Sustainable Shared Mobility Webinars

SuSMo

Decarbonising transport systems across Europe

Running through **May & June**

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CLEANTECH BULGARIA

FUNDED BY: eit Climate-KIC

Climate-KIC is supported by the EIT, a body of the European Union

STARS

Shared mobility opporTunities And challenges foR European cities

POLITECNICO DI TORINO

Car sharing in Europe

An outlook on its variants, impacts and a vision for European cities

Marco Diana, Politecnico di Torino (Italy)
& STARS Project Coordinator

SUSMO webinar, 23rd June 2020

This project has received funding from the Horizon 2020 programme under grant agreement n°769513

Car sharing is not a univocal concept

Operational characteristics: roundtrip, free floating, stations, operational areas

* **Juridical scheme of the operator:** corporation, company, association, cooperative; ownership can be public, private or mixed

* **Business models:** for profit, no profit, fleet ownership scheme,m competition versus cooperation with other transport services

***Dimensions:** fleet size and composition, number of registered customers, number of trips

* **Rules for service use:** subscription process, reservation policies, vehicle opening technologies

* **Pricing policies** for subscription and use of the service

* **...** and, last but not least, **local and environmental factors**: legal and regulatory framework, city policies, socioeconomic trends, cultural factors, performances of other transport modes ...

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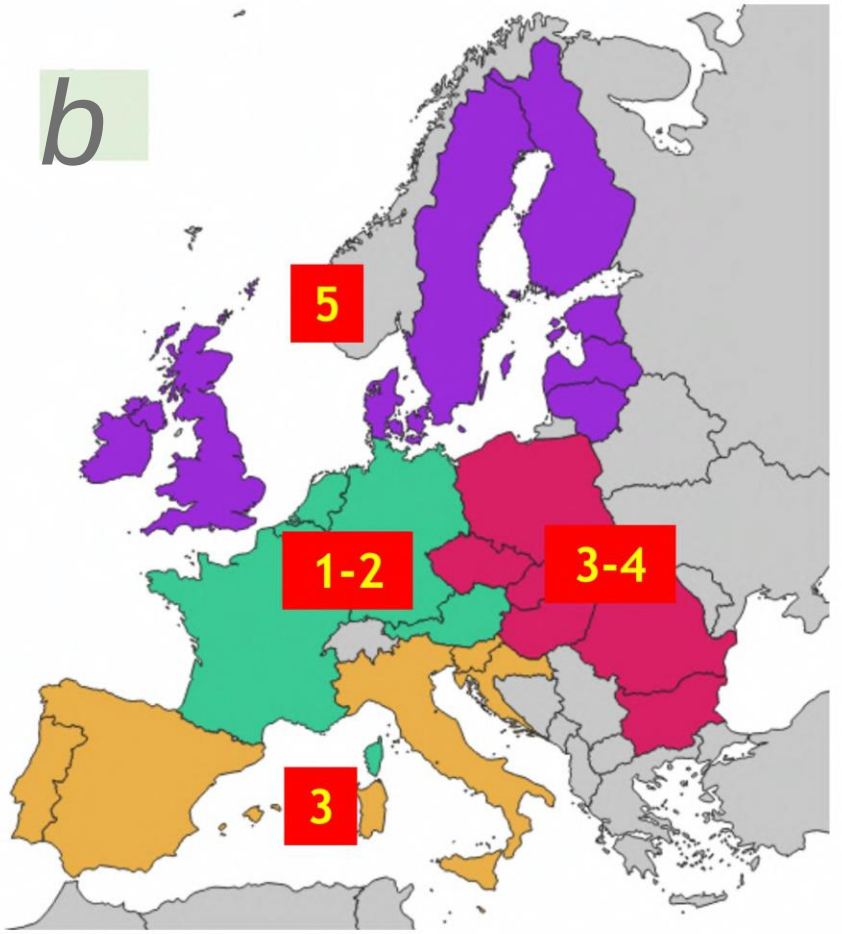
Five different car sharing schemes

Category of car sharing		Business model		
		Car sharing providers with an own fleet	Peer-to-Peer car sharing	Car sharing among neighbours
[illegible]	Roundtrip station-based	**Roundtrip station-based**		
	Roundtrip homezone-based	**Roundtrip homezone-based**	**Peer-to-Peer car sharing**	
	Free floating with an operational area	**Free floating with operational area**		
	Free floating with pool stations	**Free floating with pool stations**		



This project has received funding from the Horizon 2020 programme under grant agreement n°769513

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What are the impacts of different forms of car sharing?

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Long term and short term impacts

Long-term mobility choices

Person-level analysis →

- **Car ownership levels**
- Public transport passes
- Levels of use of different transport modes

Everyday travel choices

Trip-level analysis →

- Maximum growth potential of car sharing for alternative scenarios
- Modal choices, number of trips for each mode (private car, car sharing, PT, bike and foot)
- **Impacts on emissions,** congestion, and parking demand

This project has received funding from the Horizon 2020 programme under grant agreement n°769513

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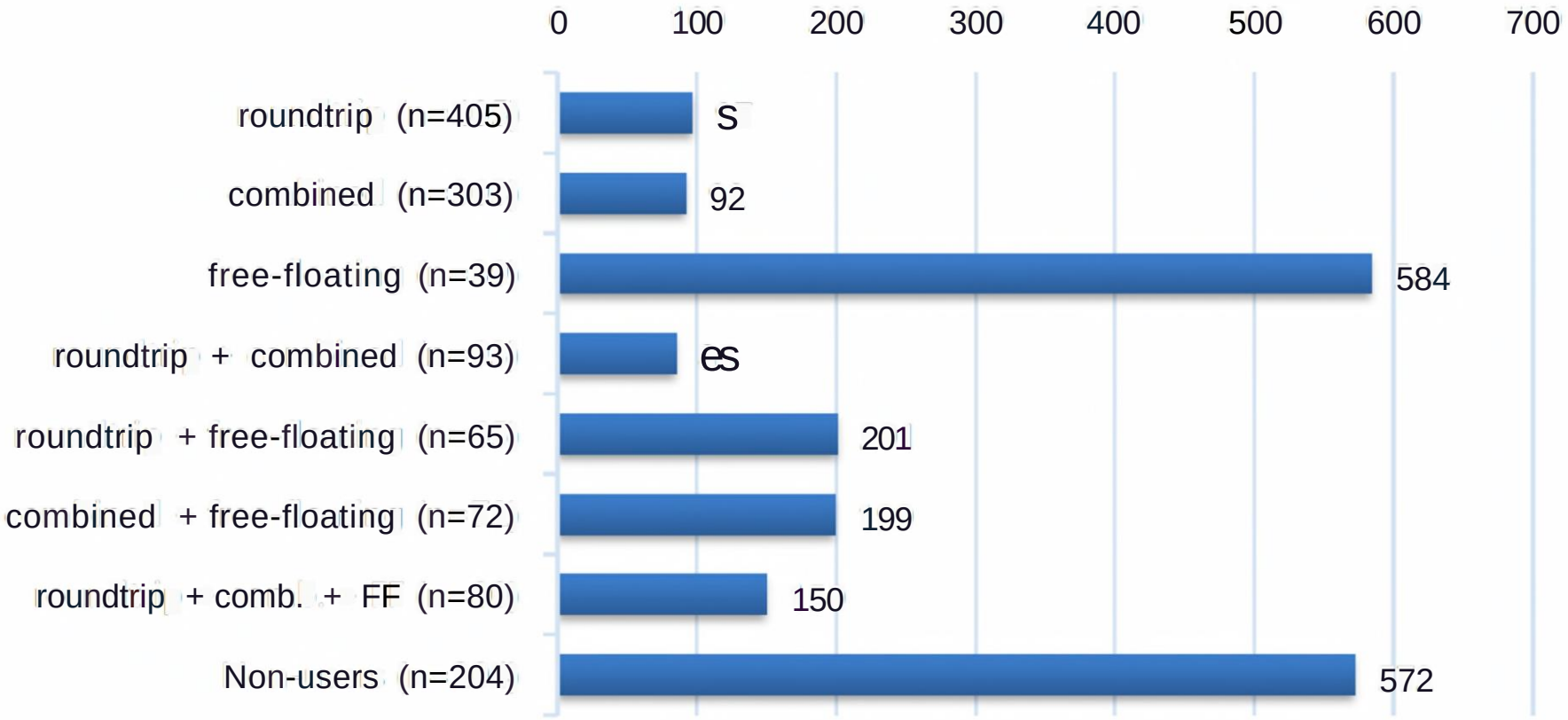
Car ownership levels in Frankfurt



