



Sharing Cities

An integrated approach for the Smart City

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Unità Smart City



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H2020 LIGHTHOUSE PROGRAMME

"Smart Cities and Communities solutions integrating energy, transport, ICT sectors through lighthouse projects"

35 PARTNERS from **cities**,
industry representatives,
NGOs and **academia**

TOT BUDGET
24 MILLION €

3 Lighthouse cities

London - Lisbon -
Milan
demonstration
areas

3 Fellow cities

Bordeaux -
Burgas - Warsaw
co-design,
validate,
implement

+100 cities
scale-up



and your city?

Global link cities
support

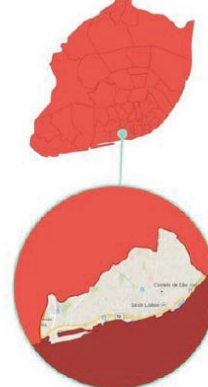


NEARLY-ZERO EMISSION DISTRICTS

LONDON
Greenwich



LISBON
Downtown

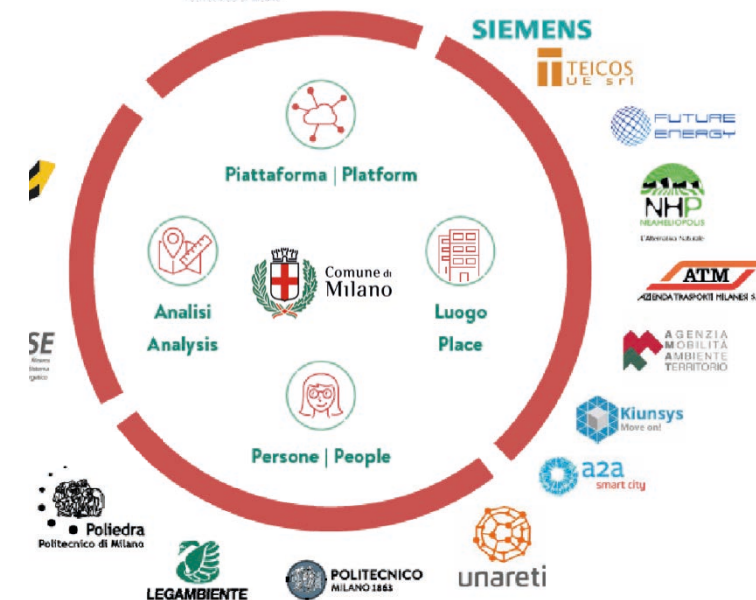


MILAN
Porta Romana



Cefriel
POLITECNICO DI MILANO

17 ITALIAN PARTNERS



**ITALIAN
CONSORTIUM
BUDGET**
8,6 MILLION €

Innovative solutions for

PLACE

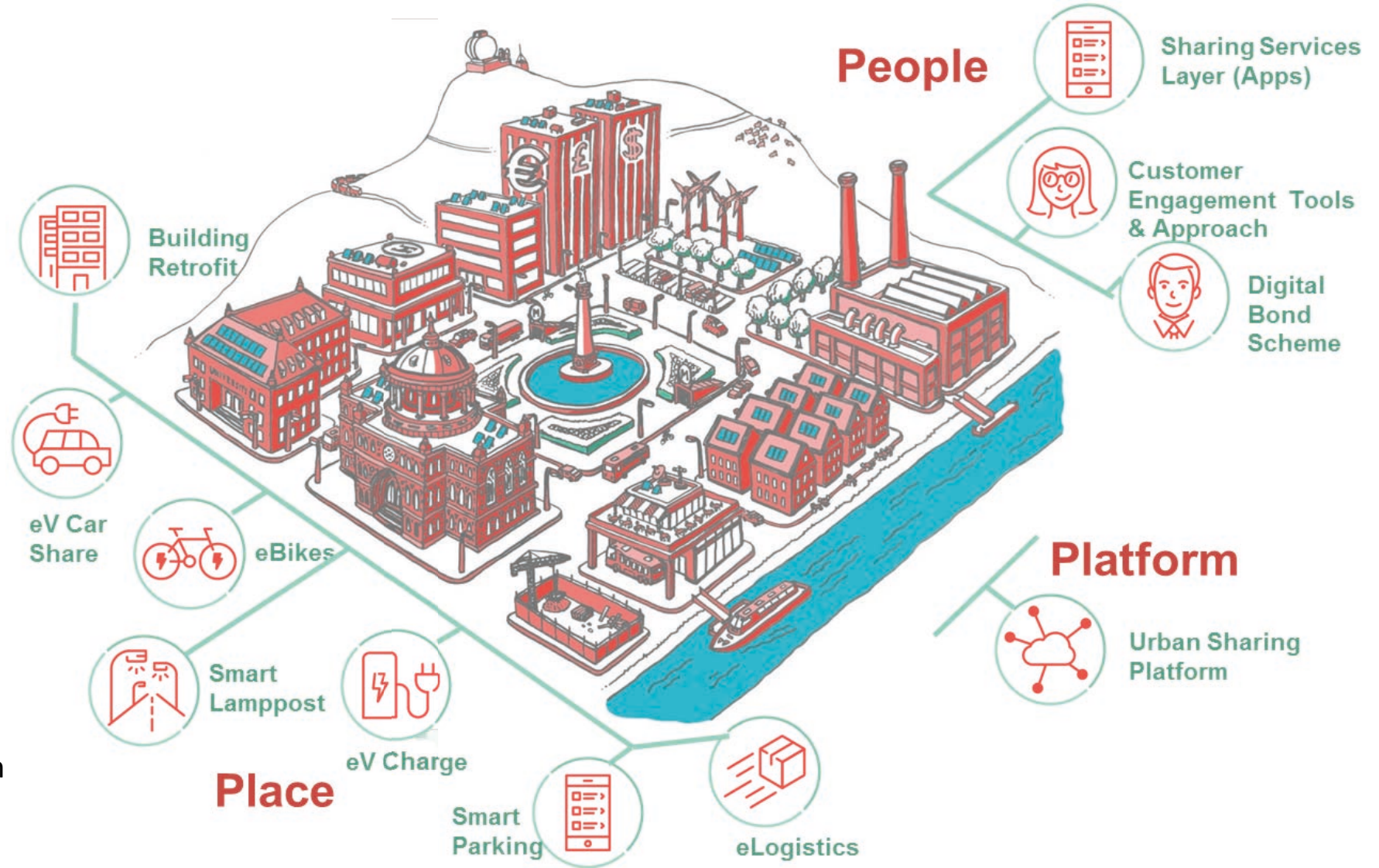
