#### **Greening urban freight transport** Mixed use of urban space for city logistic WED 9 APRIL 2025, POLIS-ALICE webinar series



## Mobility in Florence

manage the territory to improve flows

### POLIS alice & unchain



### A CULTURAL HERITAGE CITY: UNESCO SITE

- The Historic Centre of Florence was inscribed on the UNESCO World Heritage List on December 17, 1982.
- The Historic Centre is defined as a unique artistic realization, capable of having "influence on the development of architecture and the fine arts, first in Italy, and then in Europe"
- Heritage Impact Assessment at the base of the Unesco management Plan of the city to preserve its unique heritage







### COMMITMENTS (AND RESULTS)



#### **Smart City Plan**

SEAP: 2011 target 20% Result: 34% in 2020

SECAP: (updated) 2023 target 60% in 2030



Sustainable Energy Action Plan

#### Sustainable Energy and Climate Plan

2005: 34% of emissions due to transport sector (Florence)

SULP: movement of goods estimated at 10% of total vehicle journeys and responsible for 24% of total particulate emissions (PM10 at the exhaust).



Sustainable Urban Mobility Plan Sustainable Urban Logistic Plan (metrocity)

**Climate City Contract** 

SCP 2015: target - 20% in 2020, - 45% in 2030, - 75% in 2050

CCC 2023: - 81% in 2030 (updated)





### Sustainable Urban Mobility Plan

metropolitana di **firenze** 

SUMP approved in 2021 (at metropolitan level)

PUMS





- ✓ interchange hubs
- ✓ ticketing
- ✓ sharing mobility services and cycling/walking for first and last mile
- ✓ Low Emissione Zone & Congestion Charge

POLIS

alice

- ✓ ICT tools
- ✓ building a mobility users community



### Manage the territory: congestion charge Green Shield system



Progressive introduction of prohibitions and/or costs for accessing the urban centre, well balanced with a concurrent increase in PT supply





### **Green Shield system policy**



- Access forbidden to most polluting vehicles
- Access forbidden for heavy-duty vehicles, with O/D outside the new LEZ
- Congestion charge for touristic buses
- Congestion charge for other vehicle categories (phase 2: started 1<sup>st</sup> of April 2025)



tosiale UNIONE E



#### Real time transport management: SCCR Smart City Control Room



- Cooperative space
- Municipality and utilities work together for planning and real time traffic management
- B2G data sharing space





### Keeping users informed: IF infomobility Florence towards MaaS





- Location-based services (mobile App)
- real-time public transport data
- real-time availability of shared vehicles
- unexpected events on the network causing congestion or dangerous situations for drivers (closures, accidents, hazardous material, traffic jam)
- LEZ accessibility
- charging points availability
- restrictions due to road works (real-time and planned)





#### FROM SUMPS TO SULP metropolitan level



- SUMP: 2017
- SULP: 2023 (as part of SUMP)
- Goal: reduce congestion and pollution by ensuring distribution efficiency and competitive costs.
- State of art in Florence: LEZ accessibility (Florence have regulated access within the limited traffic areas and parking for the time strictly necessary for loading and unloading goods, due to entry times and the total weight of vehicles fully loaded)
- Freight Quality Partnership approach: highly proactive role of stakeholders aimed at identifying a series of measures placed in a process of progressive efficiency of the logistics supply chain

UNCHAIN



CITTA METROPOLITANA

DI FIRENZE

### WHY UNCHAIN?



Unchain unlocks all the potentials for logistic services within the city, revolutionizing urban logistic and creating sustainable, resilient and safer cities.

By breaking down data silos and fostering public-private data exchange, UNCHAIN paves the way for sustainable urban logistics, helping cities anticipate policy impacts and work towards climate-neutral and smart cities.

- developing data-driven city services to tackle
- congestion, safety, and environmental issues
- empowering decision-making
- improving operational efficiency.







#### UNCHAIN : FLORENCE LAB Use case

The use case focuses on the historic center area of Florence which suffers from a strong pressure in terms of density of commercial activities and amount of freight that need to be delivered daily with a strong impact on urban livability under many aspects: traffic congestion, air pollution, waiting time, urban maintenance (pavement, street furniture).







#### UNCHAIN: FLORENCE LAB Use case

- Services for urban planning and space management "UCC location and integrated planning KIT" will be tested for the selection of the best demo location, between the two markets, and for the extension/replication analysis
- Services for efficient and safe operation "Congestion forecasting and safe routing tool" will address the optimisation of delivery and pick-up routes, defining also zones to be avoided due to their proximity to vulnerable areas, minimising the risk of accidents
- Advanced services for monitoring and communication Active UVARs and city regulations" tool will be tested to support the management of the dynamic accesses while the "Logistics operator monitoring system and incentives tool" implementation will be analysed to optimise the regulations considering new national boundary rules under development.



### **Planning tools**



#### **Click Log-UCC location and integrated planning KIT**

• evaluating the best locations for UCCs and microdepots (Easy-to-use online platform, custom calculations and scenarios

#### **On-street loading zones planning tool**

- Tool to help through visualization in the decision making of creating a new loading and unloading zone on the street
- The service maps potential zones based on the city's current road layout and specific criteria





tions for UCCs. She logs in to the planning kit and immer'

suggested due to the agreed on KPIs that calcu'



### Dynamic management of facilities



#### Dynamic Curb Side management

A parking lot management system designed to dynamically manage the use and status of parking spots



This component is aimed at monitoring, in real-time, the occupancy status of goods loading and unloading spaces and regulating their use





LOGISTIC USE

use

Up te





#### Management IT Cockpit of shared facilities

A real-time space management application to provide optimal spacetime planning and efficiency of shared logistics facilities:

- Camera monitoring
- Remotely managed cameras with internet connection through cellular network
- Al video anaylisis-Spot occupation License plate checking



## UNCHAIN FOR FLORENCE Keywords

LAST GREENER MILE **CITY-LOGISTIC ECOSYSTEM OPPORTUNITY** CULTURAL HERITAGE MEET A METRO-CITY VISION CLIMATE NEUTRALITY



# Thank you!

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