



POLITECNICO
MILANO 1863



Smart mobility at Politecnico di Milano

Sustainability Unit - Giada Messori, Eleonora Perotto

3rd February 2020

Sustainability@Polimi

Sustainability at Politecnico
Quality of life, health and well-being

International policies

Networks and collaborations

Sustainability Unit

**SUSTAINABLE
DEVELOPMENT
GOALS**



CITTÀ STUDI
CAMPUS SOSTENIBILE

VIVI.POLIMI.

Polisocial

Multi Chance Poli Team

POLIMI
SPORT

COG COMITATO
UNICO DI GARANZIA

Politecnico Energy Commission



Politecnico mobility strategy



Main SDGs involved in our activities:



Politecnico mobility strategy



Facilitations and agreements

Funds for staff PT subscriptions, agreements for shared mobility services, ...



Infrastructural interventions

Bike shelters, recharge stations, structural renewal and redesign of open spaces



Awareness raising campaigns

Events and seminars, test drives, citizen science projects, experimentations ...



Networking activities

Working groups at local, national and international level (RUS, U-MOB, ...)

Politecnico activities for smart mobility

Techno-centric smart mobility

E-car for duty travels

Recharge stations

Consumer-centric smart mobility

Info desks and events

Bike repair workshop

Shared mobility

Citizen science

Test drives

Contests

Driving courses

Car Pooling

Integrated smart mobility

Public transport

Bike shelters

Bikes and kick scooters

Requalification of open spaces

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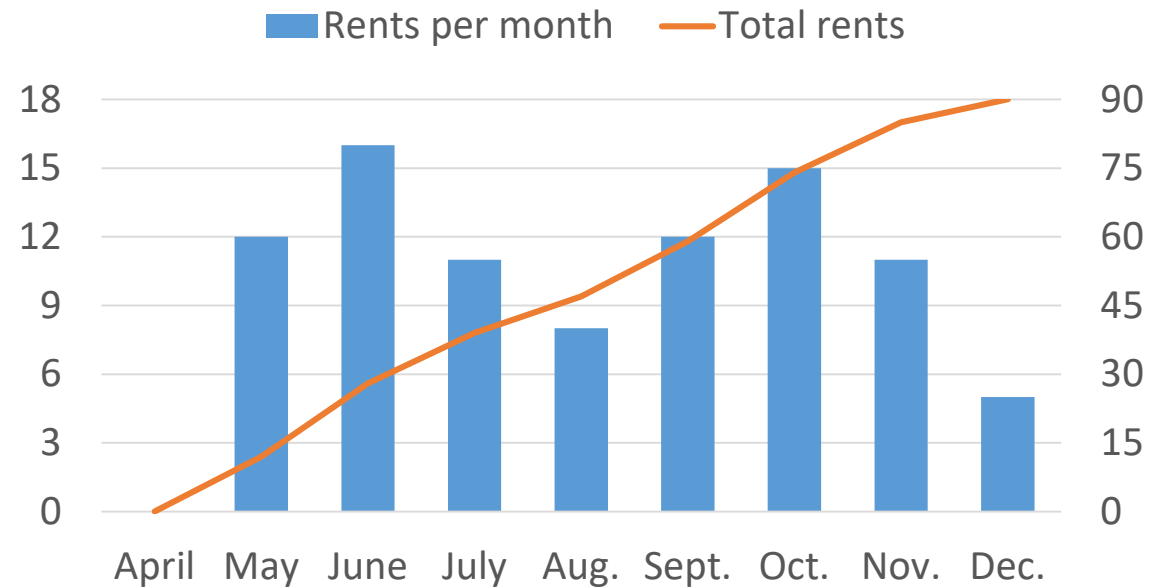
Bikes and kick scooters

Requalification of open spaces

E-car for duty travels

An electric car was available for staff duty travels for 9 months, accustoming people to e-cars and to shared services relying on an app while avoiding the use of traditional cars.

- **90 rents**, 2.730 km travelled in 670 hours
- **453 kgCO₂** not emitted in the atmosphere



available only for half month in August and December (holidays)

E-car for duty travels

Technology

«I hope the agreement will be renewed and I'll be able to use again the fabled Leaf»



«Comfortable, smart and silent!»



Giuseppe Salvia

1 agosto 2018 · 🌐

Today triple driving experience: electric, automatic and shared. An experience completely shared with Nicola, otherwise I'd still be at the parking lot trying to understand what to do. Thanks to Campus Sostenibile for the agreement between UbeeQo and Politecnico di Milano, and to Eleonora Perotto for her suggestions.



👍❤️ 50

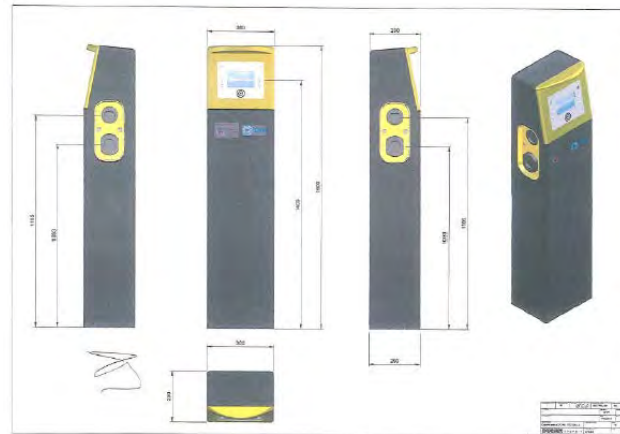
Condivisioni: 1

Recharge stations for electric cars

Technology

3 recharge points are available inside the Politecnico campuses.