Infrastructure solutions for: low-energy districts, e-mobility, retrofitting of buildings, installation of sustainable energy management systems and smart lamp posts.











PEOPLE

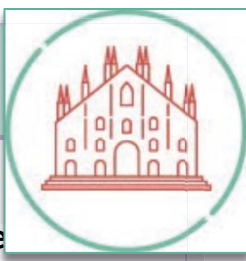
User-centric smart city services co-designed with citizens.

PLATFORM

Urban sharing platform based on open data.



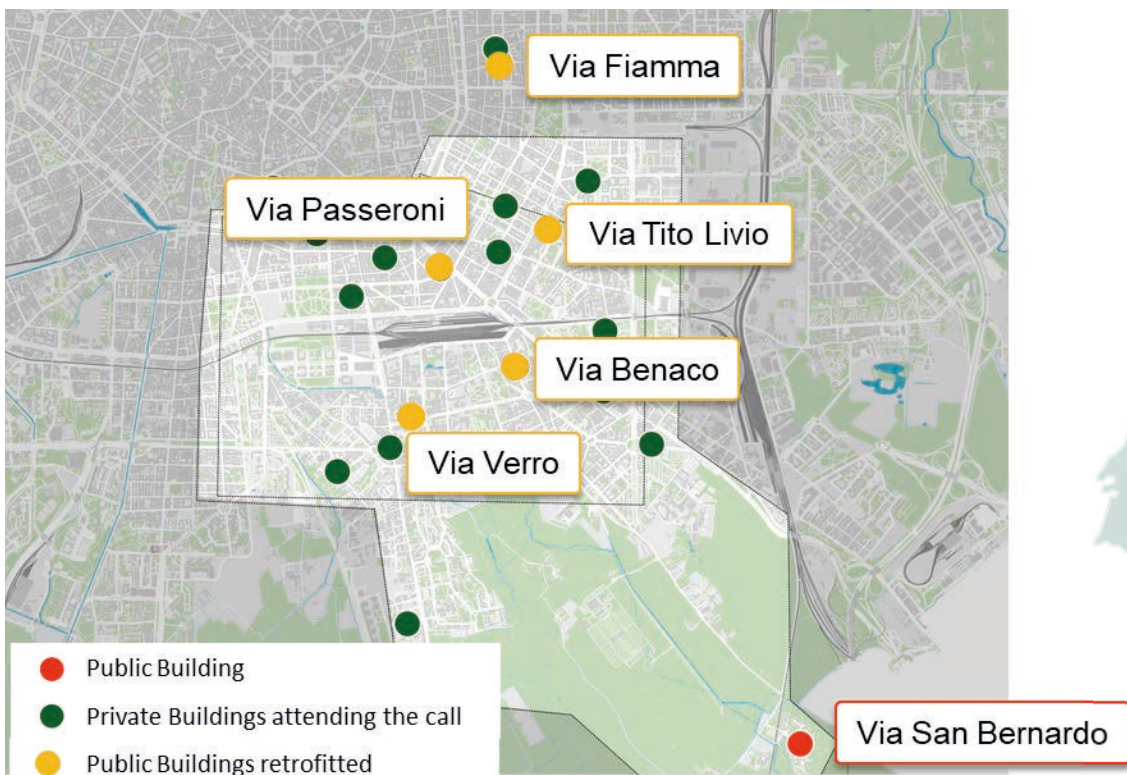
MEASURES		ACTIVITIES
	CITIZENS ENGAGEMENT	Co-design methodology to involve citizens and residents. Digital Social Market: an application based on a reward system that rewards virtuous behaviors of citizens
	ENERGY EFFICIENCY	Energy requalification of 21,000 square meters of private buildings and 5,000 square meters of public buildings.
	RENEWABLE ENERGIES MANAGEMENT	Implementation of a system to integrate and optimize energy from all sources in districts (and interface with city-wide system) including demand response measures.
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BUILDING RETROFIT

