



Sharing Cities

An integrated approach for the Smart City

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Cross-cutting Unit of Municipality of Milan

Mission: create vision and identify priorities for Milan smart city, coordinate different municipality departments in smart city projects and activities

Main activities

- Smart District promotion
- Sharing Cities project
- Smart City lab
- Start-up promotion and incubation

economiaelavoro.comune.milano.it



SMART CITY
& SMART
CITIZENS



SHARING &
COLLABORATIVE
ECONOMY



NEW CRAFT
& URBAN
MANUFACTURING

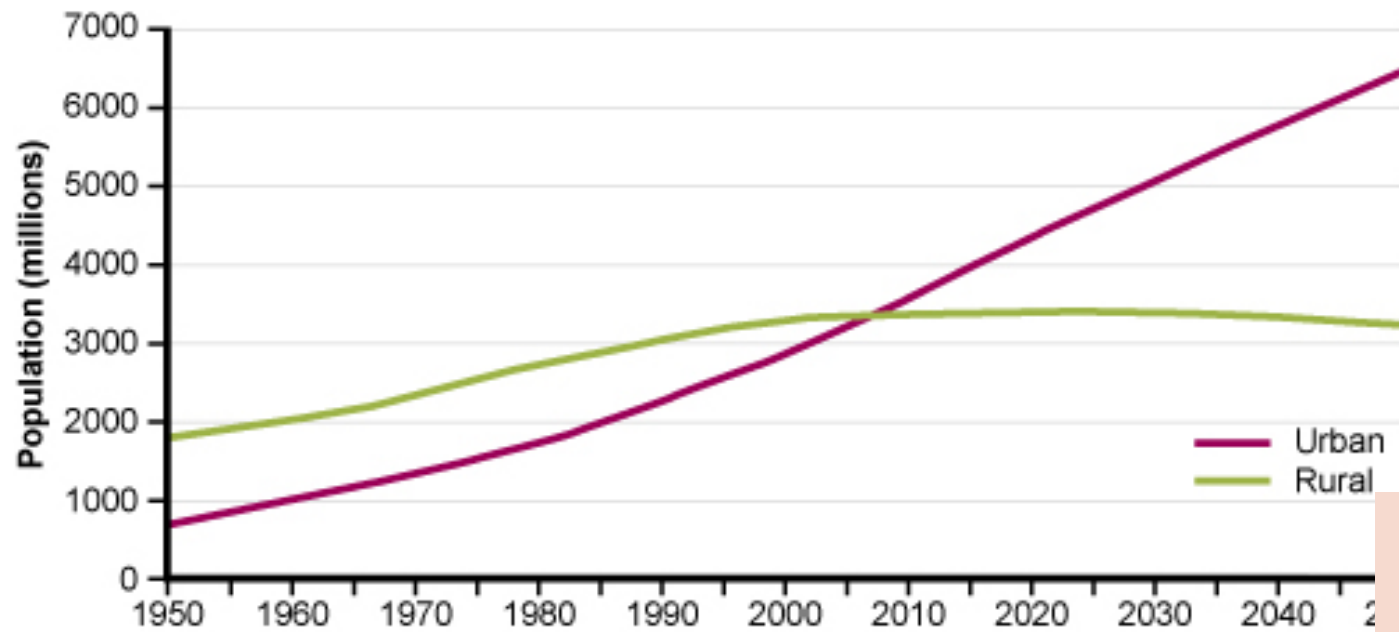


HYBRID
ENTERPRISES
& URBAN
REGENERATION



START UP &
KNOWLEDGE
INTENSIVE
ECONOMY

The role of the cities

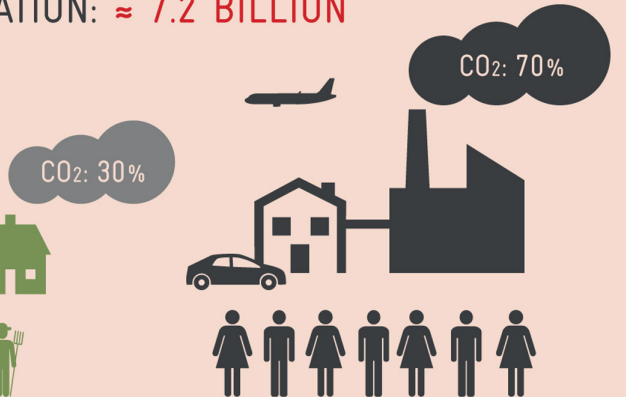


2014

WORLD POPULATION: \approx 7.2 BILLION

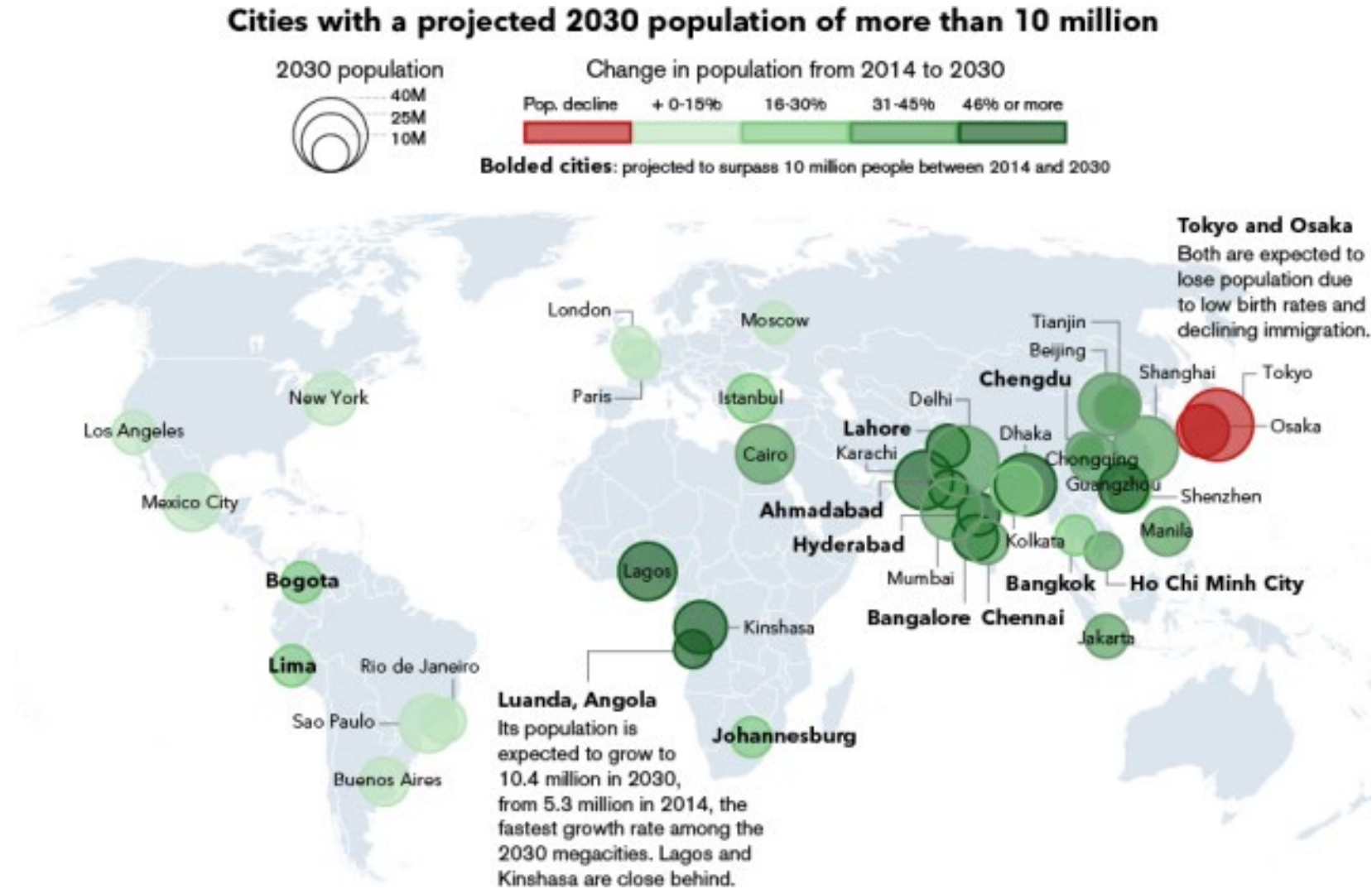


Rural population
46%

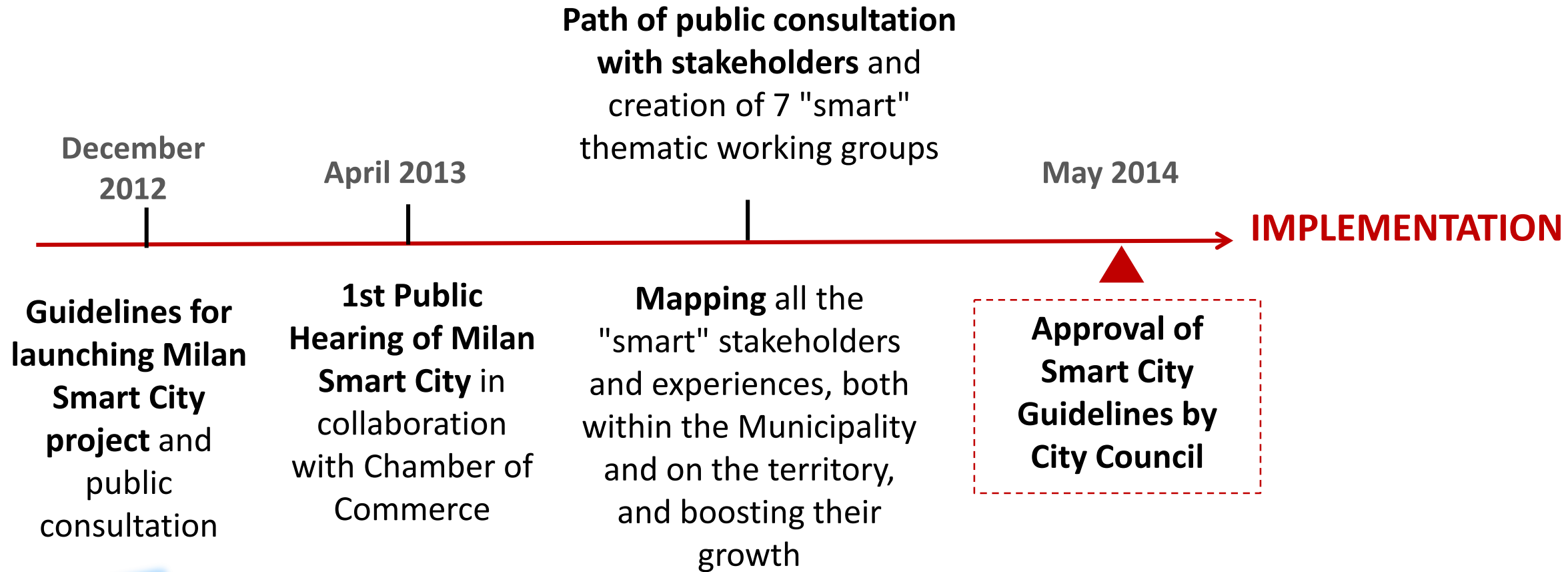


Urban population
54%

The role of the cities



MILAN SMART CITY – First steps



State of the Art - Placement

Milan confirms as the most advanced Italian city that seeks to use urban intelligence tools more extensively to promote and manage sustainable development
(Source ICityRate 2019)



RANKING 2019	CITTÀ	PUNTEGGIO ICR 2019	POSIZIONE NELLE GRADUATORIE DIMENSIONALI					
			SOLIDITÀ ECONOMICA	MOBILITÀ SOSTENIBILE	TUTELA AMBIENTALE	QUALITÀ SOCIALE	CAPACITÀ DI GOVERNO	TRASFORMAZIONE DIGITALE