According to the Polimi Mitigation Plan (2019), more should be installed shortly taking advantage of the many construction sites.



Politecnico activities for smart mobility

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Info desks

Consumers

Info desk held at least twice a year, during the *Sustainable Development Festival* and the *European Mobility Week*, to:

- **Raise awareness** on sustainable mobility and encourage sustainable behaviours
- Promote the various **ongoing initiatives**



<https://festivalsvilupposostenibile.it/2020>



<https://mobilityweek.eu/home/>

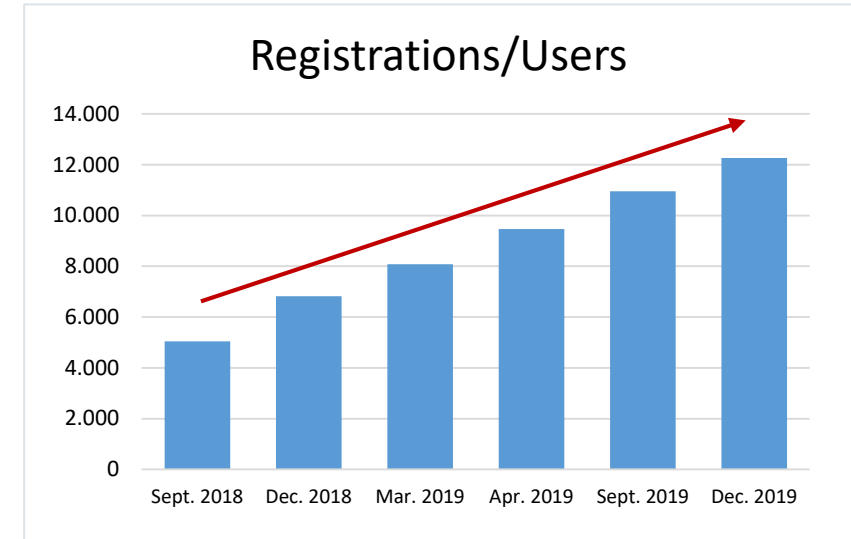
Shared mobility

2017-18: **6** companies under agreement

2018-20: **16** companies under agreement

- 6 car sharing
- 4 scooter sharing
- 1 bike sharing
- 5 bus/shuttle services

Advantages to both Politecnico students and staff when using one of these services



Shared mobility

Consumers

Information desks for each company to:

- explain the importance of shared mobility
- present its service and fleet
- let people try driving their vehicles
- promote complementary initiatives



Test drives

Consumers

Test drives were open to everyone during shared mobility events to:

- **engage** more people
- get rid of the “**fear of the new**”
- show **how easy** it is to drive electric vehicles



Bitride – Hybrid bike sharing

Integration

Partnership between Politecnico and a start-up for the testing phase of a new hybrid free-floating bike sharing service.

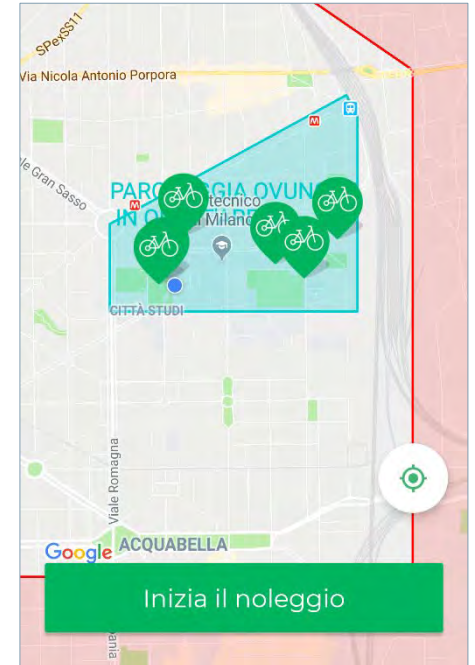
The bikes could be used in 3 different ways: completely muscular, completely electric or as hybrids.



Actively taking part in the project was **effective and engaging**

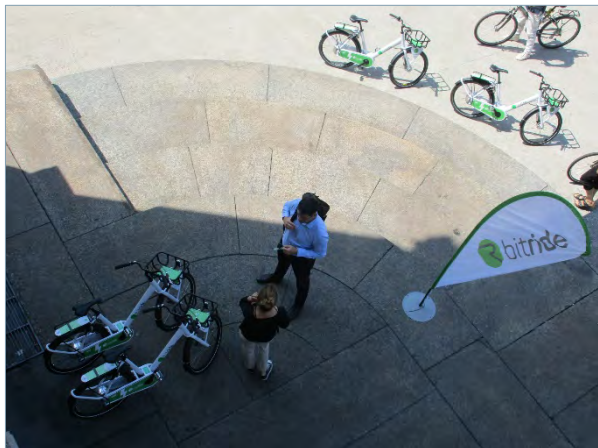
- N. of candidates: **623**
- N. of people actively involved: **147**
- N. of bikes deployed: **32**
- N. of rents: **425**

“I actually use the bicycle more than before!”



