10th DECEMBER

14:30h to 16:00h CET

ON-LINE PUBLIC PRESENTATION

LOCAL AND REGIONAL **TIME** AGENDA

Rational and Sustainable Working Time

More information: timeuse.barcelona/rational-sustainable-working-time

Organized by:

TIME USE INITIATIVE

With the collaboration of:

Local and Regional Governments Time Network

Funded by:

Co-funded by the European Union

Time 4 All

Living Lab Milano

Solving urban mobility problems through innovation

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Finanziato dall'Unione europea NextGenerationEU
MIT MINISTERO DELLE INFRASTRUTTURE E DEI TRASPORTI
DIPARTIMENTO PER LA TRASFORMAZIONE DIGITALE
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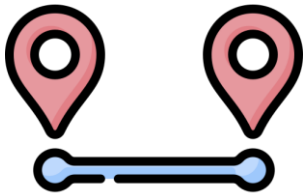
Comune di Milano

The mobility scenario in Milan

High Density of Cars

An average of 490 cars per 1,000 inhabitants



Few kilometres travelled by cars each year

On average, only 10,000 km per year

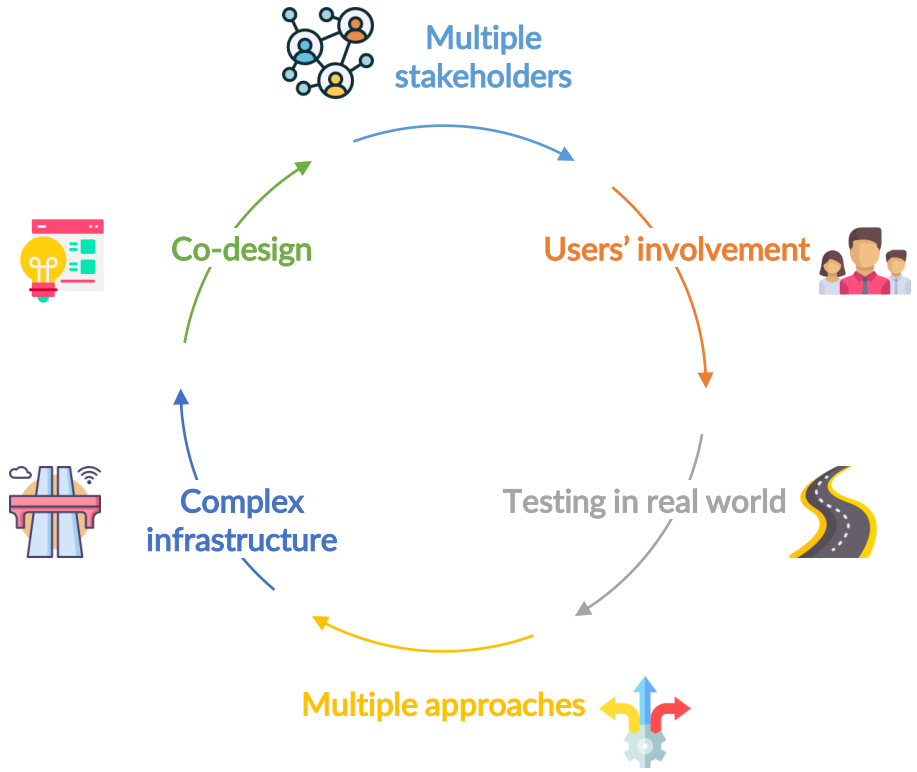
Vehicles not in use during the day

85% of the total car fleet is used for less than 5% of the time

Source: https://1000mad.deib.polimi.it/en/

Testing

Milan has been selected as **a test city** for **MaaS (Mobility as a Service)** services and a **Living Lab to test connected and autonomous driving**, thanks to funding made available by the National Recovery and Resilience Plan (PNRR).



Testing is a necessary step to enable the safe, effective and regulated adoption of new technologies, ensuring compliance with safety standards, impact assessment and optimisation of solutions before their large-scale introduction.

According to the **European Network of Living Labs (ENoLL)**, a Living Lab is defined as *'an open innovation ecosystem, complemented by a community of end users actively involved in co-designing, co-producing and co-validating solutions in a real-life context'*.

The project Living Lab Milano

The **Living Lab Milano** is designed to be an **experimental laboratory** for the development of innovative technologies in the field of mobility.
The entire project is worth €7 million, entirely covered by PNRR funds.