1	Milano	686	1	1	54	2	12	3
2	Firenze	684	14	3	5	1	2	1
3	Bologna	652	2	6	3	3	1	2
4	Bergamo	598	10	4	15	17	10	6
5	Torino	596	9	5	86	6	4	5
6	Trento	594	3	16	1	5	14	10
7	Venezia	594	39	2	29	8	31	12
8	Parma	589	8	12	18	9	7	8
9	Modena	583	4	10	42	16	9	4
10	Reggio nell'Emilia	571	6	11	20	33	6	9



CONSORTIUM AND TIMING

Funding Programme: H2020 LIGHTHOUSE PROGRAMME
“Smart Cities and Communities solutions integrating energy, transport, ICT sectors through lighthouse projects”

DURATION: 2016-2021 (4 + 2 monitoring)

BUDGET: 24 Millions €

35 PARTNERS FROM CITIES, INDUSTRY REPRESENTATIVES, NON-GOVERNMENTAL ORGANISATIONS AND ACADEMIA

Coordinator: Greater London Authority

'Lighthouse' cities: Lisbon - London - Milan

'Fellow' cities: Bordeaux - Burgas – Warsaw

Milano Case Study

17 ITALIAN PARTNERS

Budget: 8,6 Mln euro



Sharing Cities aims at creating
NEARLY-ZERO EMISSION DISTRICTS



The **Demonstration Area**

"Porta Romana / Vettabbia":

- is around 14 sq.km at the south-east of the city;
- characterized by several abandoned industrial spaces, 70% of real estate assets with a G or F energy class and a poor and fragmented mobility;
- "stitch together" two areas of the City which are now geographically, economically and socially separated;
- "open-air laboratory" of urban regeneration and innovation