Bitride – Bike ride to Parco Forlanini

Integration



Polimi agreements at the “Best Practice Award”

In 2019, Politecnico participated in the “Best Practice Award”, a contest promoted by the **European project U-MOB Life**, and was among the finalists.

A video and a poster were used to present the activities on shared mobility during the **II° European Conference on Sustainable Mobility at Universities** in Krakow.

U-MOB
green in motion

11 SUSTAINABLE CITIES AND COMMUNITIES

Contest of best practices on sustainable mobility at Universities

Agreements for shared mobility:
the Politecnico di Milano experience

CITTÀ STUDI
CAMPUS SOSTENIBILE

POLITECNICO
MILANO 1863

RUS
Mobilità

<https://bit.ly/2AO9bfP>

Agreements for shared mobility: The experience of the Politecnico di Milano
Giada MESSORI*, Eleonora PEROTTO*, Eugenio MORELLO²
¹Politecnico di Milano, Servizio Sostenibilità di Ateneo, Milano.
²Politecnico di Milano, Dipartimento di Architettura e Studi Urbani, Milano.
*Contact information: mobility@polimi.it

INTRODUCTION AND GOAL

In 2017, the Politecnico latest mobility survey revealed that 75% of both our students and personnel were aware of shared mobility services but less than 20% of were actually using them. This led to the idea of promoting this modality of sustainable mobility as an opportunity to reduce traffic and pollution, in accordance to the framework of the UN Sustainable Development Goals (in particular SDG 11 – Sustainable Cities and Communities).

The aim was to encourage people to leave at home private cars, by showing them the available alternatives while providing economic, environmental and social advantages. Meanwhile, our main campuses are currently undergoing a renewal process, thanks to the projects by Renzo Piano and VIVI POLIMI, which will also reduce parking spaces on campus to further discourage the use of private cars.

AGREEMENTS AND AWARENESS RAISING CAMPAIGNS

AGREEMENTS FOR 2017 AND 2018
6 companies under agreement:
• 5 car sharing • 1 scooter sharing

AGREEMENTS FOR 2018 TO 2020
16 companies under agreement:
• 6 car sharing • 4 scooter sharing
• 1 bike sharing • 5 bus/shuttle services

Table 1: Number of registered and active users over time

Month	% registered users	% active users
March 2018	~2000	~1000
September 2018	~4000	~2000
December 2018	~6000	~3000

8 promotional events have been organized, each featuring:
• information point by the Sustainability Office, raising awareness on the issues of sustainable mobility and emphasizing the importance of not using private cars.
• information desks for each sharing mobility company, presenting their services and fleets, letting people testing vehicles and promoting complementary initiatives.

FULL ELECTRIC CAR FOR DUTY TRAVELS

A full electric car was made available for personnel duty travels for a period of 9 months, as the result of an agreement. This avoided the use of traditional combustion vehicles and was a great opportunity for our community to get familiar with the experience of driving an electric car.

• 90 rents, 2.730 km travelled
• 453 kgCO₂ not emitted in the atmosphere

HYBRID BIKE-SHARING TESTING PHASE

A partnership between our University and a Politecnico start-up was implemented for the testing phase of a new hybrid free-floating bike sharing service. Actively taking part in the experimentation helped sensitize people in an effective and engaging way.

• N. of candidate participants: 623
• N. of people actively involved: 147
• N. of bikes deployed: 32
• N. of rents: 425

CONCLUSIONS

The initiative was highly appreciated by all Politecnico users and we expect even more people to take advantage of this opportunity in the future. The impact of this initiative will be assessed in spring after our customary mobility survey, when it will be possible to measure how many people changed their habits in commuting to the University, compared to the past. The best ways to engage our community has proven to be the chance to drive such innovative vehicles and test new ways to travel, getting rid of the “fear of the new”, often associated with them. Moreover, communication is really important: awareness needs to be raised in an engaging way while providing effective alternatives for changing people behaviors.

<https://u-mob.eu/best-practices-award-results/>

Driving courses

Consumers

Thanks to the *GAI* association, two driving courses were held in 2019, one focusing on **hybrid cars** and the other on **full electric cars**.

The aim was to teach Politecnico staff and students:

- technical features and costs of this vehicles
- how to recharge and how long does it take
- how to drive to better exploit the electric motor



Both theoretical and practical sessions!

<https://gruppocquistoibrido.it/>

Bike repair workshop

Consumers

Launched in 2014, **Policiclo** is the Politecnico bike repair workshop (open also for citizen). It is managed by students and offers a **free bike repair service**, while teaching people how to take care of their bikes.