PROJECT RESULTS

- 1) Refurbishment of 24.000 smq of private residential building and 5.000 of public residential buildings
- 2) Sensors and SEMS for monitoring and managing energy consumption



PRIVATE BUILDING PASSERONI



Retrofitted

- Via Tito Livio: 28 apt. (2.000 smq)
- Via Fiamma: 15 apt. (3.300 smq)
- Via Verro: 36 apt. (3.900 smq)
- Via Passeroni: 46 apt. (6.300 smq)
- Via Benaco: 137 apt. (8.800 smq)

On going

- Via San Bernardo: 66 apt (5.000 smq)





MEETING 1



Introduzione a ascolto: i condomini di 5 condomini partecipano insieme in diversi tavoli e si confrontano su problemi attuali/ aspettative di miglioramento

MEETING 2



Condivisione analisi tecniche: Ogni gruppo condominiale lavora con il tecnico che ha realizzato la diagnosi; Si analizzano i risultati dell'analisi; Si spiegano i requisiti minimi di ogni scenario di intervento (integrazione di rinnovabili, riduzione dei consumi del 50%).

MEETING 3

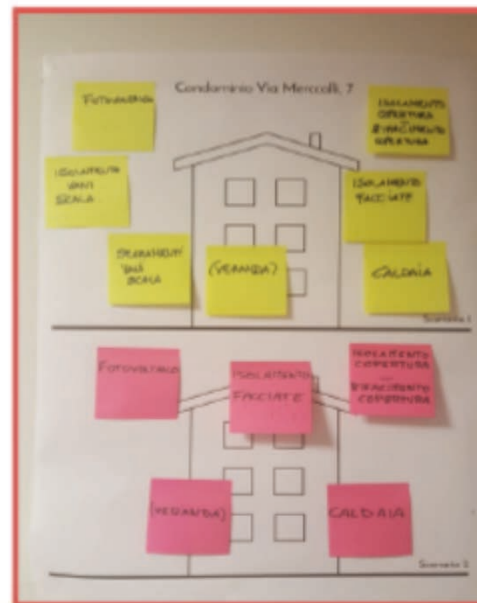


Condivisione scenari ingegnerizzati: Ogni gruppo condominiale lavora con il tecnico che ha realizzato la diagnosi; Si presentano gli scenari con i costi e i cashflows.

EXTRAMEETING



Presentazione al condominio: Lo scenario prescelto è presentato dagli stessi condomini ai loro vicini in condominio.



RESULTS IN NUMBERS

- ✓ **55** condominiums candidated to Call of Interest
- ✓ **20** condominiums in co-design processes
- ✓ **June 2017:** end of co-design processes
- ✓ **December 2017:** 5 condominiums approved retrofitting (24.298 smq)



BEFORE

En. Consumption: 91,5Kwh/m² y
Energy Class: F



VIA VERRIO 78 B/C
36 apartments, 6 floors, 3.900 sqm

AFTER

En. Consumption: -52%
Energy Class: B



- 23.500 KG CO₂

BEFORE

En. Consumption: 143,2 kwh/m² y
Energy Class: F



VIA TITO LIVIO 7
28 apartments, 8 floors, 2.000 sqm

AFTER

En. Consumption: -55%
Energy Class: C



RISPARMIA 23500 KG DI CO₂ ALL'ANNO
(equivalente a piantare circa 310 alberi, come un campo da calcio)