PLACE

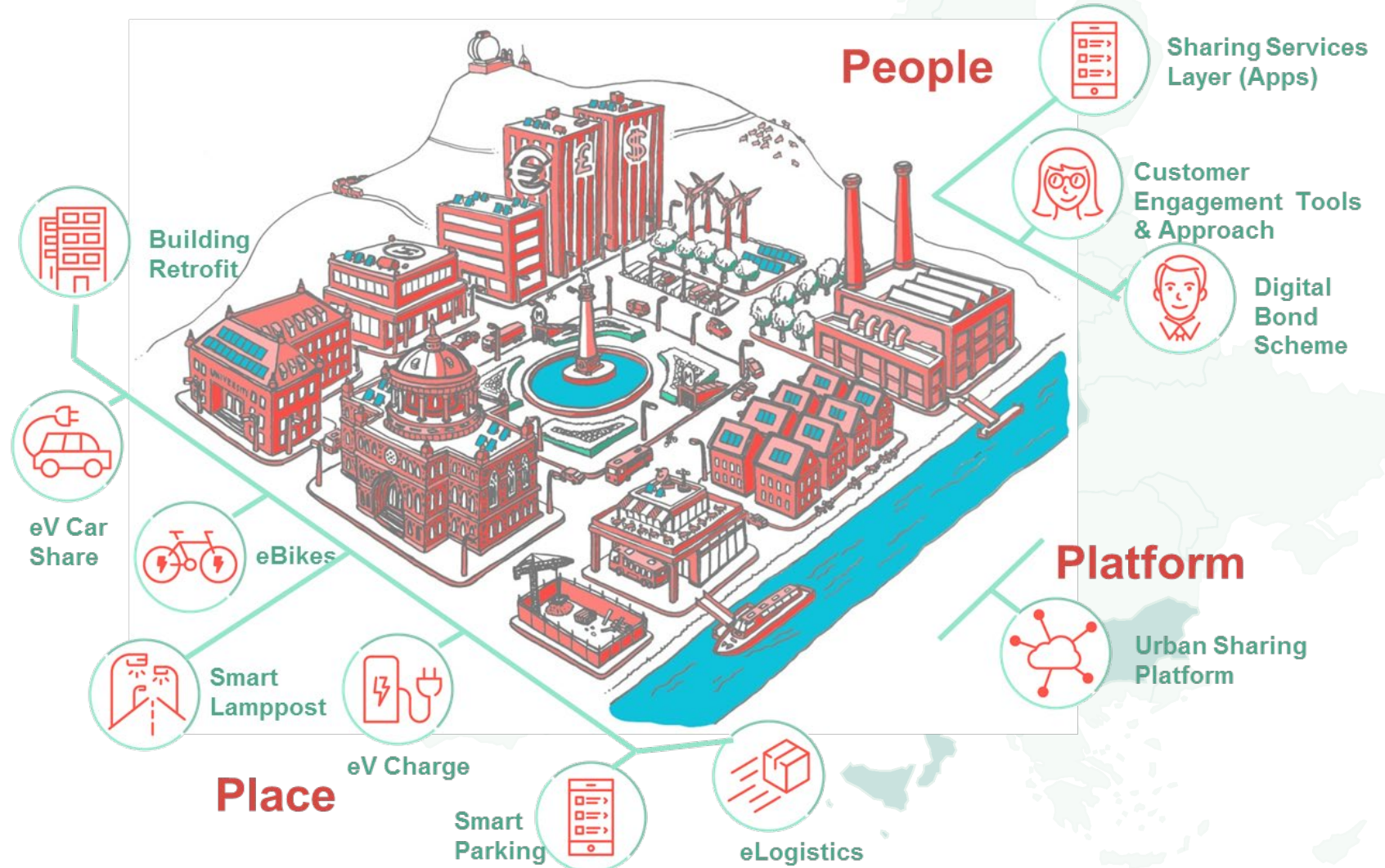
Infrastructure solutions for: low-energy districts, e-mobility, retrofitting of buildings, installation of sustainable energy management systems and smart lamp posts.

PEOPLE

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

PLATFORM

Urban sharing platform based on open data.



Sharing Milan:

Building smart cities together



SHARINGCITIES

People



Digital Social
Market
launched
February
2019



150
eBikes with
child seats

Platform



Urban
Sharing
Platform

Place



28
sensors
installed on 20
lampposts



262
apartments
retrofitted by
June 2019



11
e-logistics
vehicles
9
e-logistics
charge points



72
e-cars for
car sharing



60
e-car
charge
points



125
parking
sensors
installed by
June 2019

SHARINGCITIES MILANO CASE STUDY



Building Retrofit (public and private)



Sustainable energy management and monitor systems



Sharing electric mobility



E - Bike sharing



E - Logistics



Charging points



E - Car sharing



Smart parking



Smart Lamppost



Interoperability platform



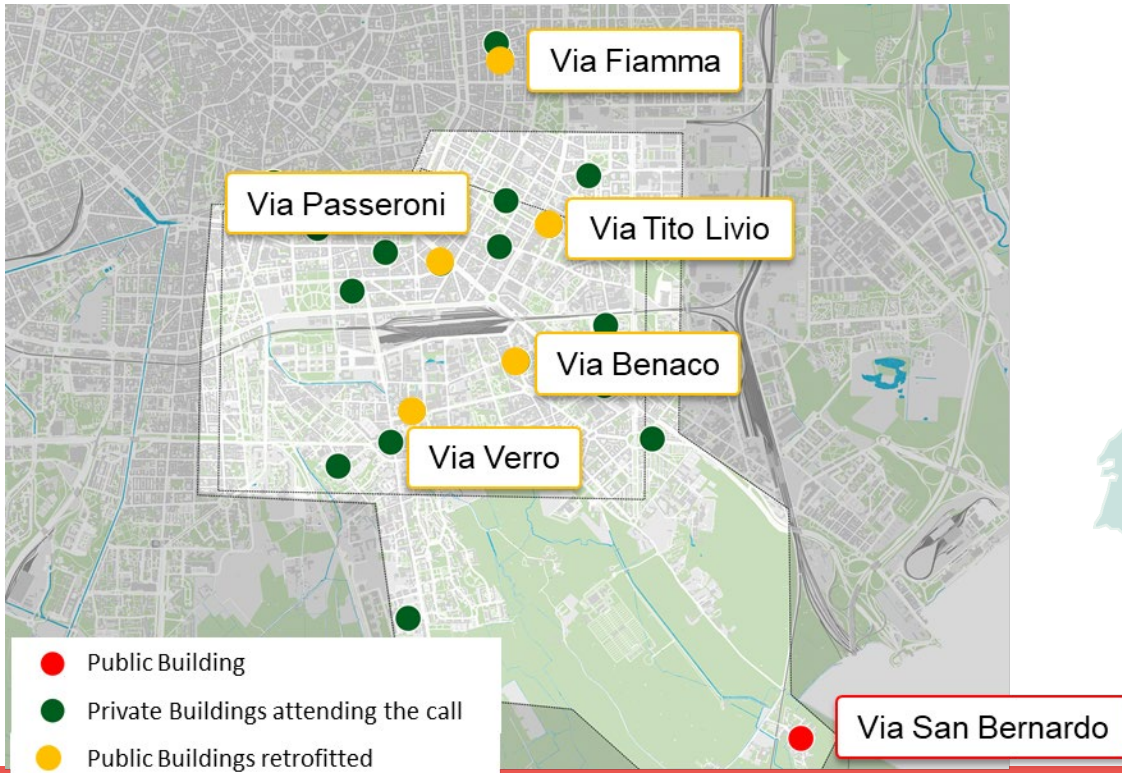
Citizenship co – design of solutions to enhance a sustainable attitude





PROJECT GOALS

- 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



Introduction and listening: the 7 buildings participate together in mixed tables for confrontation on the common issues and desiderata of their homes

Ice braking exercises:

mixed buildings tables 'In my ideal condominium..' In my real condominium..'