Some numbers:

- Students involved: **8**
- Weekly openings: **2**
- Customers for opening: **7-8**

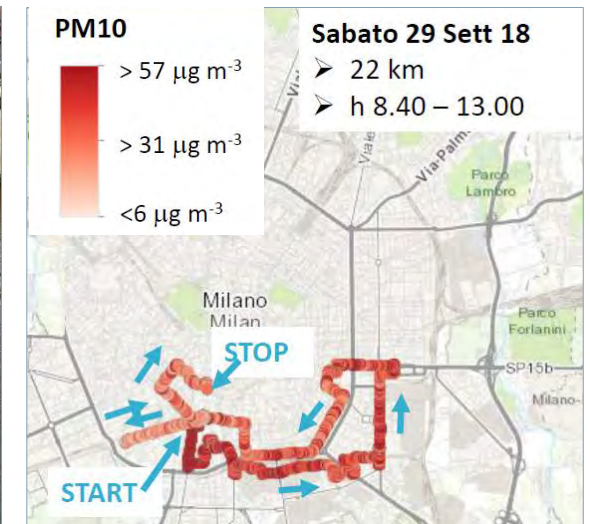
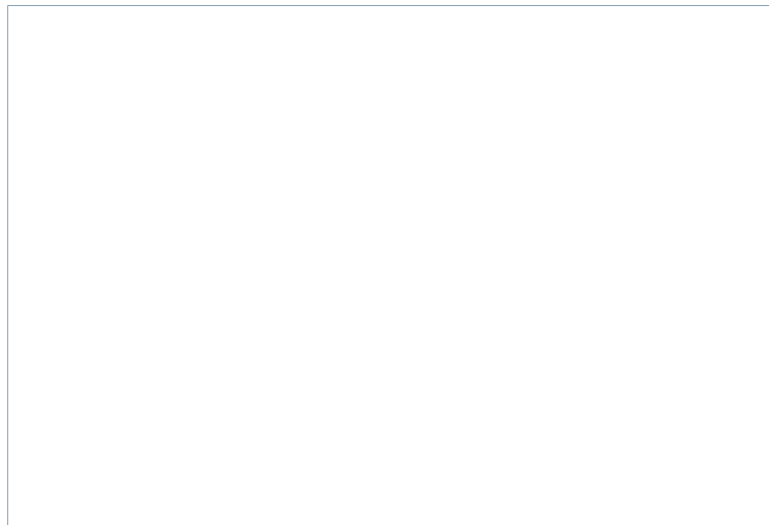


Citizen science projects

Consumers

Together with *Citizens for Air*, an association fighting to defend the right to breath cleaner air in cities, in 2018 we held a **bike relay** to measure Milan air quality (PM) as perceived while riding a bike.

The PM concentrations measured during the relay, mapped and presented during the *ECOMONDO* exhibition, show the strong difference between cycling in busy main roads or on less frequented ones.



<https://www.cittadiniperlaria.org/report-ciclostaffetta-milano-2018/>

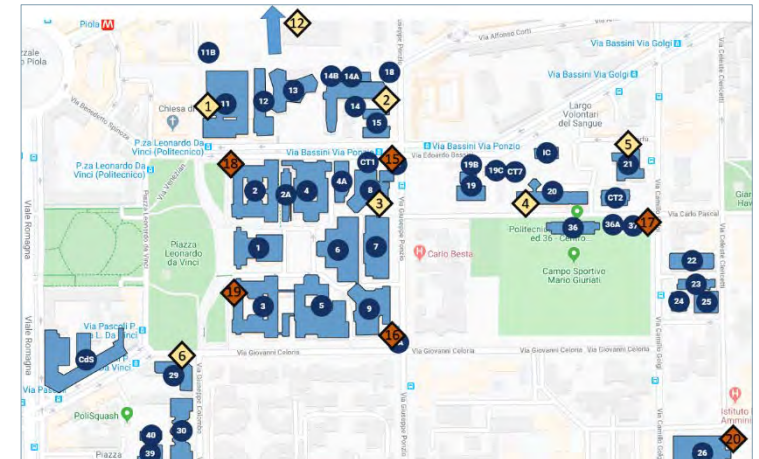
Citizen science projects

Consumers

We are now involved in a new project developed by *Citizens for Air*, **NO₂ No Thanks**, which aims at involving citizens in measuring air quality next to their houses, schools and work places.



Politecnico bought 20 sensors, to be installed in each departments and in other strategical places to map the air quality around the campus. The measuring campaign should start 8th February.



Milano Bike Challenge

Consumers

Politecnico participates every year to the Milano Bike Challenge, a friendly competition aimed at encouraging employees to cycle to work.

Our University took 3rd place in 2015, 2nd place in 2017 and 2018 and **first place in 2019**.



<https://www.lovetoride.net/milano?locale=it-IT>

“Leave the car at home” contest

Consumers

Contest reserved to Politecnico staff, held every year and aimed at encouraging employees to come at work without using their cars. Together with various prizes, winners also receive the title of “*Polimi ambassador for Sustainable Mobility*”.



U-MOB video contest

Consumers

On Going
Projects



The poster features a central illustration of two hands holding a clapperboard and a tablet. The clapperboard has icons for a bicycle, train, person, bus, and car. The tablet displays 'Video contest', 'U-MOB LIFE Project', and '2° ED.'. The background is white with colorful confetti. Logos for Politecnico Milano 1863, Città Studi Campus Sostenibile, and the U-MOB logo (with 'green in motion' and a European flag) are at the top. The text 'VIDEO CONTEST ON ACCESSIBILITY AND SUSTAINABLE MOBILITY IN ITALIAN UNIVERSITIES' is in the center. Logos for Università degli Studi di Bergamo and ORUS (Sponsor) are at the bottom. A quote from the LIFE financial instrument of the European Community and the LIFE logo are at the bottom right. A URL is at the bottom left.