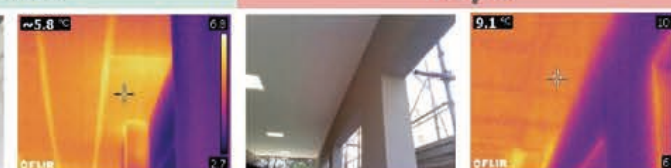
VIA VERRIO 78 B/C

prima













dopo

prima



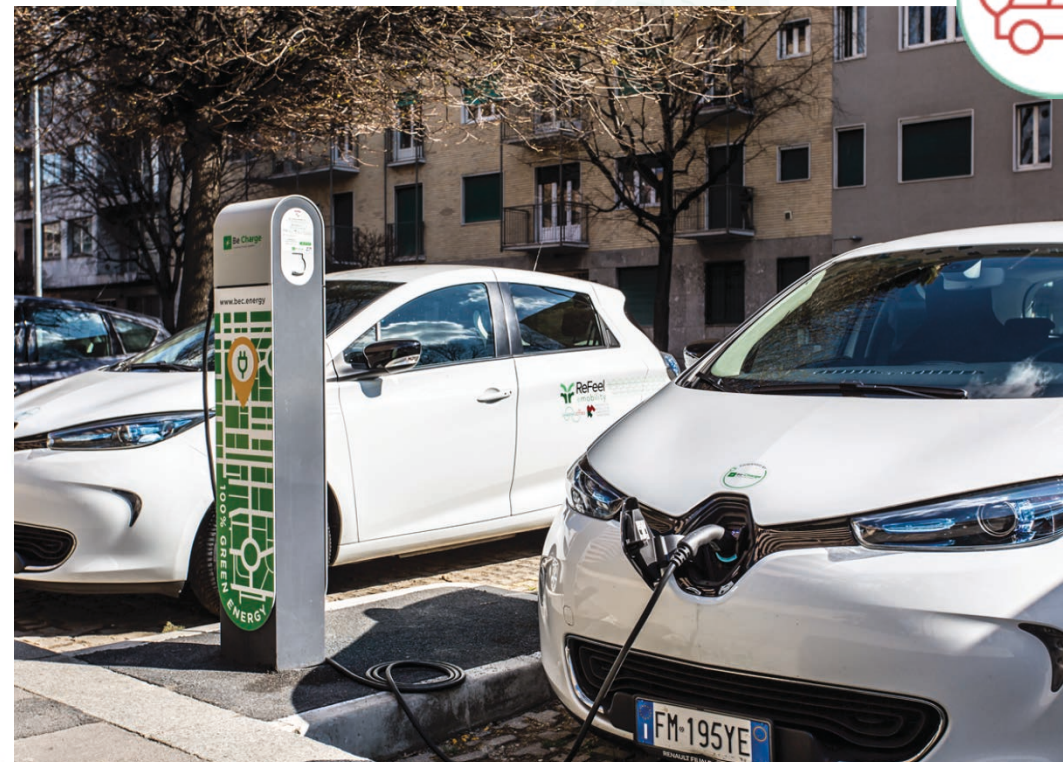
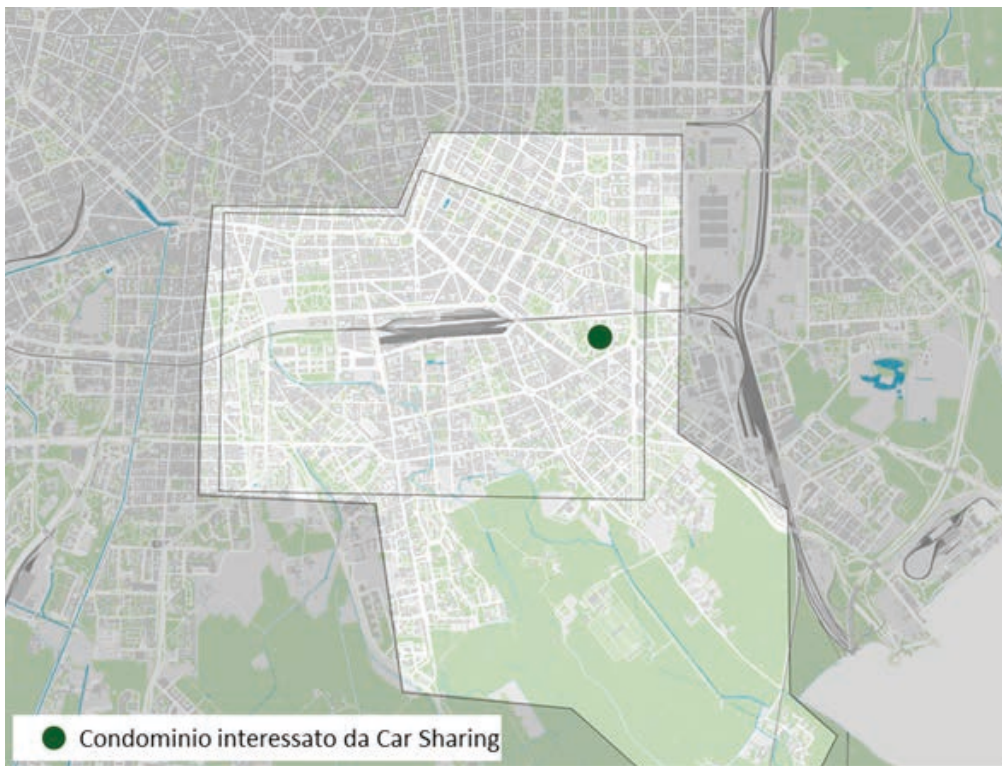
dopo