Goal: know each other, general ideas for a better life (non only retrofit), understand codesign meaning

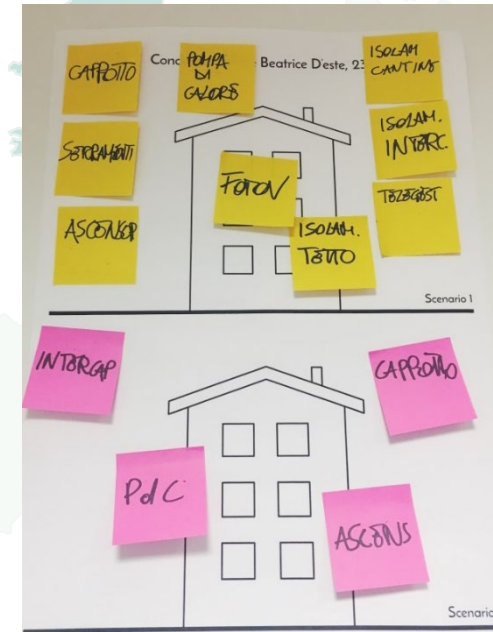
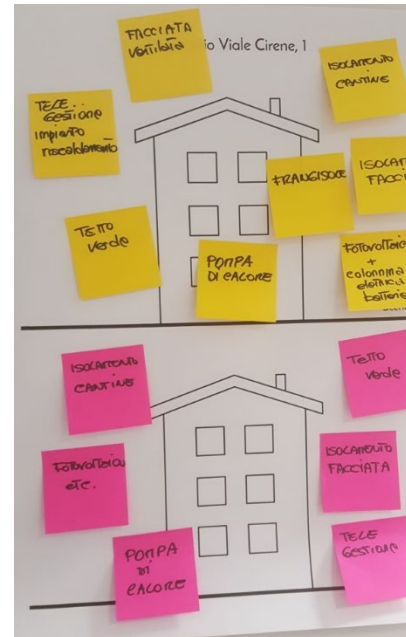


BUILDING RETROFIT

MEETING 2



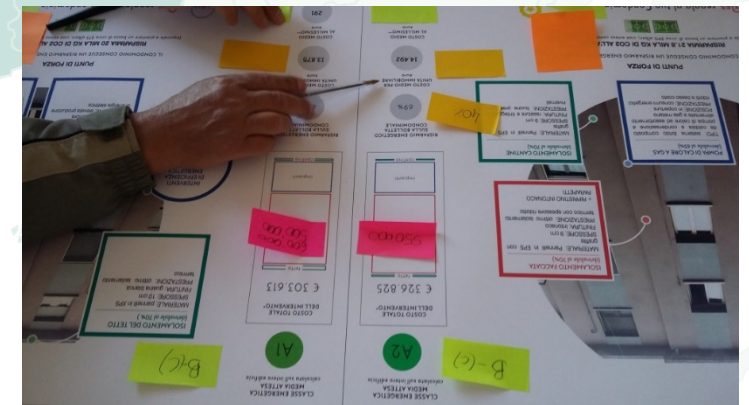
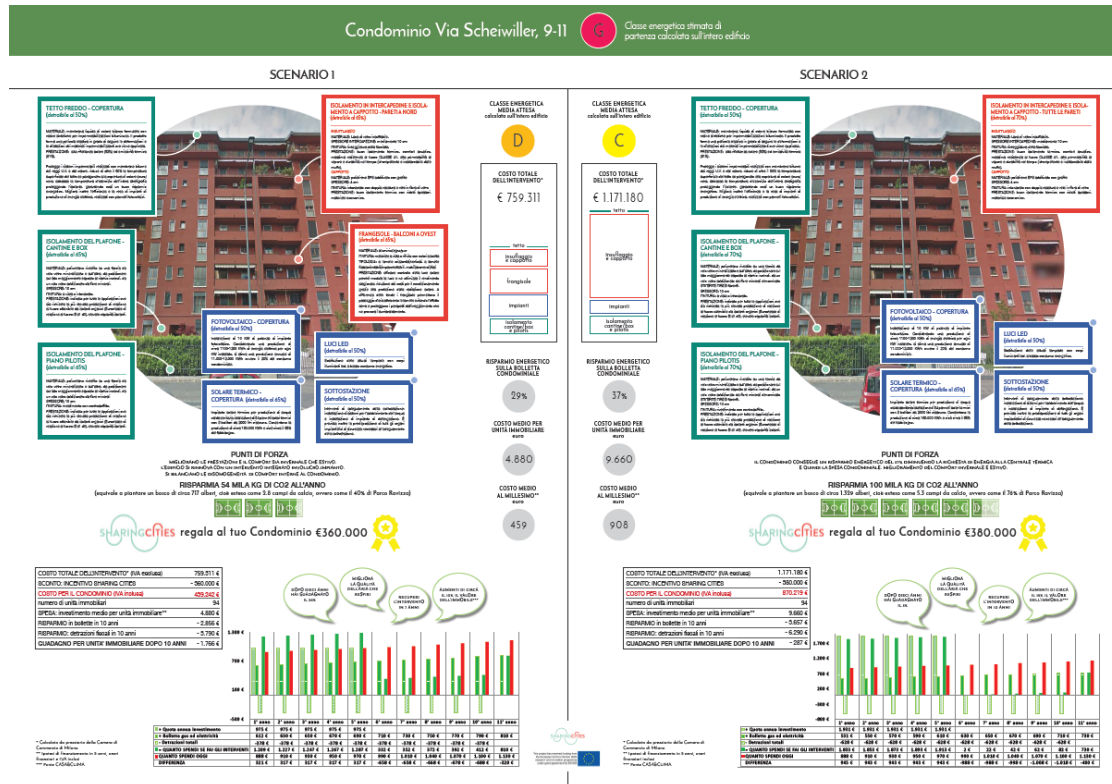
Sharing of Energy Analysis: Each group works with a technician that analyzed their building; the results of the energy audit are discussed together; the building owners have now the tools for building their scenarios of intervention



MEETING 3



The engineered scenarios are presented: each group is assisted by the technician that worked over the scenario. The costs and cash flows are presented.



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)