POLITECNICO MILANO 1863 CITTÀ STUDI CAMPUS SOSTENIBILE

U-MOB green in motion

VIDEO CONTEST ON ACCESSIBILITY AND SUSTAINABLE MOBILITY IN ITALIAN UNIVERSITIES

UNIVERSITÀ DEGLI STUDI DI BERGAMO Sponsor: ORUS

"With the contribution of the LIFE financial instrument of the European Community"

If you want to see the winning videos of the previous video contest on accessibility and sustainable mobility in Spanish universities, visit: www.u-mob.eu

As partner of the **U-MOB Life** project, Politecnico launched a video contest on accessibility and sustainable mobility.

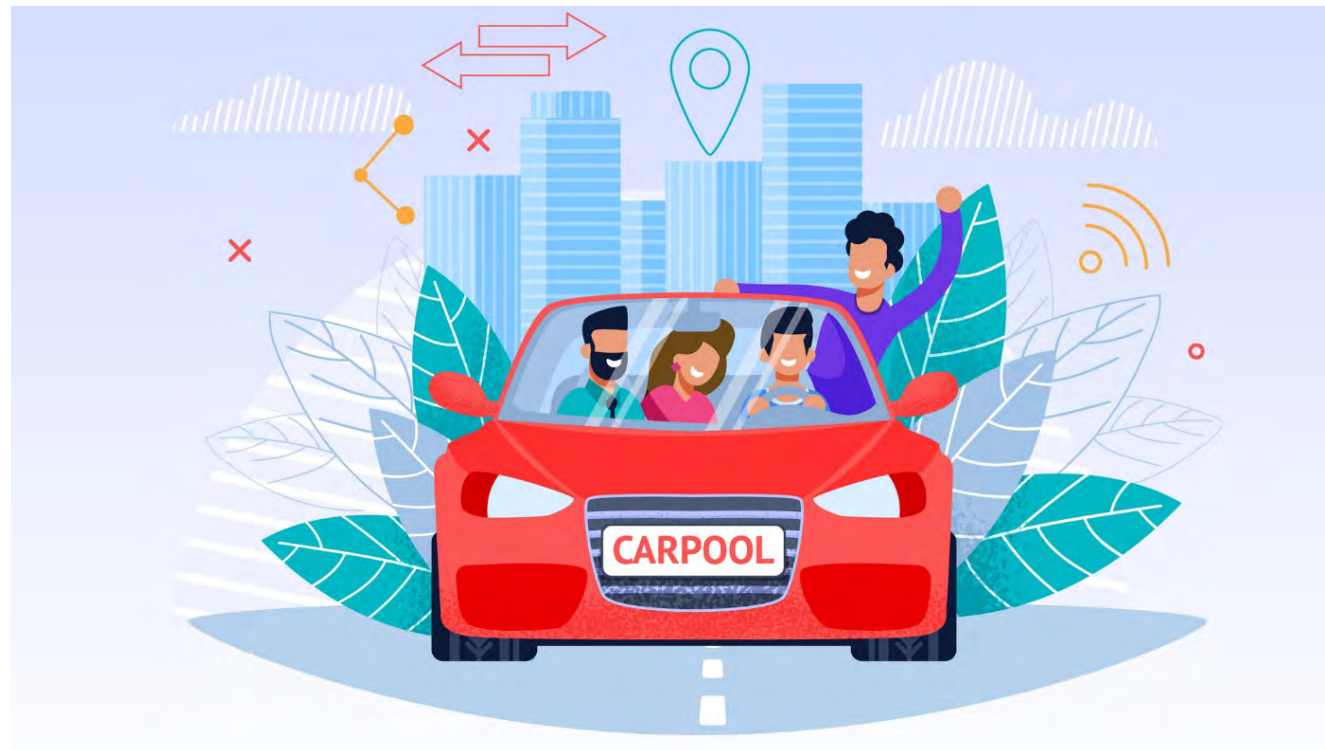
The aim is to have participants reflect on mobility in the framework of the Sustainable Development Goals and share their ideas in a creative way.

<http://www.campus-sostenibile.polimi.it/umob2019>

Car pooling

Consumers

We would like to test a Polimi car pooling service in 2020, we already selected the company through a notice, the agreement should be signed soon.