Private cars per 1000 people in selected user groups of the Frankfurt case study

This project has received funding from the Horizon 2020 programme under grant agreement n°769513

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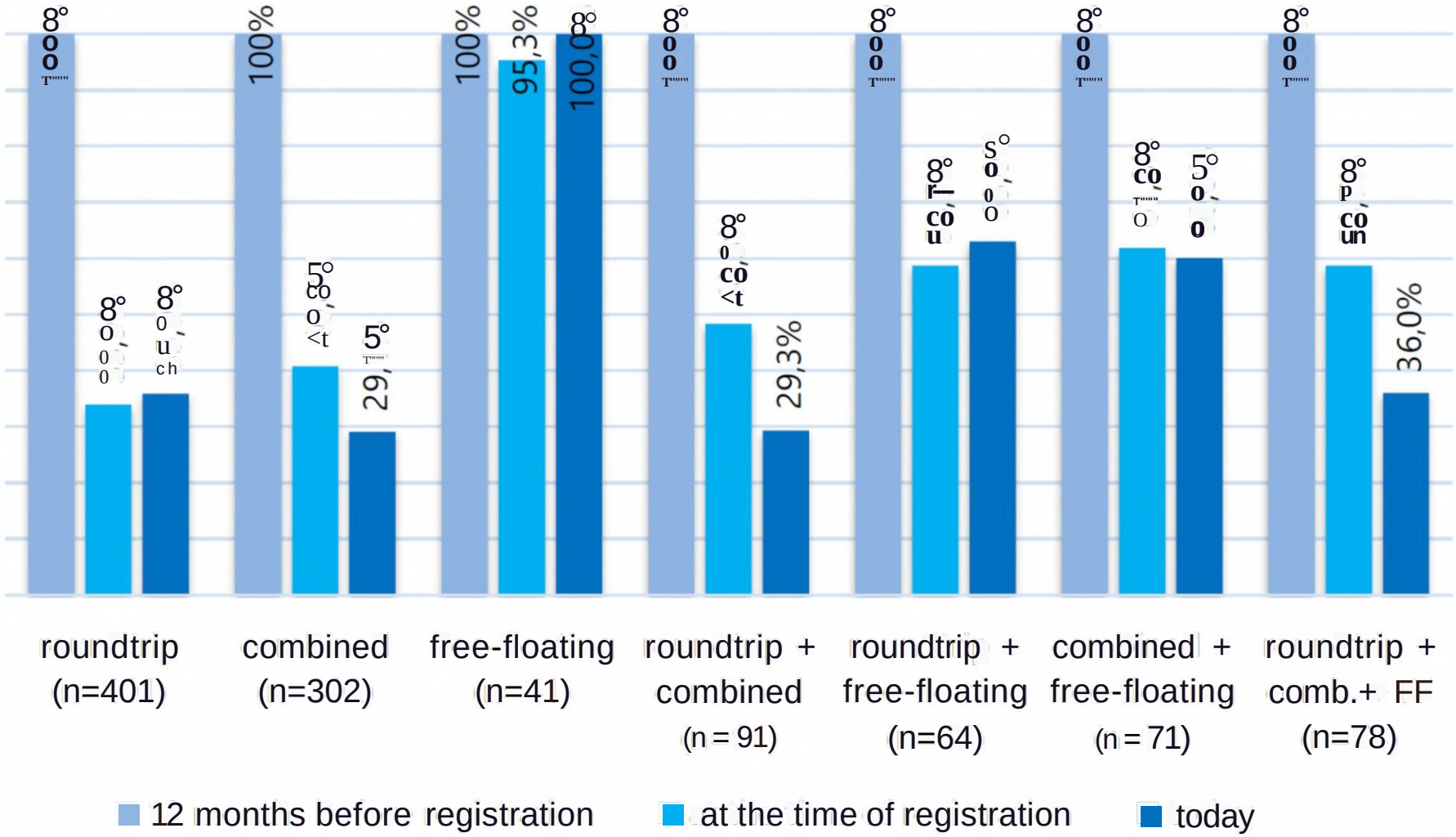
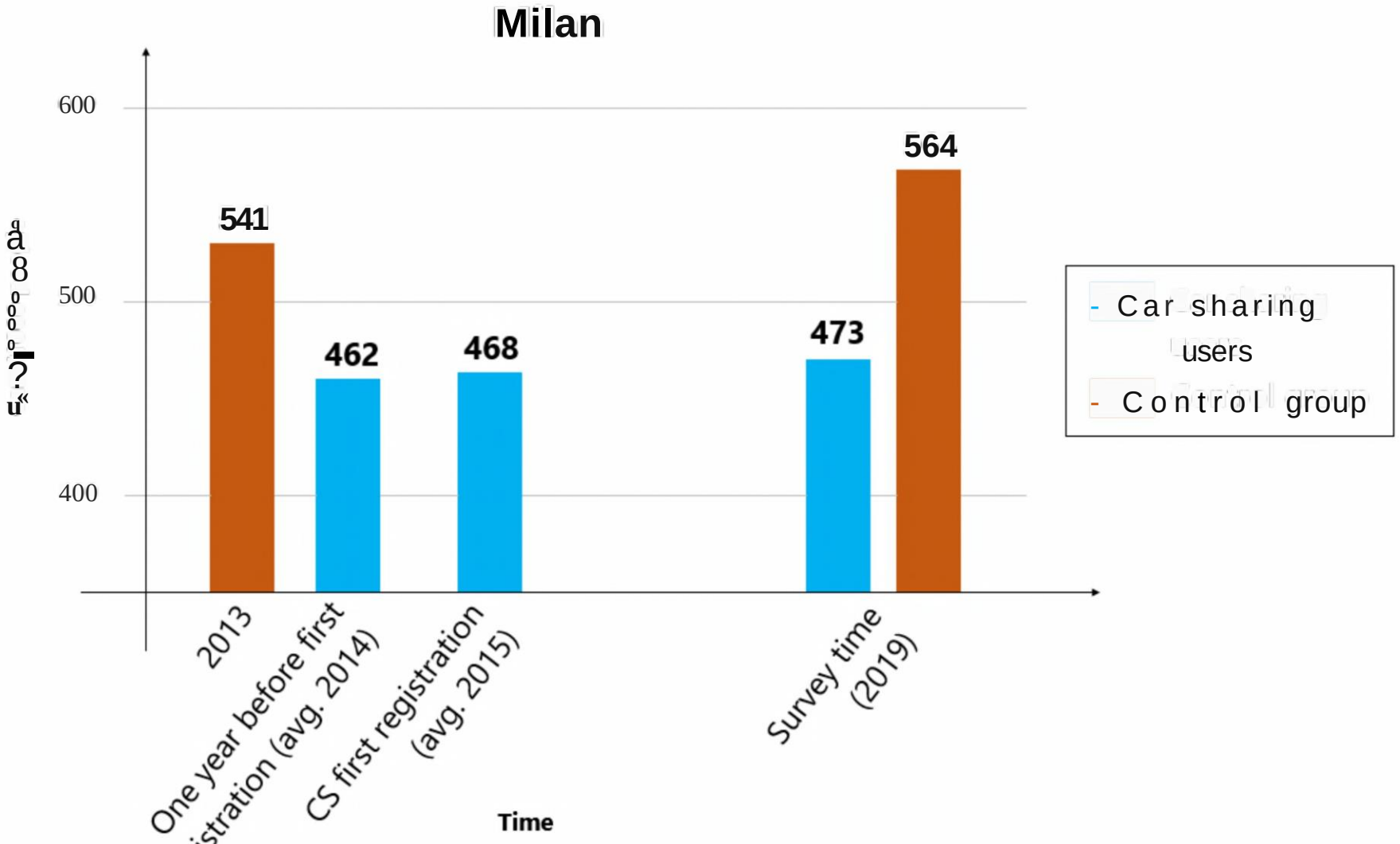
Changes in car ownership in Frankfurt