BEFORE

En. Consumption: 91,5Kwh/m2 y

Energy Class: F



AFTER

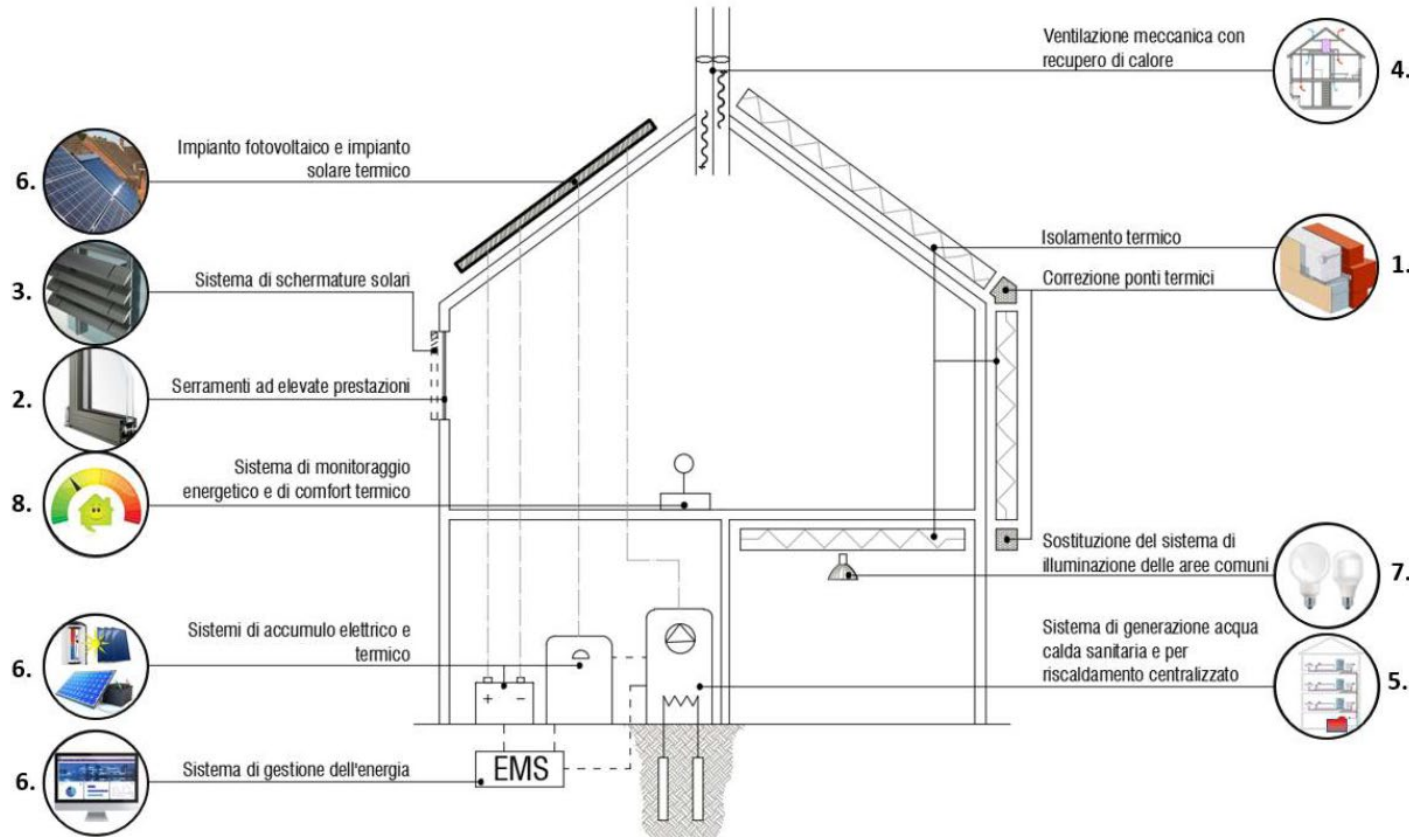
En. Consumption: -52%

Energy Class: B



- 23.500 KG CO2

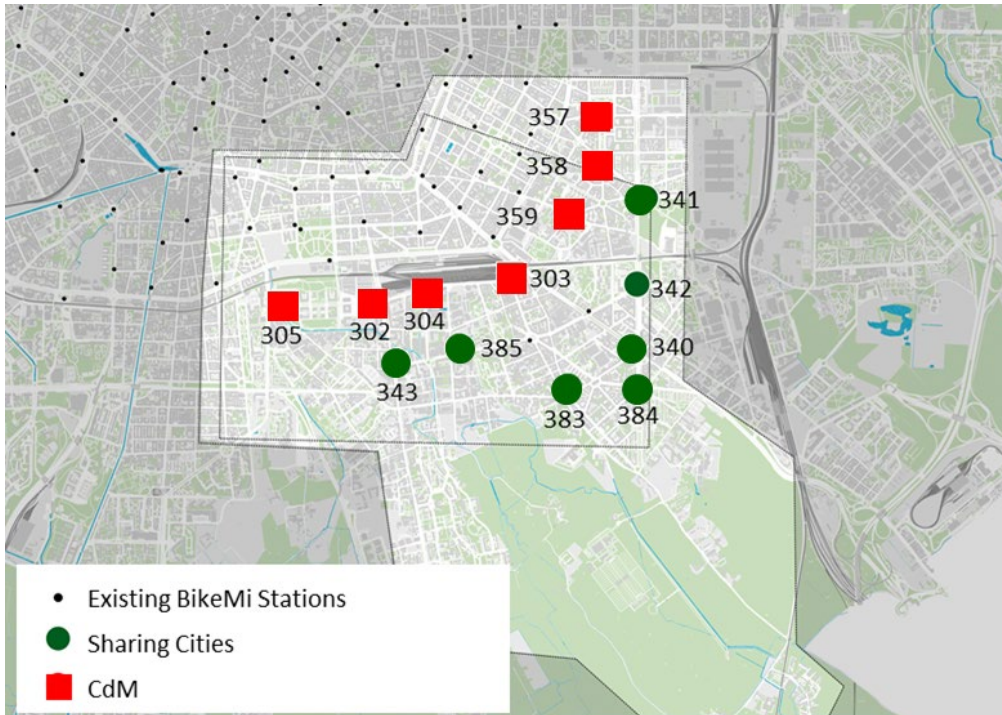
- **San Bernardo 29A, 66 apartments , 5000 sqm**
- Residents living in the buildings during the works
- Same methodologies for San Bernardo 48-50 (EU Gogle, 144 app.in total)





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.

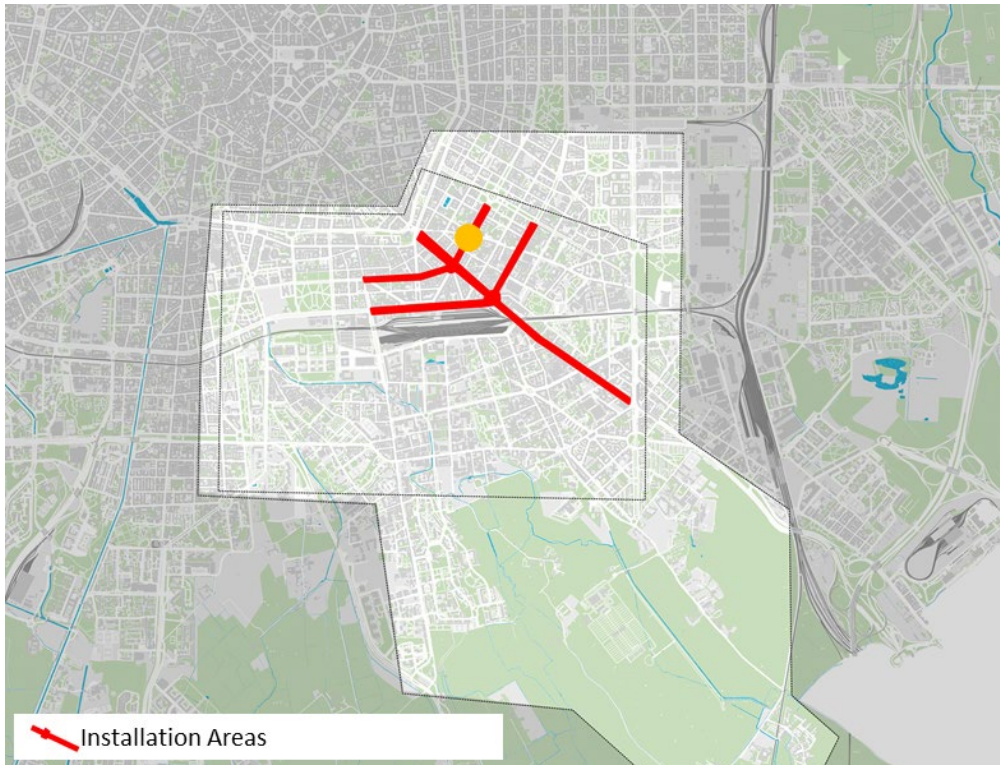
Funded by City of Milan

- 302 De Angeli - Ripamonti
- 303 Benaco - Brembo
- 304 Adamello - Lorenzini - Prada
- 305 Spadolini - Centro Leoni
- 357 Ciceri Visconti - Martini,
- 358 Insubria – Sebino
- 359 Tertullino - Dicembre