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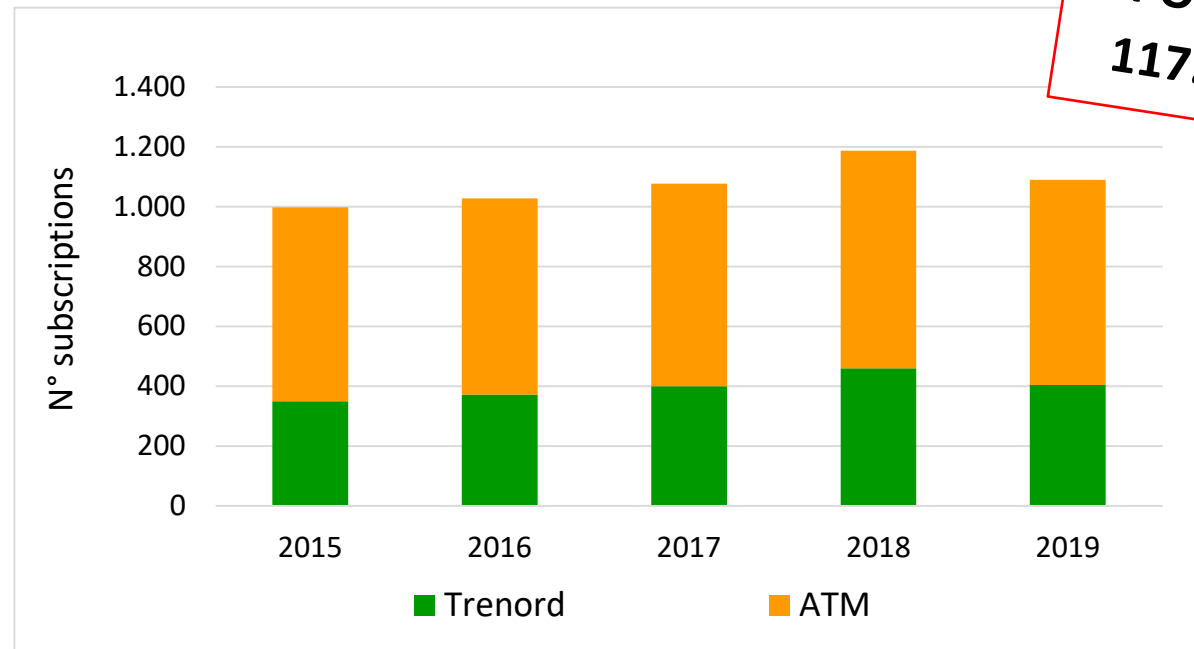
Requalification of open spaces

Public transport

Integration

Facilitations for **subscription** to public transport for the Polimi personnel.

Further **Politecnico subsidy**: 35% of the subscription for the technical-administrative staff.

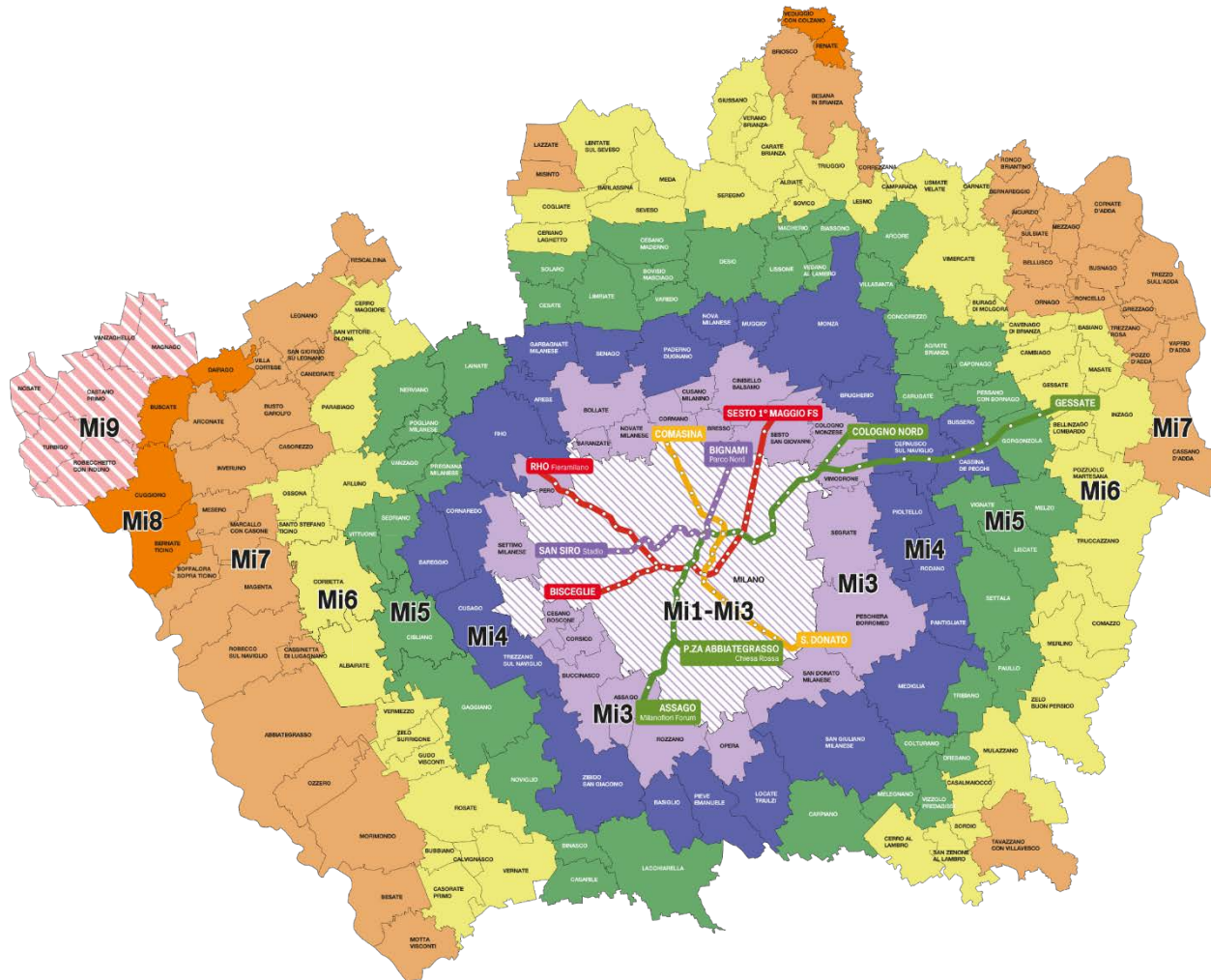


**POLIMI subsidy:
117.200€ in 2019**



Public transport

Integration



A new **integrated ticketing system** has been launched in July 2019.