Goals

- **Open innovation** ecosystem in the urban mobility sector
- Access to researchers, innovators, start-ups and businesses to develop and **test technologies**
- **Increasing the efficiency** of local public transport services

Area

- **Section of route 90-91** (trolleybus line)
- 5 km of area with **27 intersections** equipped with complex infrastructure,
- **23 traffic light junctions** and 32 public transport stops.

Tasks

- Definition of physical architecture
- Upgrading of **smart infrastructure**
- Development of a **platform for processing, archiving and integration with third parties**

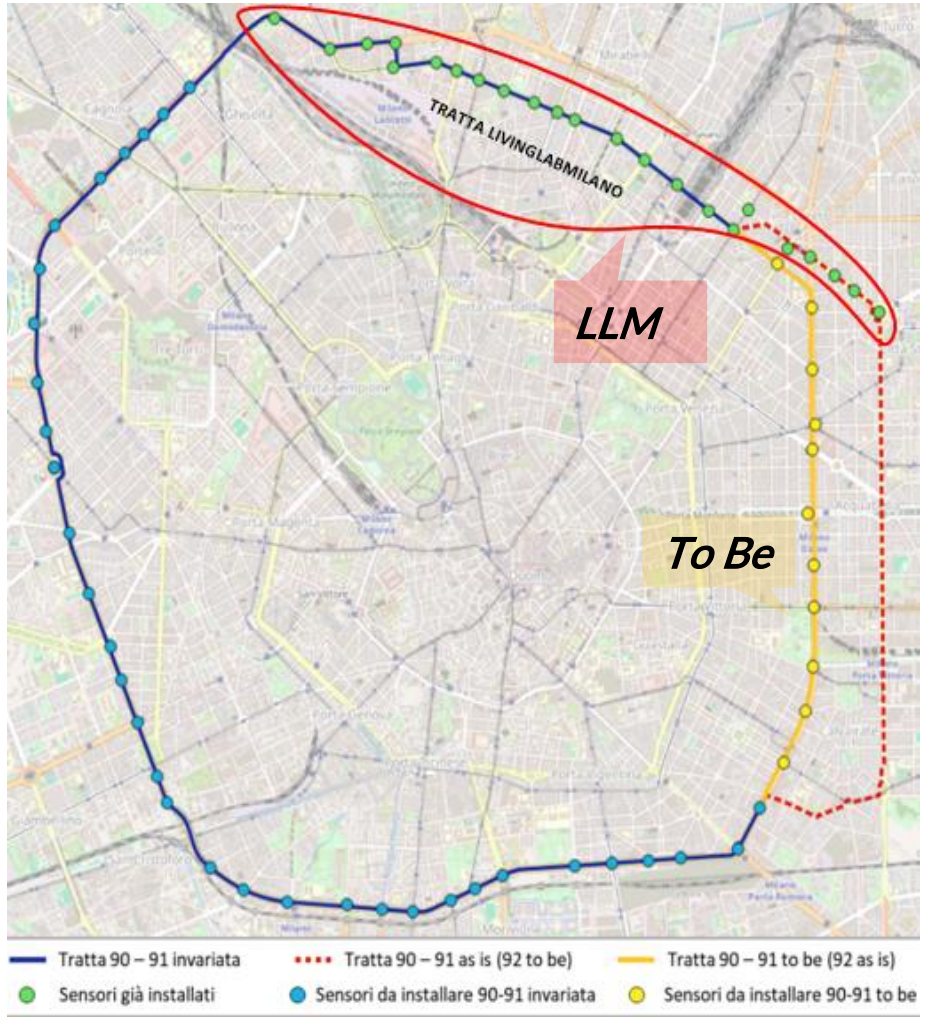
Why the circular line 90/91?

Strengths

- Active 365 days a year
- Active 24 hours a day
- Presence of reserved/promiscuous sections