PROJECT GOALS

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



SMART PARKING SENSOR –
BUS STOP VIA LAZZARO PAPI

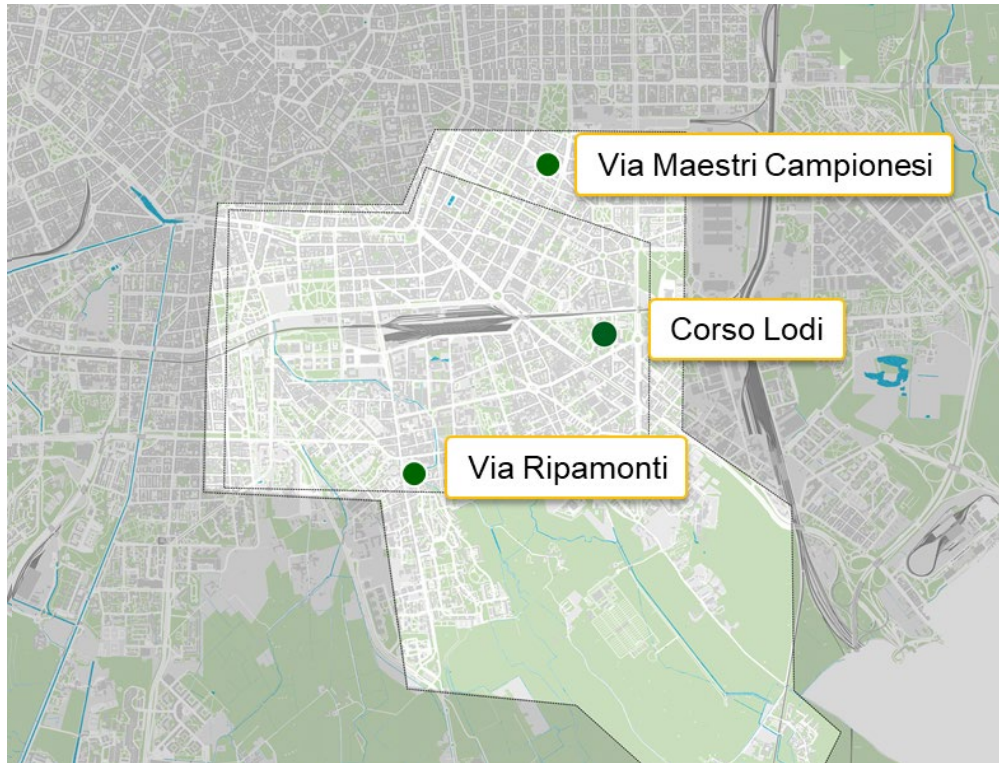
Results so far

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



PROJECT GOALS

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



Results so far

- 9 eVans
- 2 Cargobikes
- 11 charging points installed

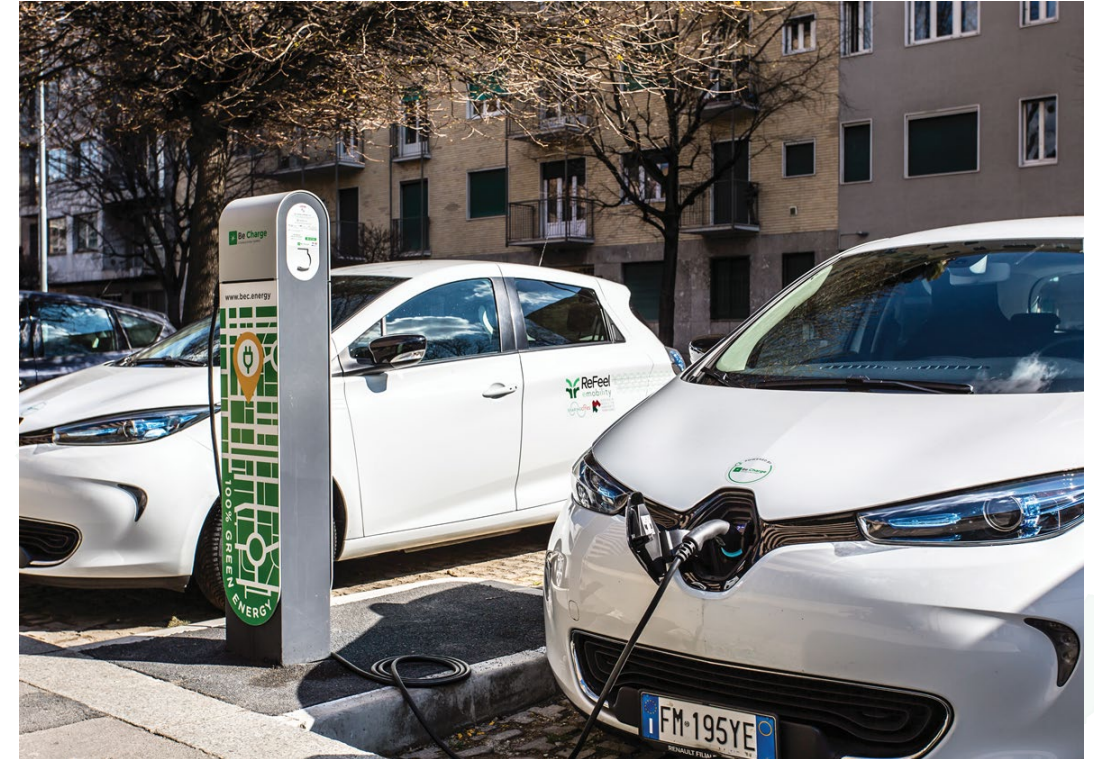
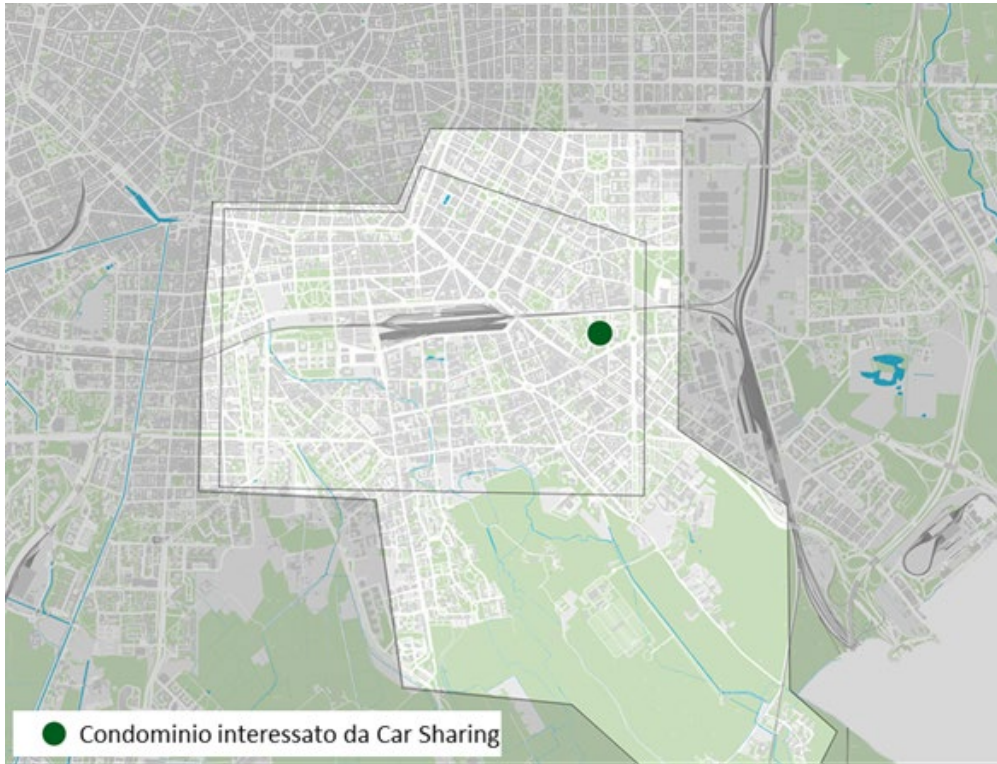
E-LOGISTIC CHARGING POINT
VIA MAESTRI CAMPIONESI