This project has received funding from the Horizon 2020 programme under grant agreement n°769513

Changes in car ownership in Milan (free floating)



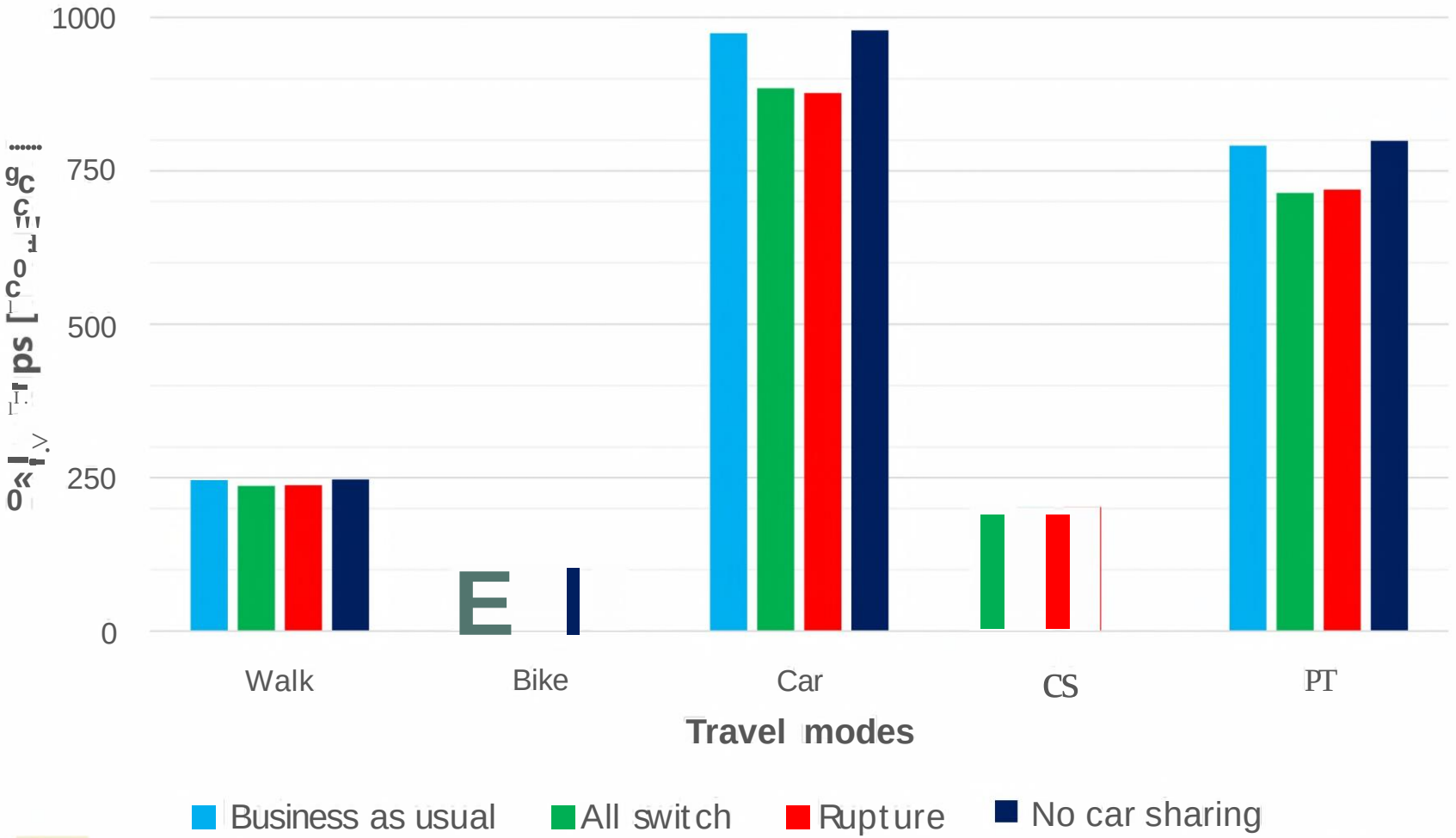
±Car sharing users in Milan are **not reducing** the number of cars owned

* Not significant early adopters effect

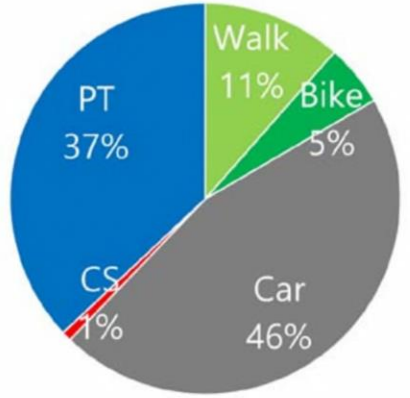
* Positive effect in **limiting car purchases**

» @s1ARs

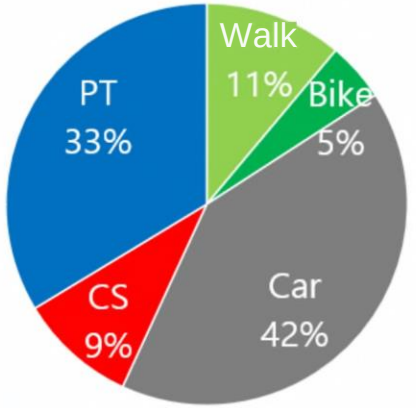
Diverted daily trips and market share - Milan (free floating)



BAU scenario



All switch scenario



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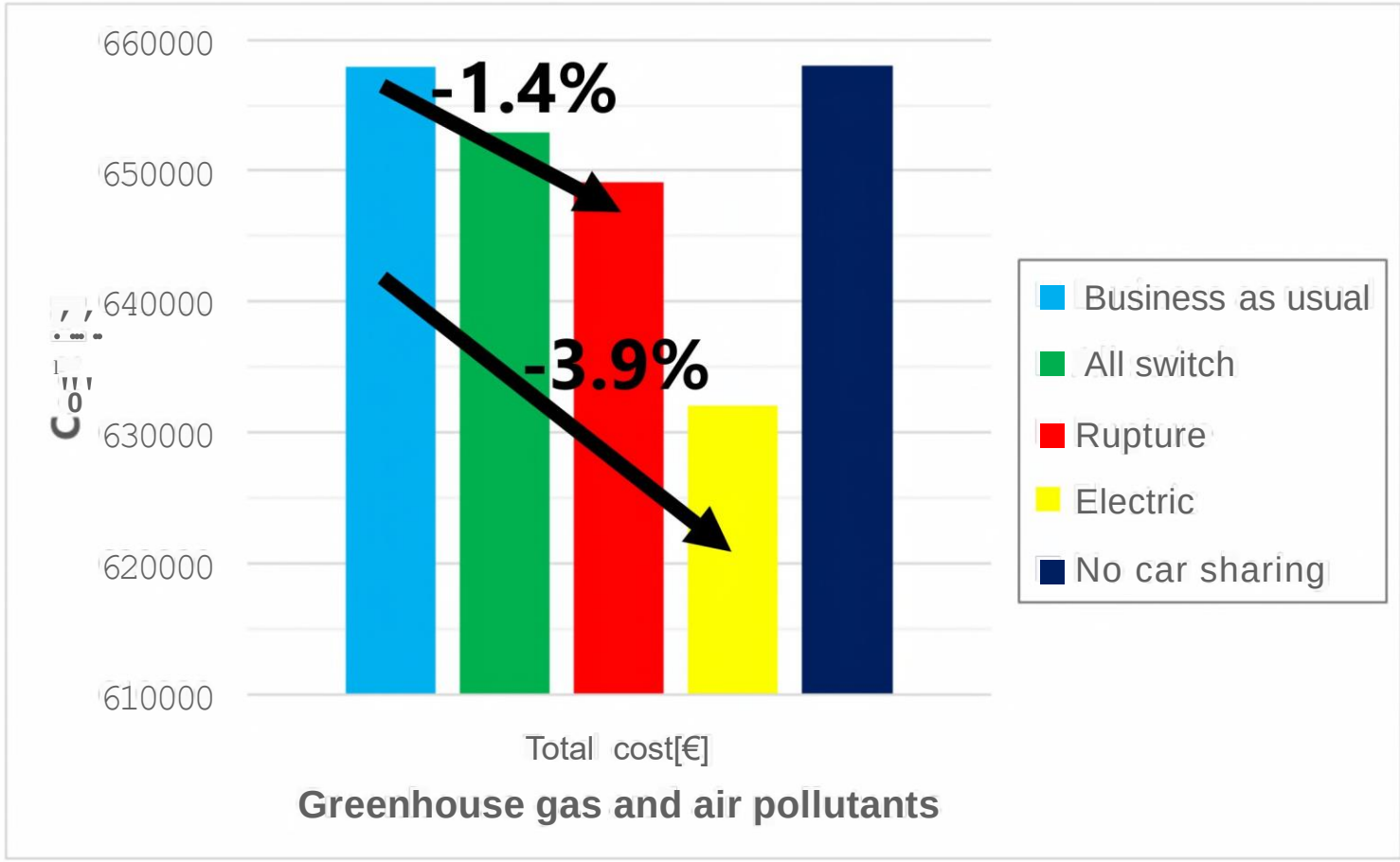
External costs of pollutants and greenhouse gas emissions - Milan (free floating)