Users

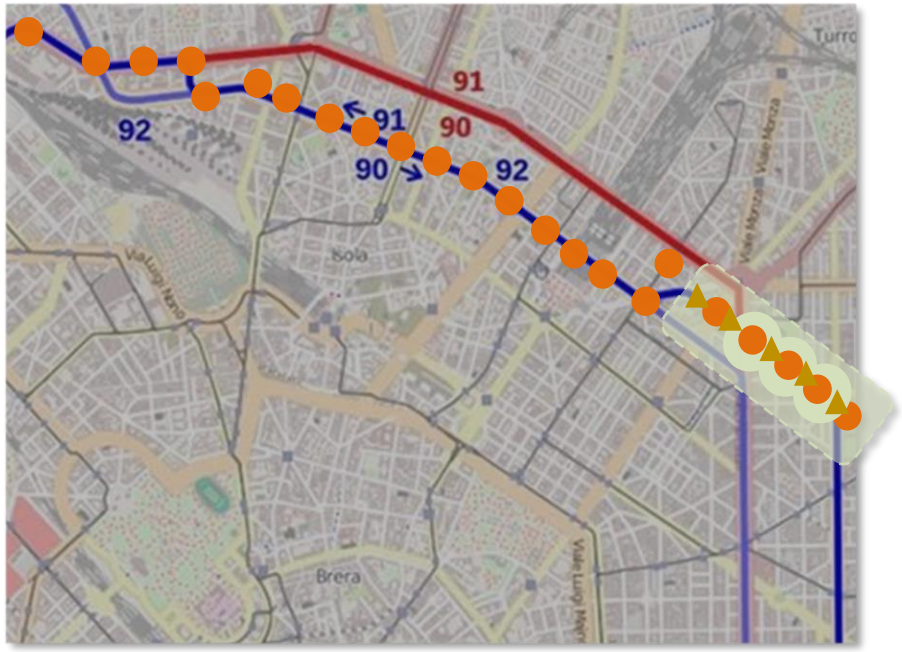
- More confort and safety
- Time-saving journeys



The enabling technology

The sensors installed along the 5 km route include:

- **Video analysis sensors** installed at 23 intersections
- **Road Side Units** for communication with vehicles in the section between Piazzale Piola and Viale A. Doria
- **Passenger counting systems at stops** and **on public transport vehicles**
- **Central processing and control platform**



Road Side Unit

- 4 RSU V2X
- Platform C-ITS

Video analisys sensors

- 66 AI cameras to count and classify vehicles

Passengers counting

- 5 sensors at bus shelters
- 30 sensors on vehicles

Platform IoT

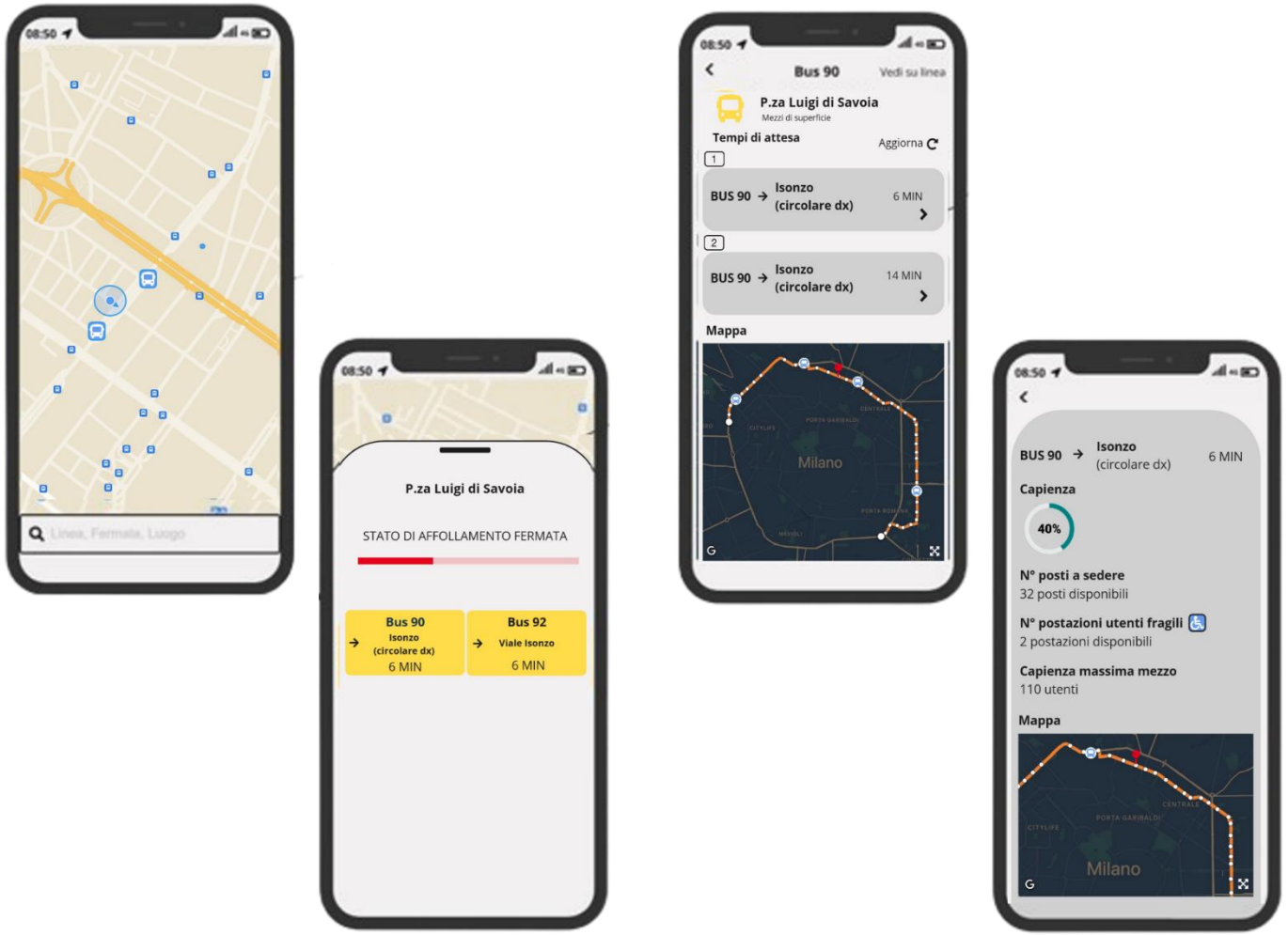
- IoT platform for data collection and display