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

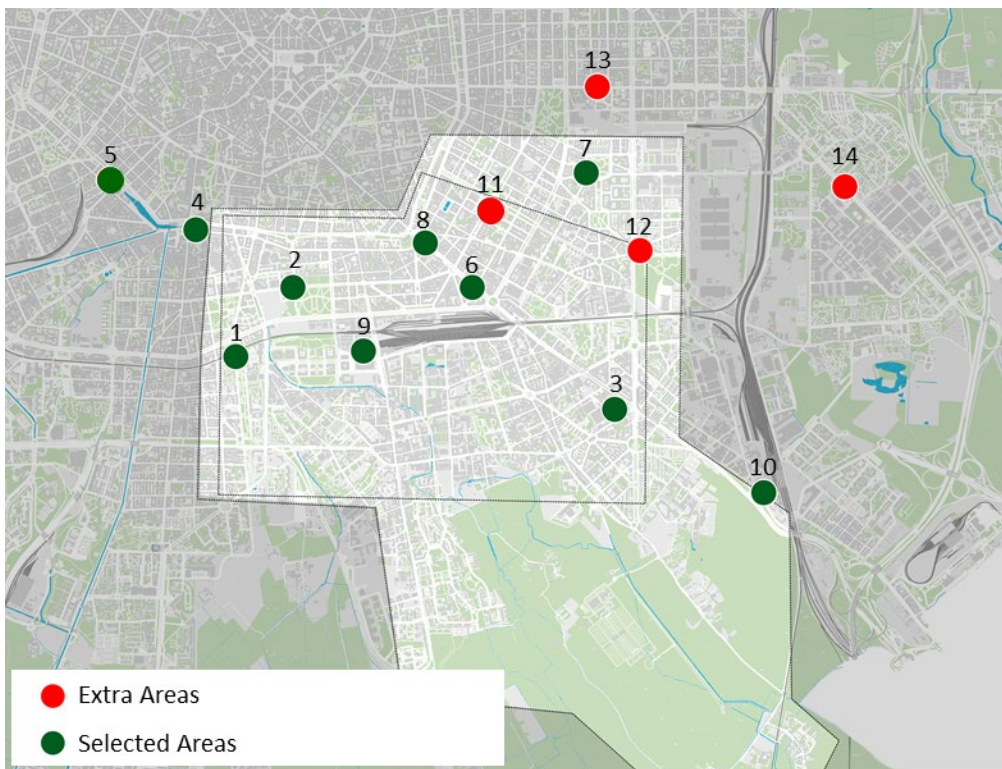
Results

- charging points installed
- 2 eCars in place
- 50 registered users
- New charging points inside the building area under evaluation



PROJECT GOALS

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



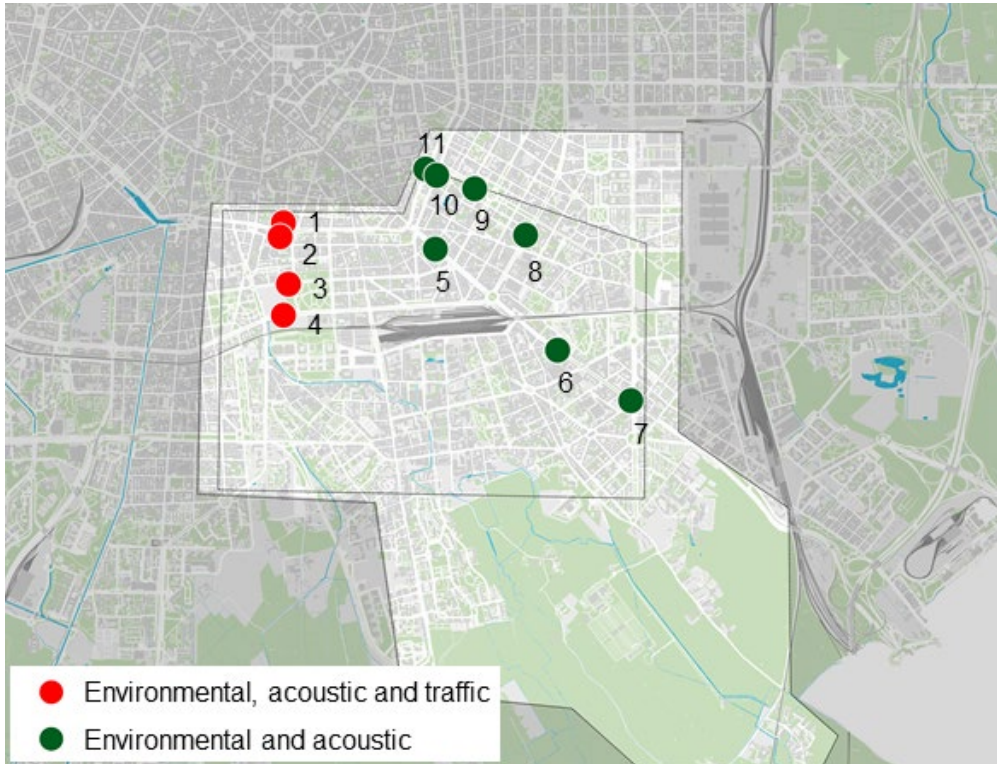
- 1) Aicardo
- 2) Bocconi
- 3) Corvetto
- 4) Darsena
- 5) Darsena-Cantore
- 6) Lodi
- 7) Martini
- 8) Porta Romana
- 9) Ripamonti
- 10) Rogoredo

- 11) Libia
- 12) Cuoco
- 13) Grandi
- 14) Mecenate



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

Symbiosis District

- Leed “Core & Shell” at Gold level (50% of energy locally produces, 50% from renewable sources)
- Mobility: shared e-vehicles (10 e-cars, 15 e-bikes), charging points (5), bike parking
- Lighting: LED lampposts, walking paths with LED
- Community: public square, Wi-Fi, charging points for smartphone
- Greening: trees, garden



SYMBIOSIS DISTRICT – PIAZZA ADRIANO OLIVETTI

Smart City Lab

- Energy Class: A1
- Functions: Start-up incubator · Coworking · Offices of the Public Administration
- Dimensions: total area – 4.000 sqm · Internal area – 1.600 sqm · Public Square – 1.000 sqm · Parking spaces – 530 sqm · Green spaces – 1.000 smq

SharingMi is a community that reward positive behaviours

Downloading the greenApes app and selecting Milan, it is possible to access a community of people who share ideas, concrete actions, tips for a more sustainable lifestyle.

The points earned are redeemable in prizes and discounts, offered by the activities participating in the project.

Results so far

Signups 1.550 | Stories shared 5.010 | 'Clap' sent 21.000

Diventa un cittadino sostenibile

Fare parte di SharingMi è semplice e gratuito. Registrandoti alla piattaforma potrai accedere alla community di persone che si stanno impegnando per migliorare Milano. L'applicazione ti aiuterà ad ottenere punti che potrai riscattare in premi per avere scelto uno stile di vita più eco-sostenibile.