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So… what?

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Conclusions from this introduction

1. **Growth potential** still good but it is unlikely that car sharing will become a massively used mode in current conditions

2. **Positive benefits** mainly from replacing private cars, smaller ones from changes in daily mobility choices

3. **Different car sharing** schemes may have an appeal to different social groups and a different impact on car ownership and mobility choices:

   a) ***Free floating*** is probably less beneficial regarding sharing impacts and modal substitution patterns BUT much more attractive to the «average driver» especially in car => ***entry level in the car sharing world***

   b) ***Round trip*** is more a niche for «pro-social» individuals BUT higher benefits for cities => an easy car rental scheme for discretionary trips out of the city that makes the ***final push to get rid of cars***

   c) ***Peer to peer*** even more emphasizing round trip characteristics

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Searching for the optimal "service mix"

Addiction to car

... ready for the BIG JUMP? , , ,

Try out something new and in fashion *"on* the fly", no obligation

Free floating services

Consolidate the use of shared cars for short trips

Engage with different means including public transport

Start planning to use car sharing for longer trips

Realise that a personal car is not so needed after all

Sanon based services

ject has received funding from the Horizon 2020 programme under grant agreement n°769513

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STARS output

Entlastun
Carsharin

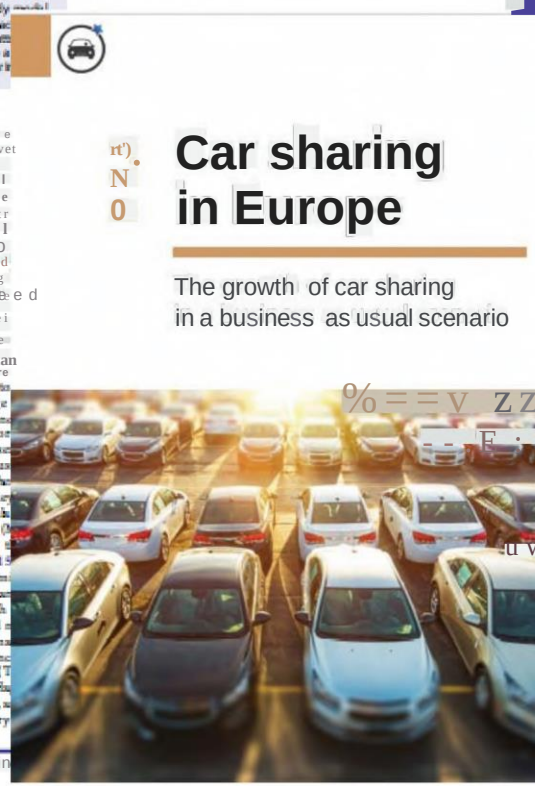
Vergleichende Befr
Carsharing-Angebo

Stationsbasiertes Carsharing, Fro
Verkehrsverhalten

A multimodal perspective in the study of car sharing switching intentions

Mo Dianad Reado Carat

Department of Environment, Land and Infrastructure Engineering, Torino, Italy



Car sharing
in Europe

The growth of car sharing
in a business as usual scenario

I 85%.

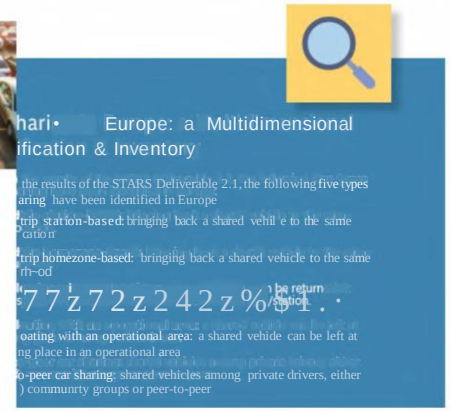
CAR SHARING IN EUROPE

How social, cultural and emotional factors
influence users and non-users of car sharing

ONTEXT

www.stars-h2020.eu @StarsH2020

10 Recommendations to Help Policymakers Implement Car Sharing in Europe



Europe: a Multidimensional
& Inventory

the results of the STARS Deliverable 2.1, the following five types
aring have been identified in Europe

trip station-based: bringing back a shared vehicle to the same
cation

trip homezone-based: bringing back a shared vehicle to the same
rh-od

oating with an operational area: a shared vehicle can be left at
ng place in an operational area

o-peer car sharing: shared vehicles among private drivers, either
) communrty groups or peer-to-peer

This project has received funding from the Horizon 2020 programme under grant agreement n°769513

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Thank you

Get in touch for more information!

All of the reports of the project will be available for download on the STARS website: **www.stars-h2020.eu**

Project coordinator: Marco Diana, Politecnico di Torino
Contact us: h2020stars@gmail.com

Follow us on Twitter & LinkedIn!
@StarsH2020

@STARS

SHAREPLACE Shared mobility and Regional transport integrated PLAnning for a better connected Central Europe

SuSMo – Sustainable Shared Mobility Webinars

23.06.2020

Gabriele Grea Redmint Impresa Sociale scrl

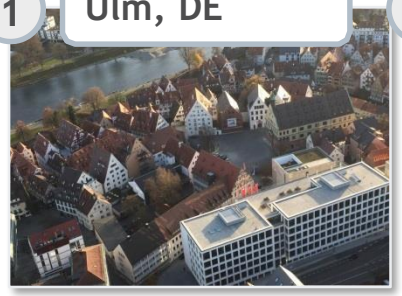
OUR OBJECTIVES

SHAred mobility and **RE**gional transport integrated **PLA**nning for a better connected **C**entral **E**urope

- ✓ Develop an innovative approach in order to improve connectivity of sustainable mobility systems at **local**, **regional** and **transnational** level
- ✓ Support the **integration** of **shared** and **flexible** mobility options into traditional transport networks

OUR PILOT REGIONS

1 Ulm, DE

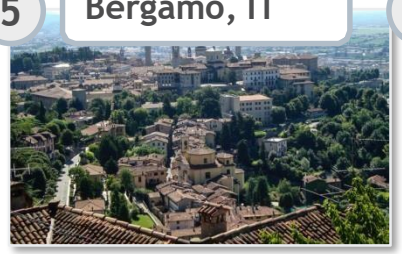


2 FUMO, AT

3 Zalaegerszeg, HU

4 Osijek, HR

5 Bergamo, IT



6 Crema, IT

ULM (DE)

An open mobility ecosystem for the city and the region

- ✓ creating a multimodal open platform
- ✓ integrating bike sharing in the ecosystem

ZALAEGERSZEG (HU)

DRT and CARPOOLING for peripheral areas

- ✓ DRT as solution for areas without public transport
- ✓ Carpooling for commuting towards industrial areas