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PROJECT GOALS

- 1) Enhancement of the e-car sharing offer in the area thanks to the recharging points offer
- 2) 2 e-vehicles for condominium car sharing
- 3) User and operator based relocation system



CONDOMINIUM CAR SHARING
VIA BACCHIGLIONE

- Condominium:
via Bacchiglione, 21

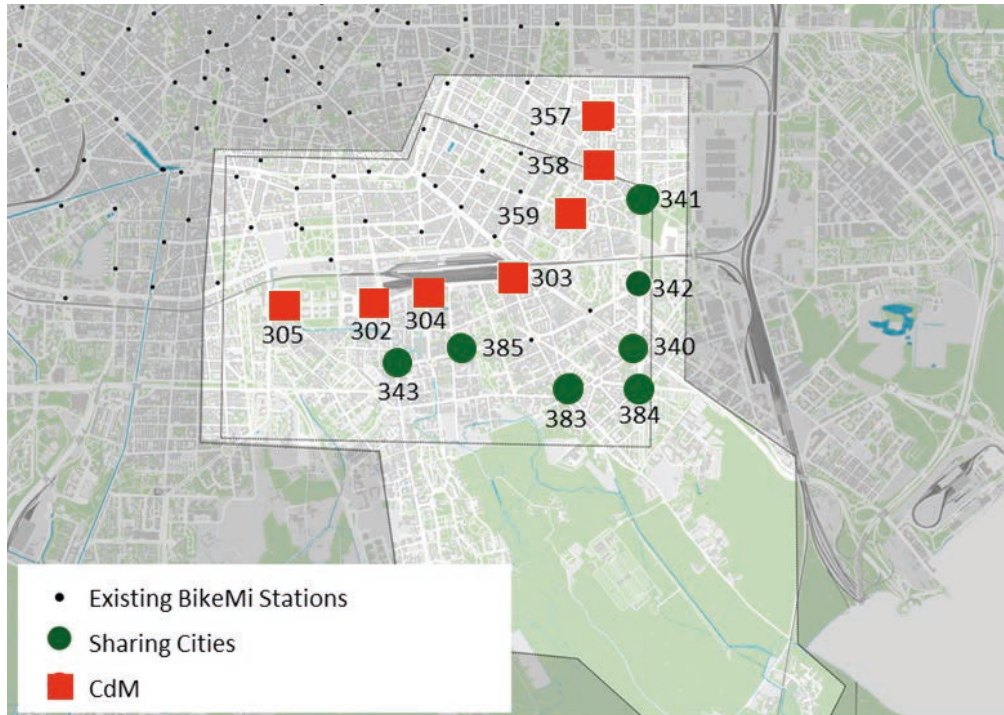
Results

- charging points installed
- 2 eCars in place
- 50 registered users

E-BIKE SHARING

PROJECT GOALS

- 1) 150 new e-bikes for bike sharing with child seats
- 2) 7 new project bike sharing stations + 7 financed by CdM
- 3) User and operator based relocation system