Premia i tuoi clienti

Se sei titolare di un'attività che offre prodotti o servizi eco-sostenibili a Milano, iscriviti a SharingMi per essere visibile ad una comunità di persone che stanno facendo cose incredibili per migliorare Milano.

Per diventare un partner, il tuo business deve offrire prodotti o servizi eco-sostenibili. Per esempio puoi essere un ristorante o un bar che usa ingredienti locali in negozio. Potresti avere un'azienda che consegna cuscini biodegradabili o prodotti naturali.

Poi puoi vendere prodotti realizzati con materiali naturali oppure offrire servizi di riciclaggio rifiuti. Le tue idee di mercato moderno che sempre più consumatori oggi guardano con interesse e che ti danno la possibilità di essere l'ambasciatore del tuo business.

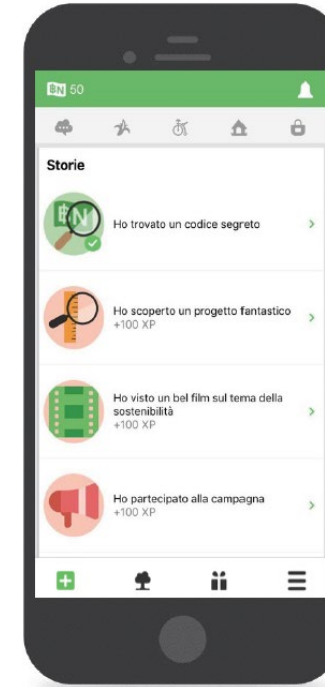
Diventa partner

Anche le aziende possono usare la piattaforma, proponendo sfide per i cittadini, o ai propri dipendenti. È un modo per connettersi con un pubblico più ampio raccontando il proprio impegno e azioni per ridurre l'impatto ambientale.

Condividendo i propri contenuti o idee, i partner possono contribuire al raggiungimento di obiettivi comuni con il programma di responsabilità sociale d'impresa, in base al proprio business. SharingMi ha gli strumenti giusti che aiutano i tuoi dipendenti a raggiungere obiettivi personali e aziendali, come migliorare la raccolta differenziata, promuovere

mobilità casa lavoro sostenibile, incoraggiare il volontariato aziendale. SharingMi e greenApes hanno creato un codice QR che ti aiuta a scegliere un'attività sostenibile e a partecipare, fornendo un'esperienza gratuita e coinvolgente per tutti i partecipanti. Per saperne di più, visita [SharingMi.it](https://www.sharingmi.it)

SHARE YOUR DAILY SUSTAINABLE BEHAVIOURS:



I'm going to the office by bike

For my lunch break: I've eliminated plastic dishes and bottles

I usually close water when I brush my teeth

I've planted herbs on my terrace



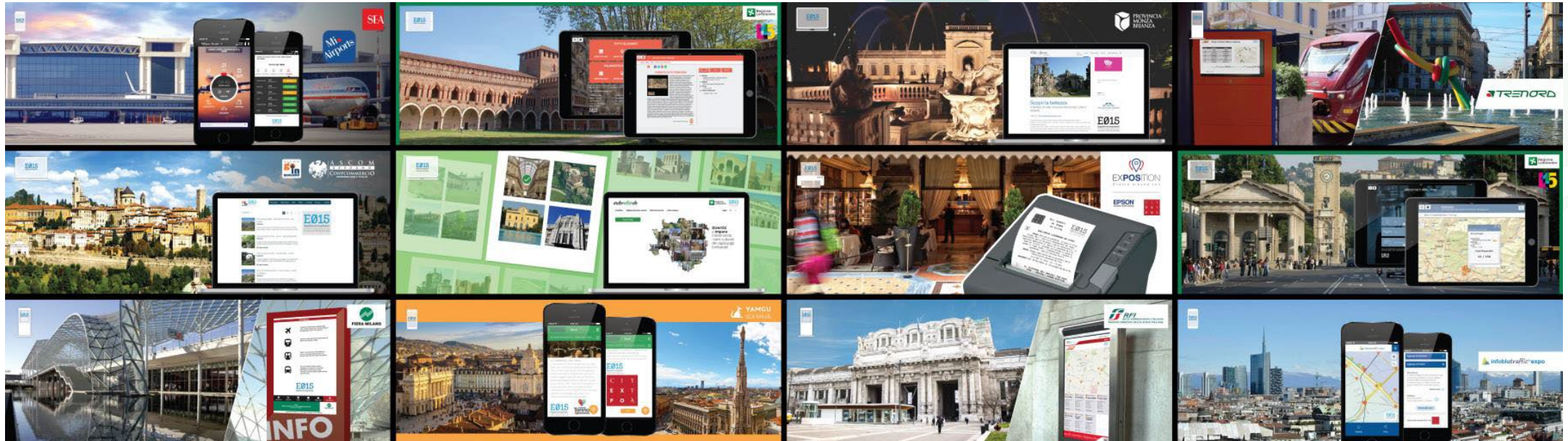
Who plays

- **Citizens and groups** (Social Street area Porta Romana-Vettabbia, amici Cuccagna, associations...)
- **Local shops:** 12 in Milan, 14 e-commerce
- **Business partner:** Fa' la cosa giusta, Legambiente, Cascina Cuccagna, PuntoCom, Milano Bike City, PinBike, T-12, Giacimenti Urbani, Area Porta Romana, Fastweb, Siemens, ...



PROJECT GOALS

Urban sharing platform based on open data aimed at managing data from a wide range of sources, including sensors, as well as traditional statistics. It is built on common principles, open technologies and standards.



BEYOND SHARING CITIES – MILANO STRATEGIES

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



Totale domande pervenute

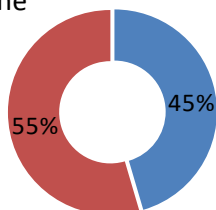
	totale	tipo A (Edificio - Impianto)	tipo B (Impianto)
	90	33	59

Domande ammesse

	55	25	30
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Domande in lavorazione

	1	di cui	2018	36
			2019	54



■ Interventi tipologia A ammessi

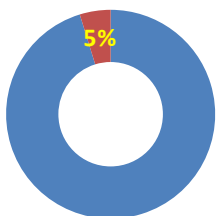
■ Interventi tipologia B ammessi

Contributo stanziato con Bando

€	22.250.000	€	8.900.000	13.350.000
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Contributo prenotato

€	3.182.942	€	3.031.090	€	151.852
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95%

14%

■ Contributo prenotato per int. Tipo A

■ Contributo prenotato per int. Tipo B

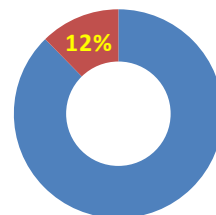
Importo generato dai lavori

€	24.582.506	€	21.547.831	€	3.034.675
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88%

■ Importo generato da interventi tipologia A

■ Importo generato da interventi tipologia B



380 buildings
21M kgCO₂/yr
1.7 M trees

Istituti finanziari aderenti

5

BPM

CreVal

BCC

Unicredit

UBI (in fase di accreditamento)

Tipologia intervento sul generatore - passaggio da:



gasolio a metano

9

gasolio pompa di calore

1

CO₂ risparmiata (Kg/anno)

3.034.824

n° alberi compensativi

252.902

media di albero maturo 12 kgCO₂/anno

THANK YOU!

Roberto Nocerino

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For info

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www.milano.sharingcities.it

