logistica	Punteggio	
Marzo	2021	No	9	dettaglio
Febbraio	2021	No	6	dettaglio
Gennaio	2021	No	26	dettaglio

AUTORIZZAZIONI Autorizzazioni ZTL/ZSC ASSOCIATE:

Zona	Descr.	Codice	Intestat.	Targa	Scadenza	Attivo	Opz.
ZTLMERC	Corriere Merci Autorizzazione all'ingresso in ZTL nelle fasce orarie 08:00-20:00 tutti i giorni.	3079	52929 52929	VIRTUAL-TARGA-20210111-2356110932-1625	31/12/2021	sì	[mostra]

Anagrafiche Utenti - Dettaglio punteggio eco

E280689420005004C9126414

Tipologia veicolo	20
Ingressi ZTL	3
Permanenza in ZTL	3
Fascia oraria ZTL	0
Checkin stalli C/S	0
Cargo bike Sharing	0
Base logistica	0
Totale	26

Example of back-office screen, to manage credits accumulated by operators



LOCMAP and AWARDING POLICY

The innovative **Logistics Credit Management Platform (LOCMAP)** will manage the **whole technology system**, reporting on the several logistics factors considered in ASPIRE purposes.

**Cargo bike
sharing
service**



Monitoring freight urban
transport in urban areas
through the installation of
RFID system at the access
and exit points of the RTZ



**Logistics Credit Management
Platform- LOCMAP:**

integrated management and control
platform governing all the
technological installed elements

Smart monitoring
of **load/unload**
freight areas



**Incentive access
regulation** for
operators
adopting
**sustainable
behaviour**



Optimization of
urban logistics
processes in a more
sustainable way

**Improvement of
URBAN AIR QUALITY
due to the reduction of
urban logistics impacts in the
city of Lucca**

LIFE ASPIRE parameters

2 different categories of PARAMETERS:



Static parameters

Dynamic parameters

For each category of parameters, a **"Bonus Point scoring"** principle was elaborated.



Eco-Points LIFE ASPIRE

Static parameters

n.	Parameter		Eco point
1	Emission standards/ powertrain	Euro 3	0
		Euro 4	0
		Euro 5	20
		Euro 6	30
		LNG	30
		Methane	30
		Hybrid	30
		Bi-modal (EV mode)	50
		Hybrid PHEV (EV mode)	50
		FEV	80
2	Consolidation of goods loading index	Presence of a logistics base in the vicinity of the city (5 km from the city centre)	10

Eco-Points LIFE ASPIRE

Dynamic parameters

n.	Parameter	Considered period	Permit category	Eco point	
1	Daily number of accesses to the RTZ, calculated as the daily average of the number of accesses to the RTZ, for only working days	monthly basis	D, EM, EL, EI, ED, ET, EV	Not applicable	
			EC, U, M	>3/g	0
				$3/g \div 2/g$	1
				$\leq 1/g$	3
2	Daily duration of stay within the RTZ, average duration for only working days	monthly basis	D, EM, EL, EI, ED, ET, EV	Not applicable	
			EC, U, M	>90'/g	0
				$90'/g \div 31'/g$	1
				<30'/g	3
3	Percentage of use of the morning and afternoon time window	monthly basis	D, EM, EL, EI, ED, ET, EV	Not applicable	
			EC, U, M	% morning prevalence	5
				% afternoon prevalence	0
4	Use of monitored L/U bays, number of uses	monthly basis	D, EM, EL, ET, EV, EI, U	Not applicable	
			EC, ED	>5	2
				<5	0
5	Use of the cargo-bike sharing service, number of uses	monthly basis	D, EM, EL, ED, ET, EV, EI, U	Not applicable	
			EC, M	>5	10
				<5	0

LIFE ASPIRE replicability and transferability: from Lucca to Zadar and Stockholm



Lucca

Stockholm

Zadar

and
beyond.....

LIFE ASPIRE: PERSPECTIVES and SUSTAINABILITY

Transformation of
the LIFE ASPIRE
system into a fully
operational city
logistics monitoring
system

Consolidate the
choice of the
rewarding price for
the most
environmentally
sustainable transport
operators

Define the strategy for
the dissemination and
replicability of the
results, identifying
interested target cities

Pursuing the
ecological transition
in the urban logistic
processes

Continuous
monitoring of the
results about the
reduction of the
polluting emissions
into the air



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Thanks for your attention

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