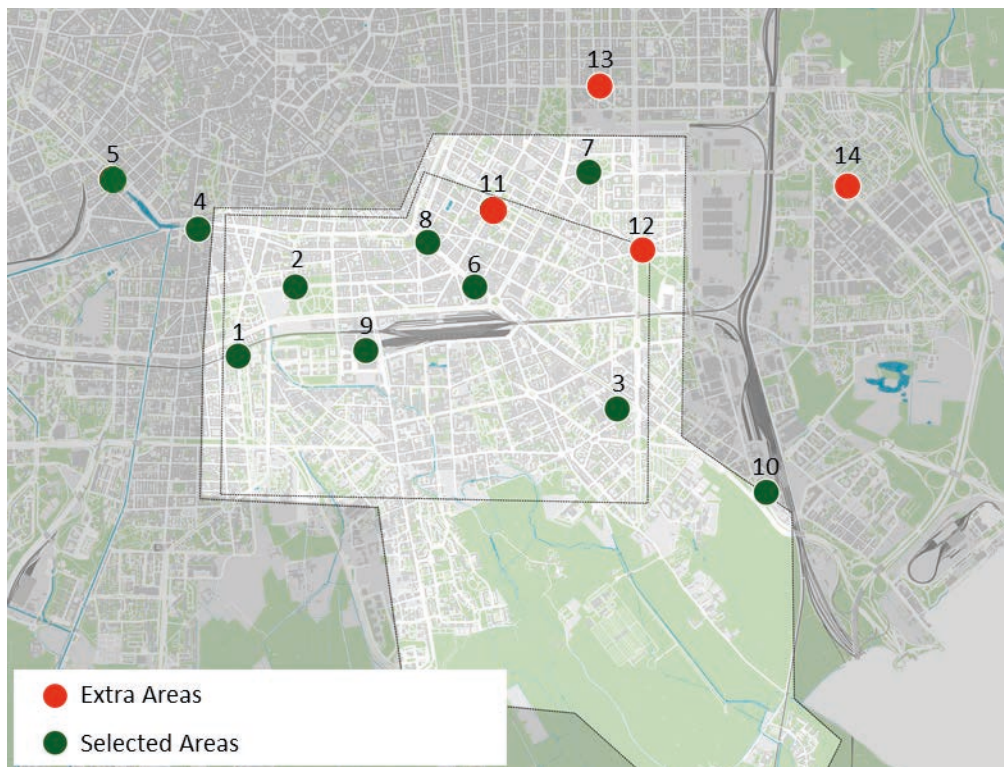
BIKE SHARING STATION PIAZZA
ANGILBERTO

- **Funded by Sharing Cities**
 - 340 Corvetto-Polesine
 - 341 Cuoco – Monte Cimone
 - 342 Bologna
 - 343 Ortles-Ripamonti
 - 383 piazza Angilberto
 - 384 piazzale Gabriele Rosa
 - 385 Ortles-Orobia.

- **Funded by City of Milan**
 - 302 De Angeli - Ripamonti
 - 303 Benaco - Brembo
 - 304 Adamello - Lorenzini - Prada
 - 305 Spadolini - Centro Leoni
 - 357 Ciceri Visconti - Martini,
 - 358 Insubria – Sebino
 - 359 Tertullino - Decembrio

**PROJECT GOALS**

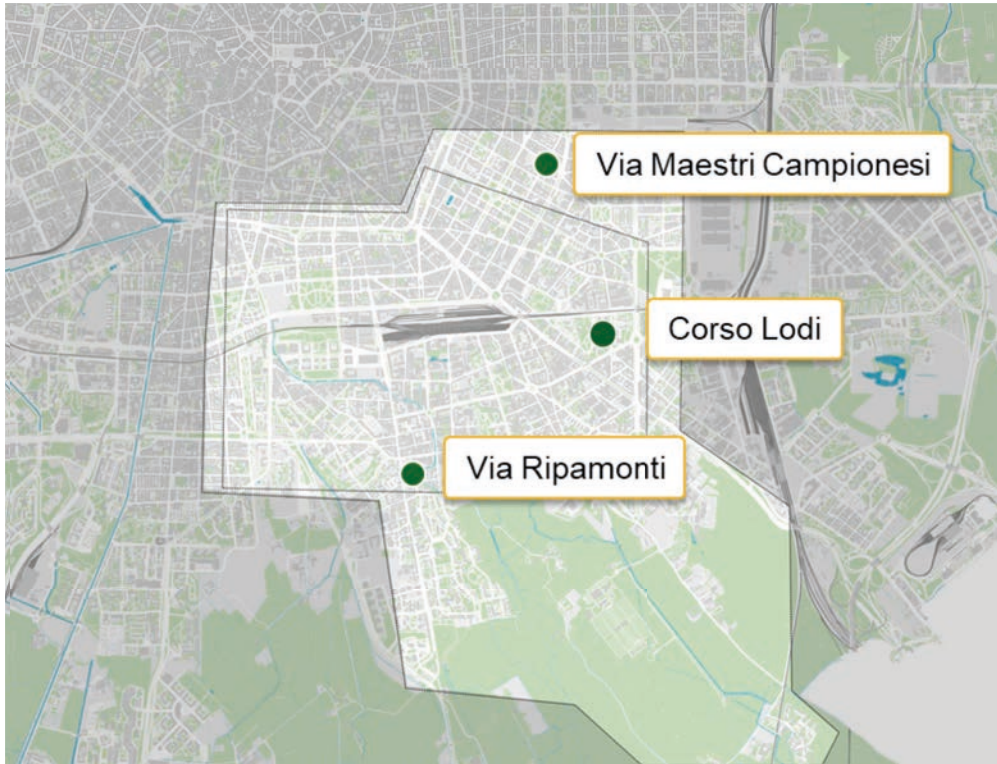
10 mobility areas with 60 recharging points (20 fast) integrated into Mobility areas