It allows people to travel between **200 Municipalities** with a single subscription valid on all public transports (train, subway, bus, ...), with different fares depending on the distance from the city centre.

Networking activities with **Regione Lombardia** to improve the system.

Bike and kick scooter supply

Integration

Today, Politecnico provides a supply of around **80 bikes** for staff internal travels and **4 kick scooters**, given by the Sustainability unit to those who request them.



Bike shelters

Politecnico offers **1,485 bike parking spots**.

4 new covered bike shelters were installed in 2018 and more should be installed according to the Mitigation Plan.



Requalification Projects

2 active projects for the structural renewal of the campuses, aiming at improving their liveability and quality: **VIVI.POLIMI** and **Renzo Piano**.

- less cars inside the campuses
- more study spots and benches
- more green areas

Renzo Piano



VIVI.POLIMI – Bovisa



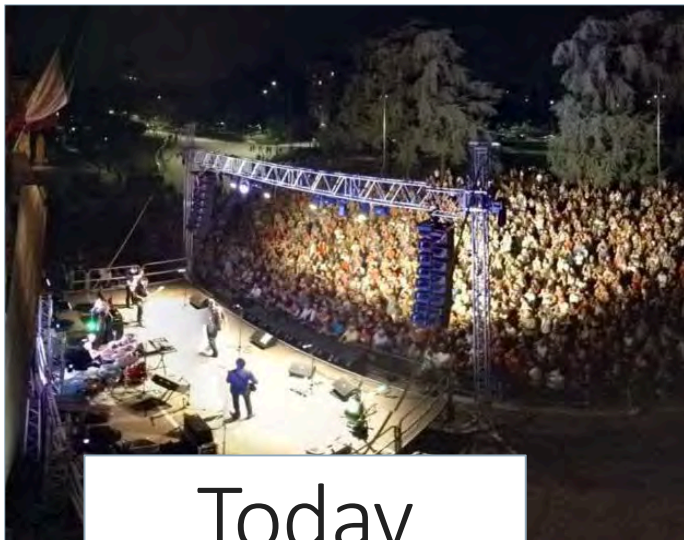
VIVI.POLIMI - Leonardo



Piazza Leonardo da Vinci

Integration





Today



VIVI.POLIMI

Integration



Città Studi



Bovisa



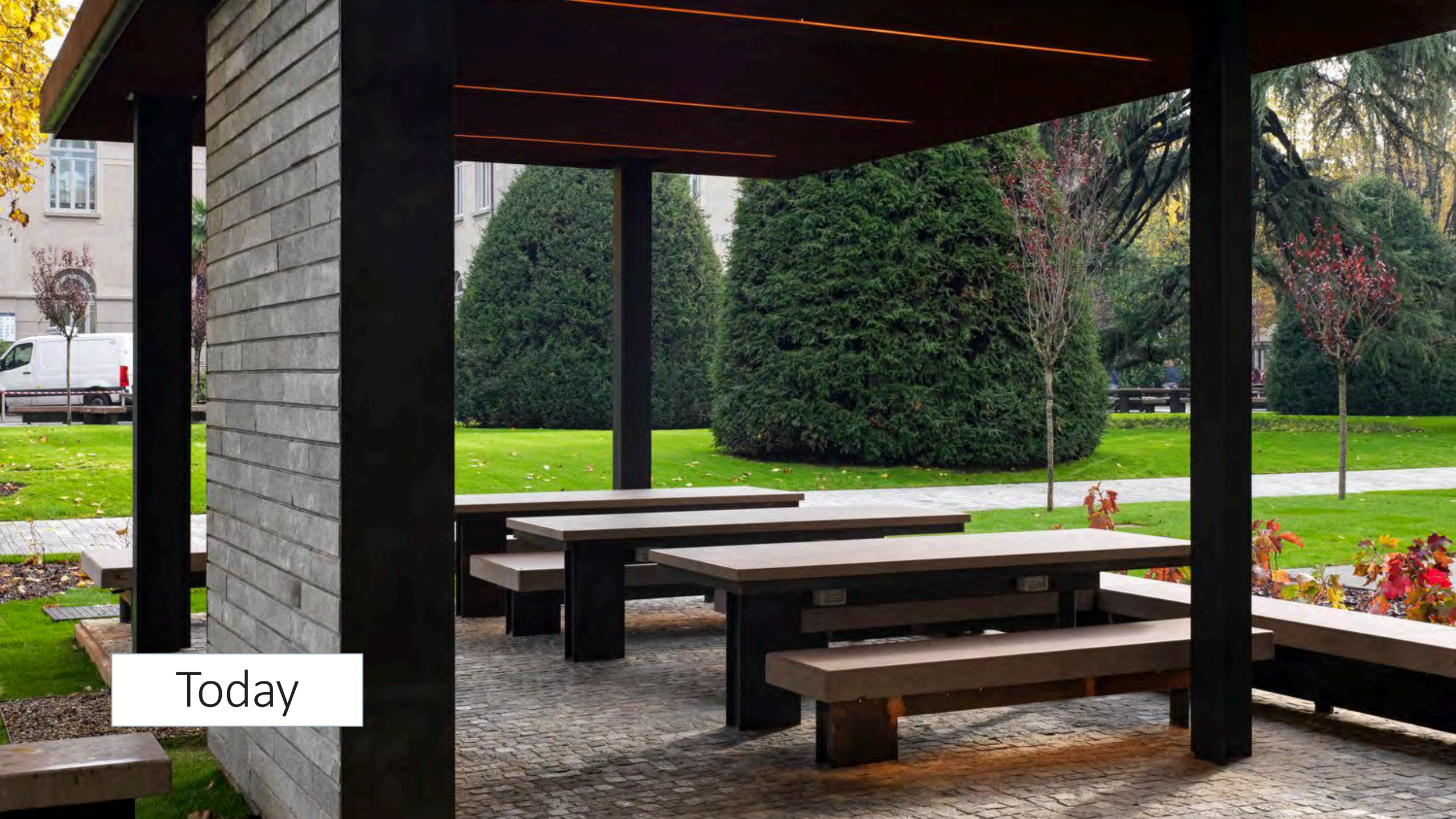
Yesterday



Yesterday



Today



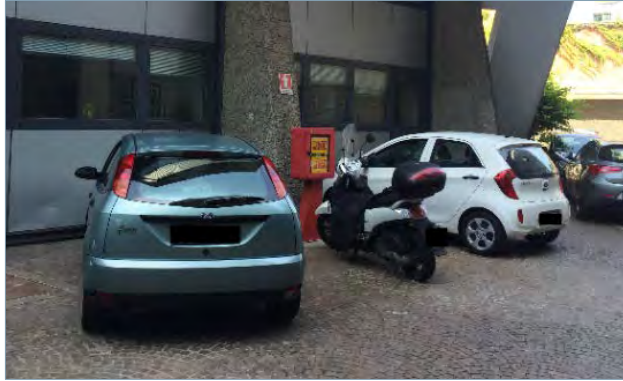
Today

Renzo Piano

Integration