Infomobility APP

Enhancing the information system for public service users improving the traveller experience and promoting more inclusive and efficient mobility

Following the installation of passenger counting sensors on **30 vehicles** and **5 shelters** is being developed a dedicated application to provide users with real-time information on:

- **arrival times and vehicle locations**
- **the type of vehicle arriving**
- **seat availability**
- **spaces reserved for vulnerable users and crowding levels**



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Geolocation of nearby bus shelters

Display of lines in transit

Line route

Display of vehicles in circulation on the route

Display of the remaining arrival time of the first vehicle at the stop

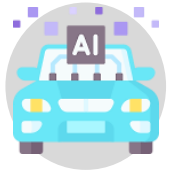
Display of the remaining arrival time of the second vehicle at the stop

Display of information about the arriving vehicle: number of seats, number of seats for vulnerable users, maximum capacity of the vehicle

Percentage display of vehicle occupancy

Display of the occupancy status of 5 shelters, using a color gradient bar with 3 statuses

Expected benefits



As part of the LLM, the infrastructure has been adapted to support CCAM trials

The main expected benefits concern:

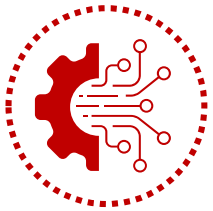
- Increased efficiency of local public transport
- Optimisation of traffic flows
- Inclusion and accessibility for the most vulnerable people
- Improved quality of urban life
- Increased safety
- Supporting the city and its citizens through the transition.

The SUMP leads to the adoption of sustainable measures in the field of urban mobility

The main objectives concern:

- Reduction of emissions
- Reduction of road congestion
- Efficiency of the logistics chain
- Technological and process innovation, the creation of new methods of goods distribution
- Reduction of accidents.

Challenges



Technological complexity

Assessment of the compatibility of the technology adopted with the reference application

Resistance to Change

Distrust towards the adoption of new technologies and modes of transport, requiring training and information programmes

Technology and data

Optimisation in the collection and use of data for smart mobility management

Regulations

Regulatory adaptation accompanying technological innovation

Opportunities

Infrastructure

Completion of the route thanks to funding obtained from the Lombardy Region's ‘Smart Mobility Data Driven’ call for proposals, which will enable the installation of additional sensors in sections of the route not covered by the LLM

Co-design

Launch of trials with the ongoing involvement of the quadruple helix of mobility (citizens, universities, businesses and institutions) to co-design new solutions. Participatory Labs with Citizens, Stakeholder and Experimenters Lab

Modularity

The ambition to be a model that can be replicated in other cities, promoting innovative and sustainable solutions that can be adapted to different urban contexts

Cooperation

Sharing best practices through synergistic work with other organizations involved in the project, promoting the exchange of skills and experiences to optimize results

Thanks for your attention!

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