OSIJEK (HR)

Building a common network

- ✓ open mobility ecosystem integrating different existing, long and city range services
- ✓ creating conditions for future shared services (car and bike)

BERGAMO (IT)

CARPOOLING for attraction poles

- ✓ Sharing to integrate existing networks in space and in time
- ✓ better integration between scheduled and shared services

CREMA (IT)

DRT 2.0 attracting new demand

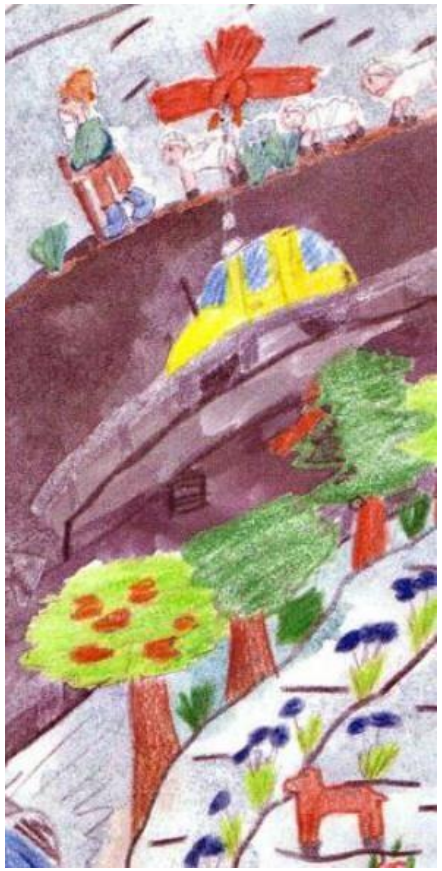
- ✓ mobility hotspots and shuttle services connected to on demand
- ✓ Better integration between scheduled and flexible services

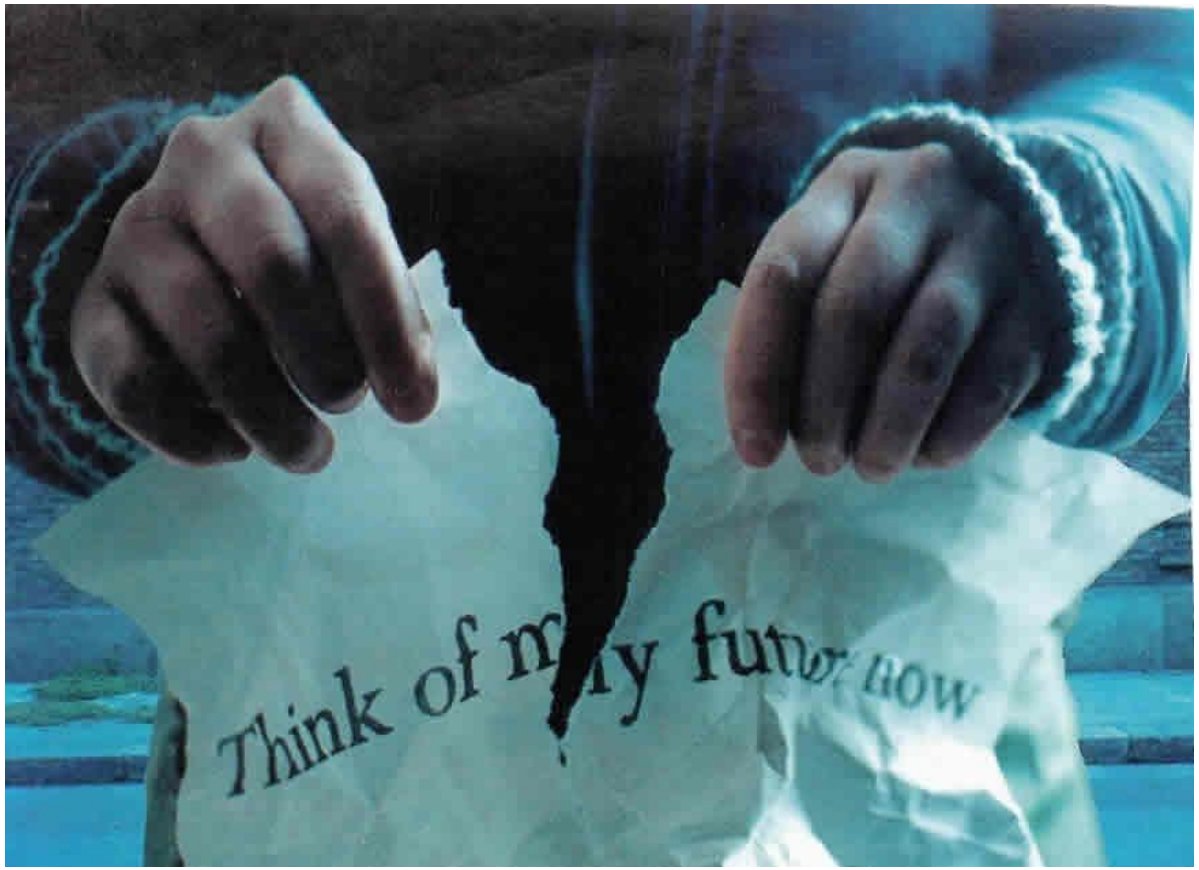
OUR MAIN OUTPUTS

SHAred mobility and **RE**gional transport integrated **PLA**nning for a better connected **C**entral **E**urope

- ✓ **Technology as enabler**: joint development of technology-based service hub
- ✓ **Business for sustainability**: innovative business models for integrated mobility
- ✓ **Participative approaches**: Engagement strategy and co-design approach guidelines for mobility operators, planners and policymakers

GRAZIE PER L'ATTENZIONE





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twitter.com/shareplace_int

Shared mobility during and post COVID-19 lockdown

How shared mobility creates space for citizens

Johannes Rodenbach
Policy and Project Officer at Autodelen.net (Carshare Belgium)

Autodelen.net

SHARED TRANSPORT MASTERCLASS

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CARSHARE BELGIUM

GREEN DEAL GEDEELDE MOBILITEIT

Interreg North Sea Region SHARE-North
European Regional Development Fund
EUROPEAN UNION

Impact COVID-19 lockdown on shared mobility in Belgium

Revenue car, bike, scooter and kick scooter sharing: -70/-80 %

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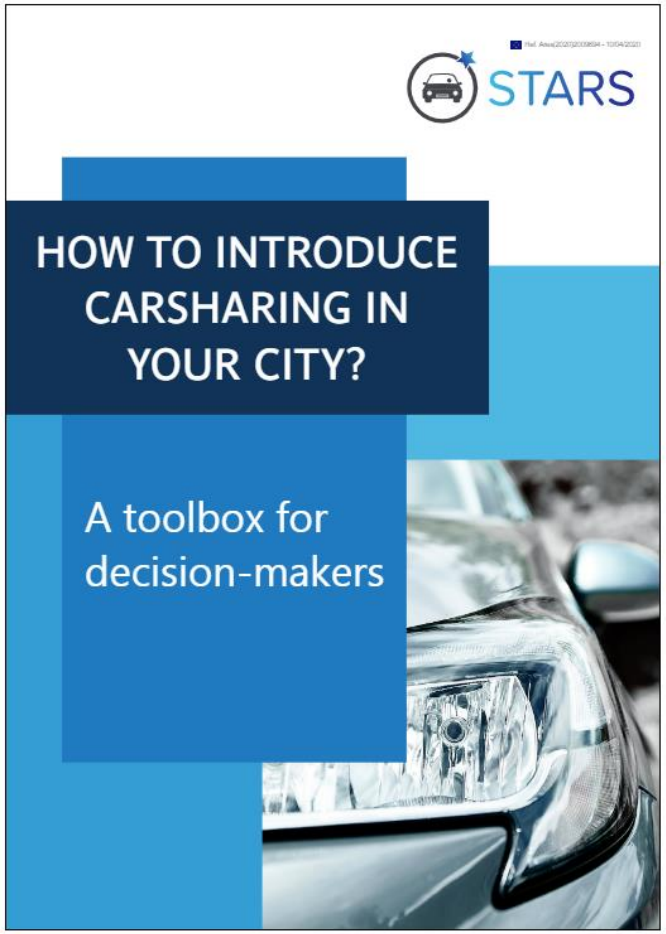
Policy recommendations for relaunch shared mobility

www.stars-h2020.eu/policy-toolkit



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Policy recommendations for relaunch shared mobility

Communication

Communication campaign to keep on cycling

Minister of Mobility in Flanders during launch of communication campaign to “keep on cycling” (14/05/2020)

Deputy mayor of Antwerp Koen Kennis on the new kick scooters of Poppy (16/06/2020)

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Policy recommendations for relaunch shared mobility

Practice what you preach!