Renzo Piano



Yesterday



Tomorrow



Conclusions

Wide spectrum of mobility strategies:

- strictly mobility related actions,
- physical redesign of spaces,
- educational and behavioural change initiatives.

Future activities

Enhance current policies, like:

- bike related services;
- agreements for public transport and sharing mobility;
- liveability of open areas;
- engagement campaigns;
- monitoring;
- networking with stakeholders.

Providing a wide range of mobility alternatives and delivering high quality projects that facilitate good practices can change people attitude and habits.

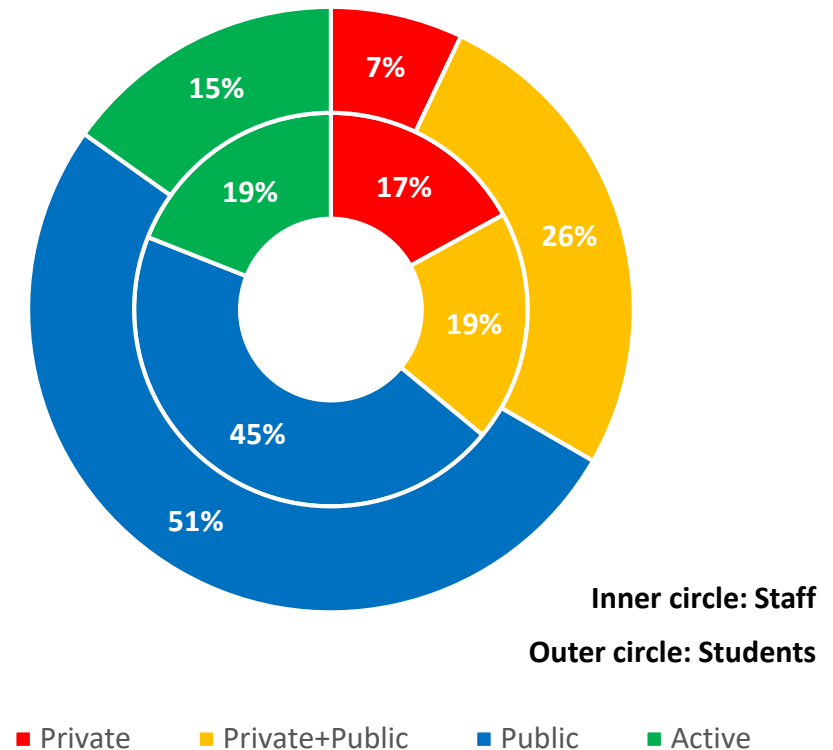
Conclusions

Main results of the 2017 survey:

- widely used public transport, both alone or with private transport;
- private vehicles mostly used by staff;
- high share of active mobility.

Very different commuting patterns between Milanese campuses and regional ones

2017 Modal Shares





Thanks for your attention!



CONTACTS:

Eleonora Perotto: eleonora.perotto@polimi.it - mobility@polimi.it

Giada Messori: giada.messori@polimi.it

Sito web “Campus Sostenibile” project: www.campus-sostenibile.polimi.it

Facebook: www.facebook.com/CittaStudiCampusSostenibile/

Instagram: www.instagram.com/cittastudicampussostenibile/

Twitter: twitter.com/campusos