- | | | | |
|------|-----------------|-------|----------|
| ● 1) | Aicardo | ● 11) | Libia |
| 2) | Bocconi | 12) | Cuoco |
| 3) | Corvetto | 13) | Grandi |
| 4) | Darsena | 14) | Mecenate |
| 5) | Darsena-Cantore | | |
| 6) | Lodi | | |
| 7) | Martini | | |
| 8) | Porta Romana | | |
| 9) | Ripamonti | | |
| 10) | Rogoredo | | |

PROJECT GOALS

- 1) 11 new e-vehicles for the logistics, 1 charging point
- 2) Optimization system

**Results so far**

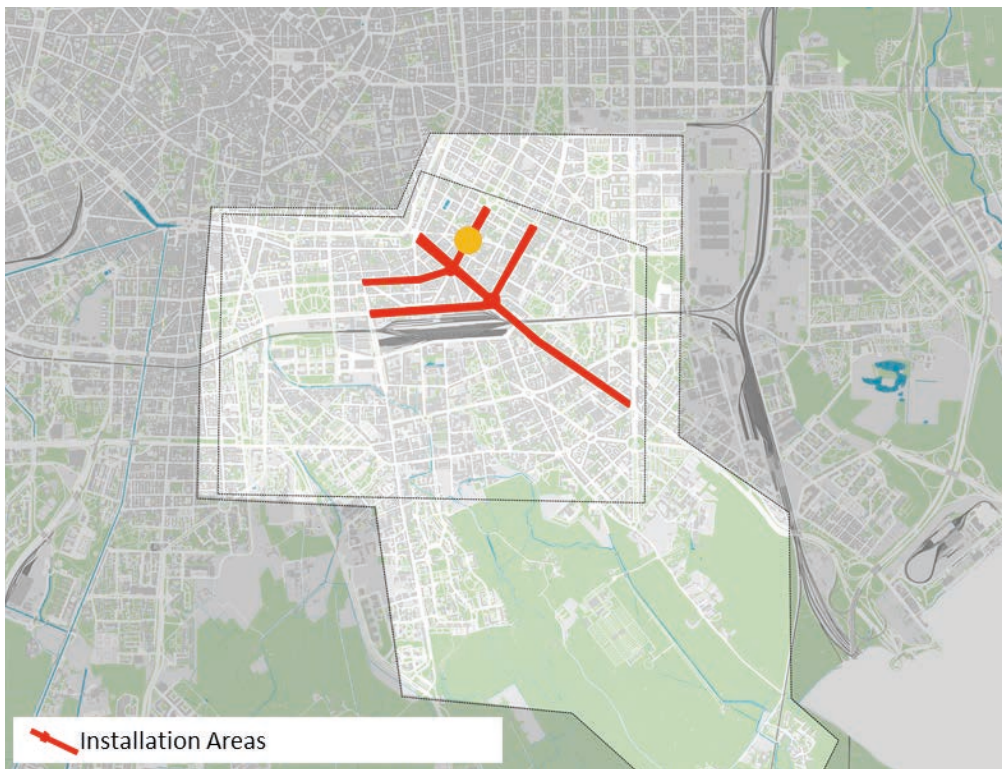
- 9 eVans
- 2Cargobikes
- 11 charging points installed

E-LOGISTIC CHARGING POINT
VIA MAESTRI CAMPIONESI



PROJECT GOALS











175 parking places with sensors (for logistics, disabled people, no-parking areas, Mobility Areas)



SMART PARKING SENSOR –
BUS STOP VIA LAZZARO PAPI

Results so far

- 75 parking sensors installed
- Interactive web view for monitoring parking slots
- 100 sensors to be installed in the mobility areas are in standby