Launch shared cars of Valckenier Share in Southern part of Flanders
cooperation with local governments (22/06/2020)

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Policy recommendations for relaunch shared mobility

Rethink fiscal system -> lower VAT

	Public transport	Taxi	UBER	Car rental	Car sharing	Bike sharing
Belgium	6%	6%	6%	21%	21%	6%
France	10%	10%	10%	20%	20%	20%
Denmark	0%	0%	N/A	25%	25%	25%
Germany	7%	7%	7%	19%	19%	19%
Italy	10%	10%	N/A	22%	22%	22%
Poland	8%	8%	8%	23%	23%	23%
Portugal	6%	6%	6%	23%	23%	23%
Spain	10%	10%	10%	21%	21%	21%

Table 4. Comparison of VAT rates for competing forms of mobility across Europe

Policy recommendations for relaunch shared mobility

Make brave decisions! Redistribute public space!

Picture: Koen Wynants

Ghent // Pictures: Het Nieuwsblad

Visualisation: Bundesverband CarSharing

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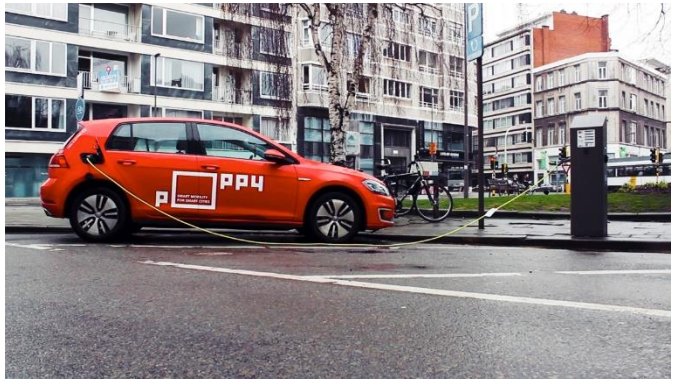
Policy recommendations for relaunch shared mobility

Zero emission subsidy for shared e-cars

In 2019 car sharing providers requested a zero emission subsidy for 422 shared e-cars in the Flanders region



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Support for shared mobility providers in Flanders region (Belgium)

Vlaams minister Lydia Peeters zorgt voor extra zuurstof in mobiliteitsaanbod

2 JUN. 2020 DEEL: FACEBOOK TWITTER LINKEDIN

Minister of Mobility in Flanders Lydia Peeters provides extra oxygen for the mobility offer

Deelmobiliteit

Ook de sector van de deelmobiliteit deelde in de klappen. Met het oog op de modal shift en het snel kunnen overstappen van het ene vervoersmiddel op het andere is de deelmobiliteit een belangrijke aanbieder. De Vlaamse regering heeft een bedrag van **460.000 euro** voorzien om het huidige aantal deelwagens en deelfietsen op peil te houden maar ook om ervoor te zorgen dat de veiligheidsmaatregelen rond hygiëne op peil gehouden kan worden.

460,000 euro to keep up the current number of shared cars and bikes and to invest in extra hygiene measures

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Uptake of shared mobility in the Netherlands

Trouw

VOORPAGINA VERDIEPING OPINIE RELIGIE&FILOSOFIE DUURZAAMHEID&NATUUR CULTUUR&MEDIA ACHTERPAGINA

Ov-mijders

Corona jaagt ov-reizigers de deelauto in

Auto van Greenwheels in Amsterdam. Beeld ANP

Corona chases PT-travellers into shared cars

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Uptake of shared mobility in the Netherlands

deelauto's toeneemt. De bezettingsgraad van Greenwheels-auto's steeg in mei met 30 procent ten opzichte van dezelfde maand vorig jaar. Vorige maand kreeg het bedrijf er bovendien een recordaantal nieuwe abonnees bij, ruim de helft meer dan het aantal nieuwe klanten in mei 2019. Dat terwijl vlak na de afkondiging van lockdownmaatregelen het gebruik van de rode deelauto's halveerde.

The occupancy rate of the Greenwheels-shared cars increased by 30% in May 2020 compared to the same month last year.

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Thank you, and SAVE THE DATE!

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European Regional Development Fund
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Sprout

Sustainable policy response to urban mobility transition

SUSMO Webinar

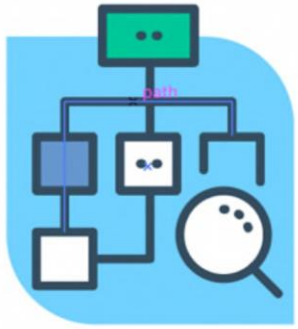
June 22, 2020

Dr. Imre Keseru
Vrije Universiteit Brussel - MOBI Mobility Logistics and Automotive Technology Research Centre

SPROUT will provide
a city-led innovative policy response that will be capable of harnessing the impacts of new mobility solutions in a way that makes them more attractive to the users and more sustainable for the society as a whole.

5 Key Objectives

Understand the transition in urban mobility



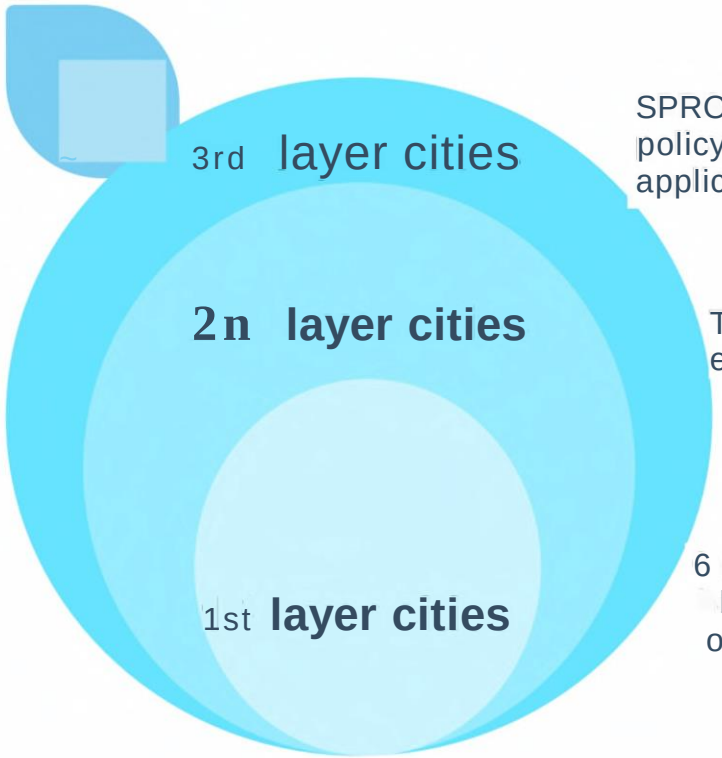
Foresee and identify the impact of the drivers of urban mobility transition

Formulate a city• led innovative policy response

Provide tools to enhance local policy-making capacity

Navigate future policy on urban mobility

SPROUT Cities



SPROUT city-led innovative policy response, widely applicable to European cities

Transferability checked & enriched policies

6 city-specific policies for harnessing the impact of new mobility systems

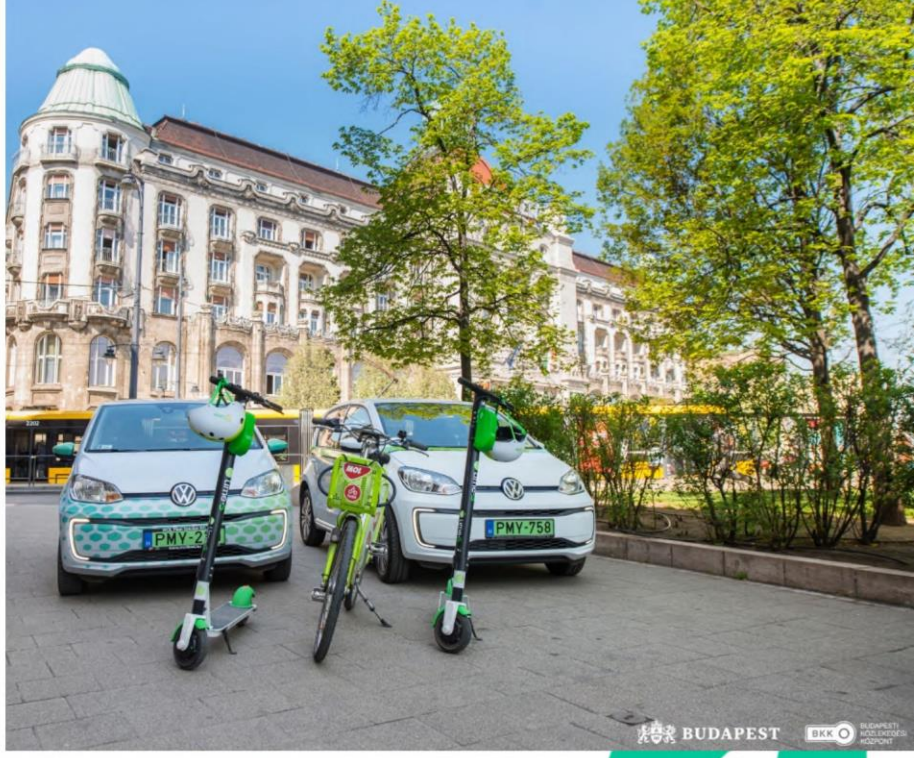
- *Pilot cities*
- *[] Validation cities*
- *3 layer cities*

6 pilots

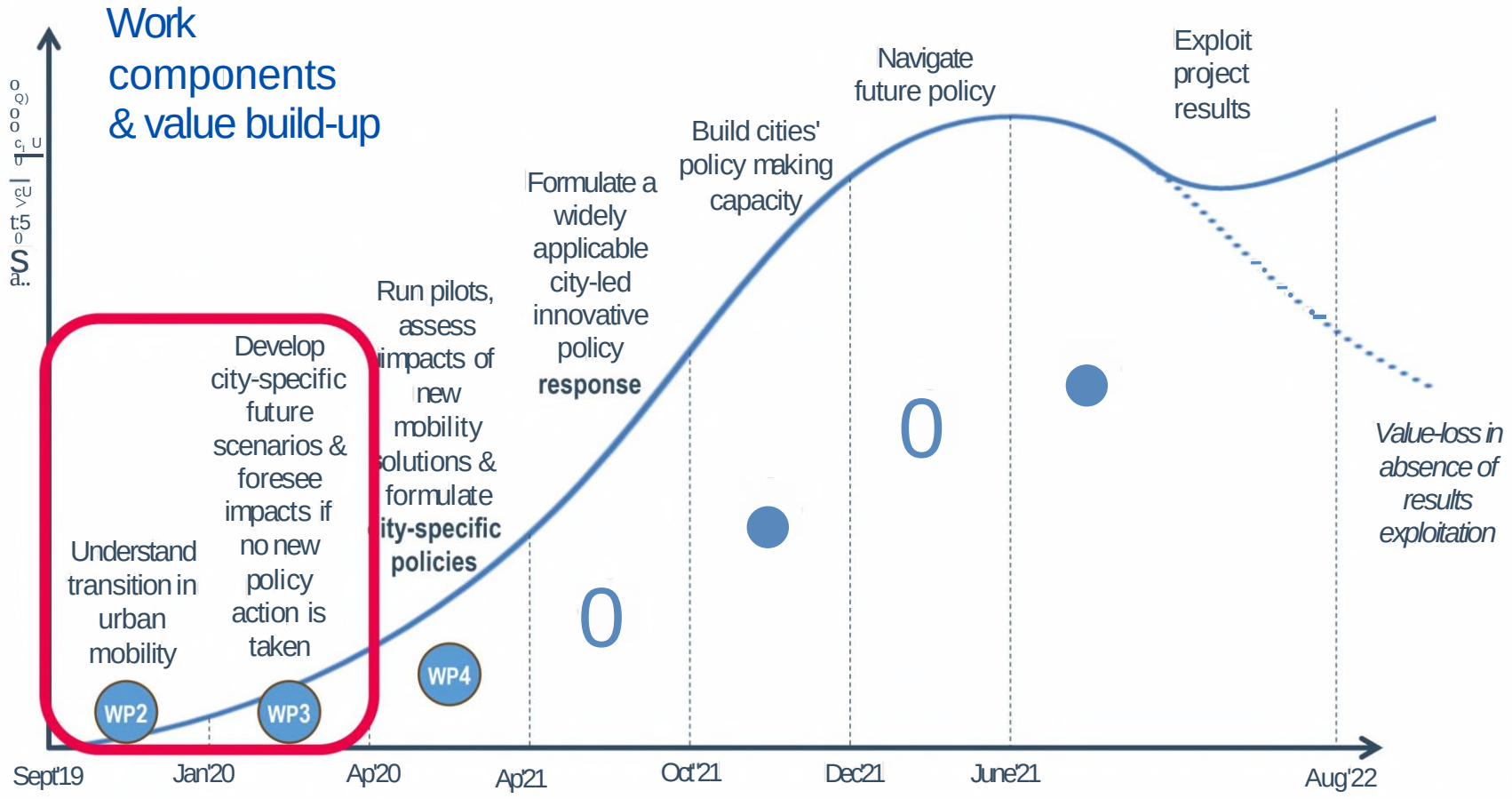
Pilot (1st layer) cities	New mobility solution to be tested	Validation (2nd layer) cities
Valencia, Spain	Intermodal urban passenger/freight node for collective public & private transport	Hertogenbosch, the Netherlands
Municipality of Padua, Italy	Self-driving pods for cargo-hitching	Ioannina, Greece Gothenburg, Sweden
Kalisz, Poland	IoT in urban logistics	Arad, Romania Mechelen, Belgium Ile-de-France, France
Budapest, Hungary	**Shared passengers' mobility**	**Hertogenbosch, the Netherlands Arad, Romania Birmingham, UK Minneapolis, USA**
Tel Aviv, Israel	Data driven urban mobility planning and traffic management strategies to prioritise nonmotorized transport modes and vulnerable road users	Almada, Portugal Birmingham, UK
Ningbo, China	Hyper-local logistics	Almada, Portugal

Budapest - Expectations

- **Better understanding** of needs related to shared mobility **services** and micromobility
- Better understanding of needs related to the **legislation** of micromobility
- Analysis for pilot **interventions**
- Understanding the **role of micromobility** to reach the mobility goals



SPROUT broad work plan



Scenariobuilding in SPROUT

Drivers of urban mobility

Political Drivers

- **Liberalization**
- Political agenda
- Transparency and corruption
- Tax policy

Economic Drivers

- New employment arrangements
- Tourism
- **New business models**
- **Economic growth and crisis**
- Transformation of retail

Social Drivers

- Migration
- Urban structure
- Demographic composition
- Health consciousness
- **Changing behaviour to car ownership**
- **Environmental consciousness**
- Safety
- Security concerns
- **Individualisation**
- The rise on-demand delivery requirement

Technological Drivers

- **Electrification of mobility**
- Adoption of smart-city technology
- **Consumer- and citizen-oriented digitalization**
- Automation