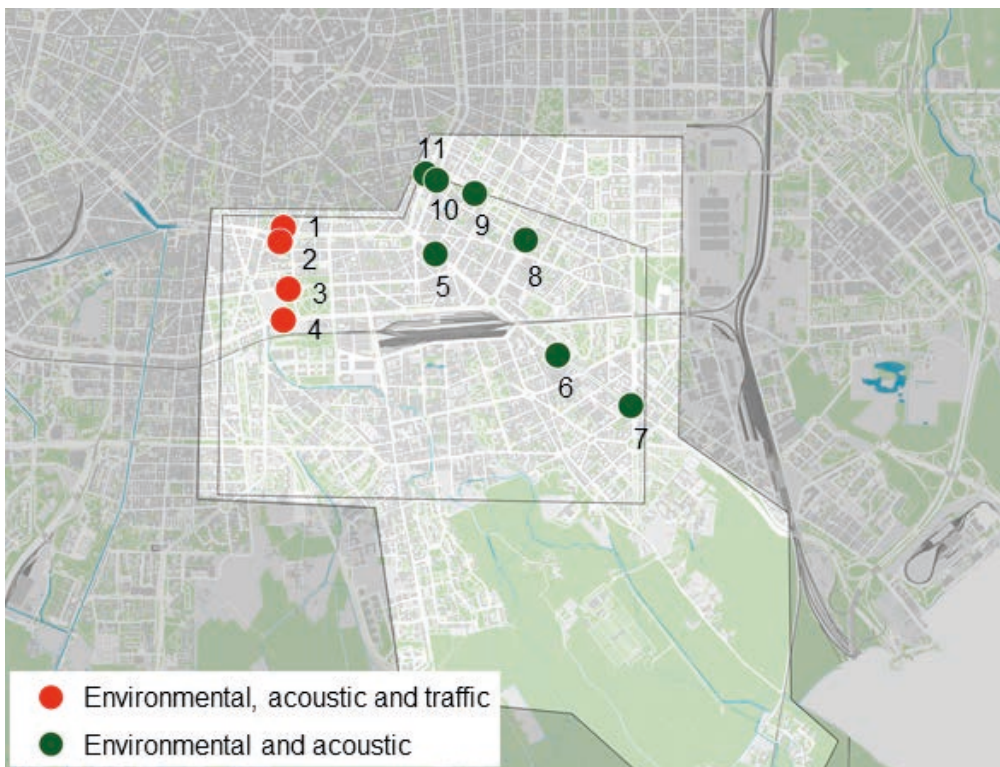
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SMART LAMPPOST

PROJECT GOALS

From Humble to LED to Smart Lampposts (WiFi antennas, Environmental monitoring, Monitor traffic flows and speeds) for 20 lampposts
Lorawan network in the project area



SMART LAMP POST – CORSO LODI

● Environmental, acoustic and traffic sensors:

- 1) Viale Beatrice d'Este
- 2) Viale Bligny
- 3) Viale Sarfatti
- 4) Viale Toscana

● Environmental and acoustic sensors:

- 5) Corso Lodi (center)
- 6) Corso Lodi (periphery)
- 7) Piazzale Corvetto
- 8) Viale Umbria
- 9) Viale Lazio
- 10) Viale Monte Nero
- 11) Viale Emilio Caldara

Beyond Sharing Cities

SHARINGCITIES Unità Smart City

Milano



Comune
di Milano

Direzione Mobilità
Ambiente ed Energia



5 private buildings, 24.000 mq

Bando BE2 (10-15% of total costs), potentially 300 retrofitted buildings



7 + 7 stations, 150 ebikes

PUMS 650 stations, 13.500 bikes in total



60 charging points within 10
Mobility Areas

Disciplinare colonnine di ricarica 1.040 charging points
PUMS 43 Mobility Areas



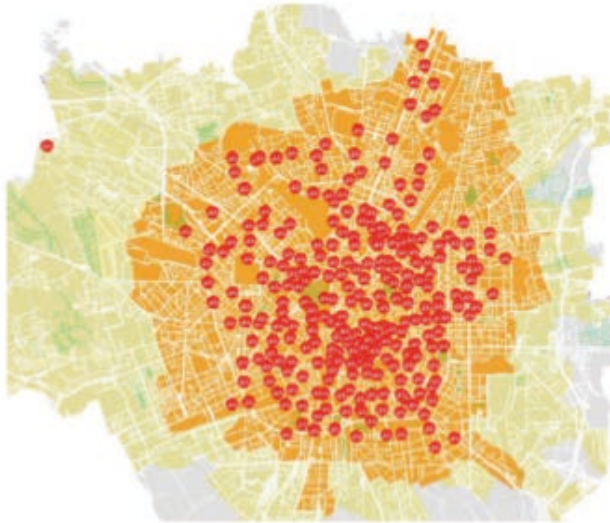
175 sensors

1.273 sensors for Bastioni Area

Car sharing

New areas
New target

Neighbouring municipalities
Corporate and condominium
car sharing



Bike sharing

Expansion towards suburban areas
500 new station
10.000 bikes

New sharing system

Electric Kick Scooter
Hoverboard
Segway



COMING SOON

CONTACTS

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PROJECT WEB SITES

www.sharingcities.eu

www.milano.sharingcities.it

KNOWLEDGE PLATFORM

www.sharingcities.eu/sharingcities/knowledge-platform

DIGITAL SOCIAL MARKET MILANO

www.sharingmi.it