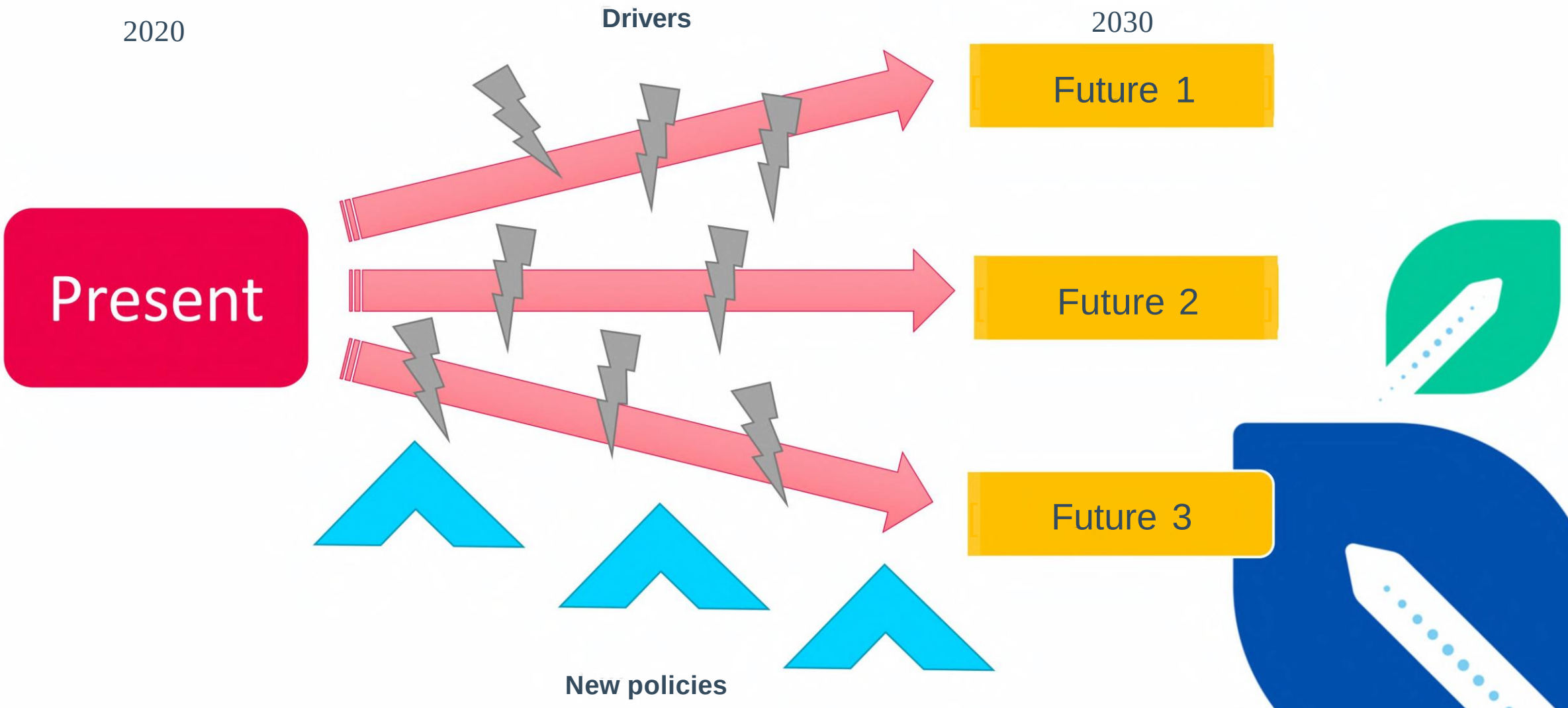
Environmental Drivers

- **Climate change Local**
- **environmental quality**

[illegible]

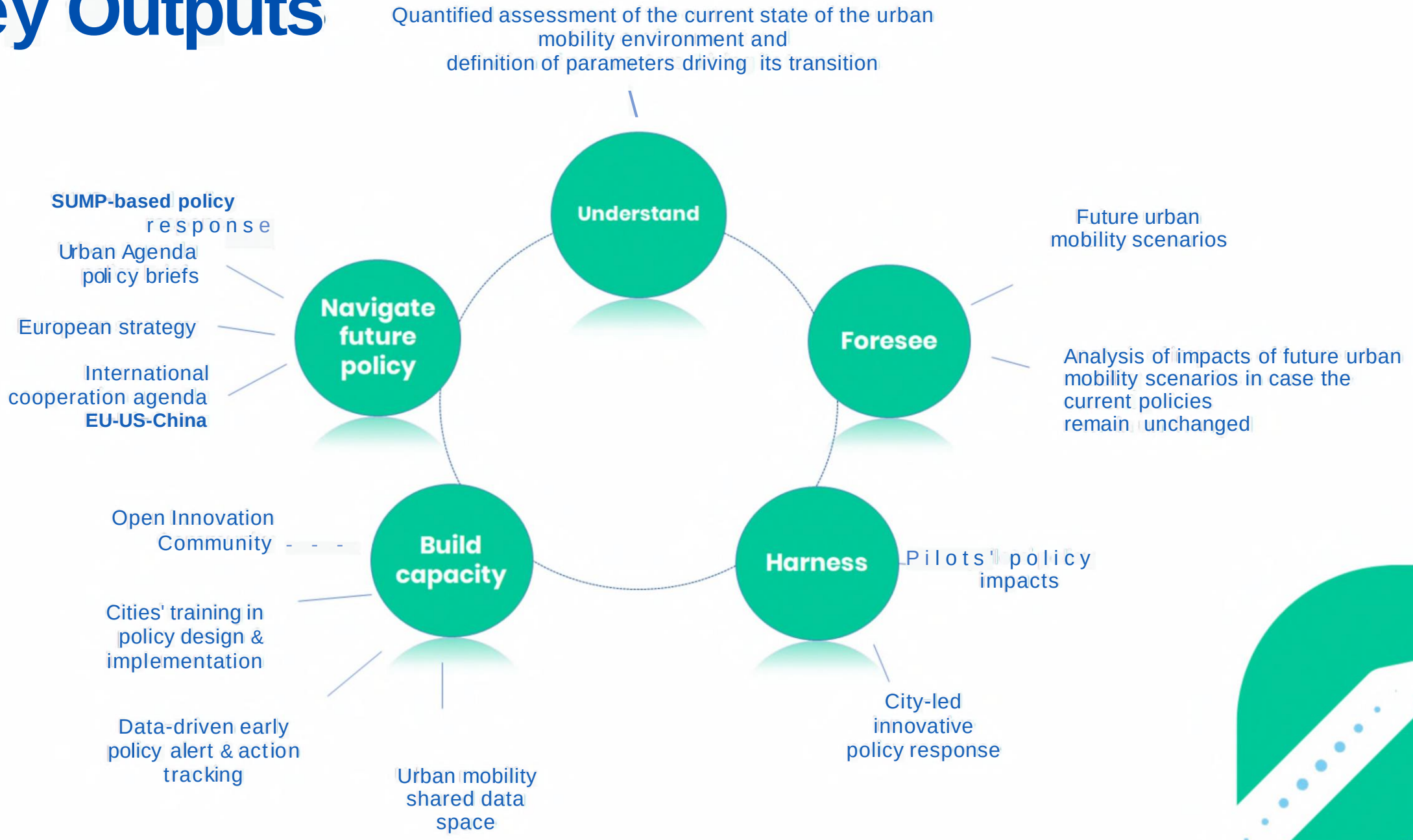
- Labour and employment laws
- **Consumer protection laws**
- **Data and privacy laws**
- Health and safety laws

Scenarios for the business as usual



Using creative scenario building for cities

Key Outputs


Quantified assessment of the current state of the urban mobility environment and definition of parameters driving its transition
Understand
Foresee
Future urban mobility scenarios
Analysis of impacts of future urban mobility scenarios in case the current policies remain unchanged
Harness
Pilots' policy impacts
City-led innovative policy response
Build capacity
Urban mobility shared data space
Data-driven early policy alert & action tracking
Cities' training in policy design & implementation
Open Innovation Community
Navigate future policy
SUMP-based policy response
Urban Agenda policy briefs
European strategy
International cooperation agenda EU-US-China

Thank you!

www. sprout-civitas.eu

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Z=LC ~ # j MIT GLOBAL SCALE NETWORK
TALENT HUB FOR SUPPLY CHAIN
Zaragoza Logistics Center

CERTH
CENTRE FOR RESEARCH & TECHNOLOGY HELLAS