



#WHERE THE MARKET MEETS

# GREEN DEAL IMPLEMENTATION ON LOCAL LEVEL



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NETWORK  
RS



INSTITUTIONAL  
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# EXPANDEO 2023

## GREEN DEAL IMPLEMENTATION ON LOCAL LEVEL

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Municipality of Ixelles, Belgium

04/03/2021

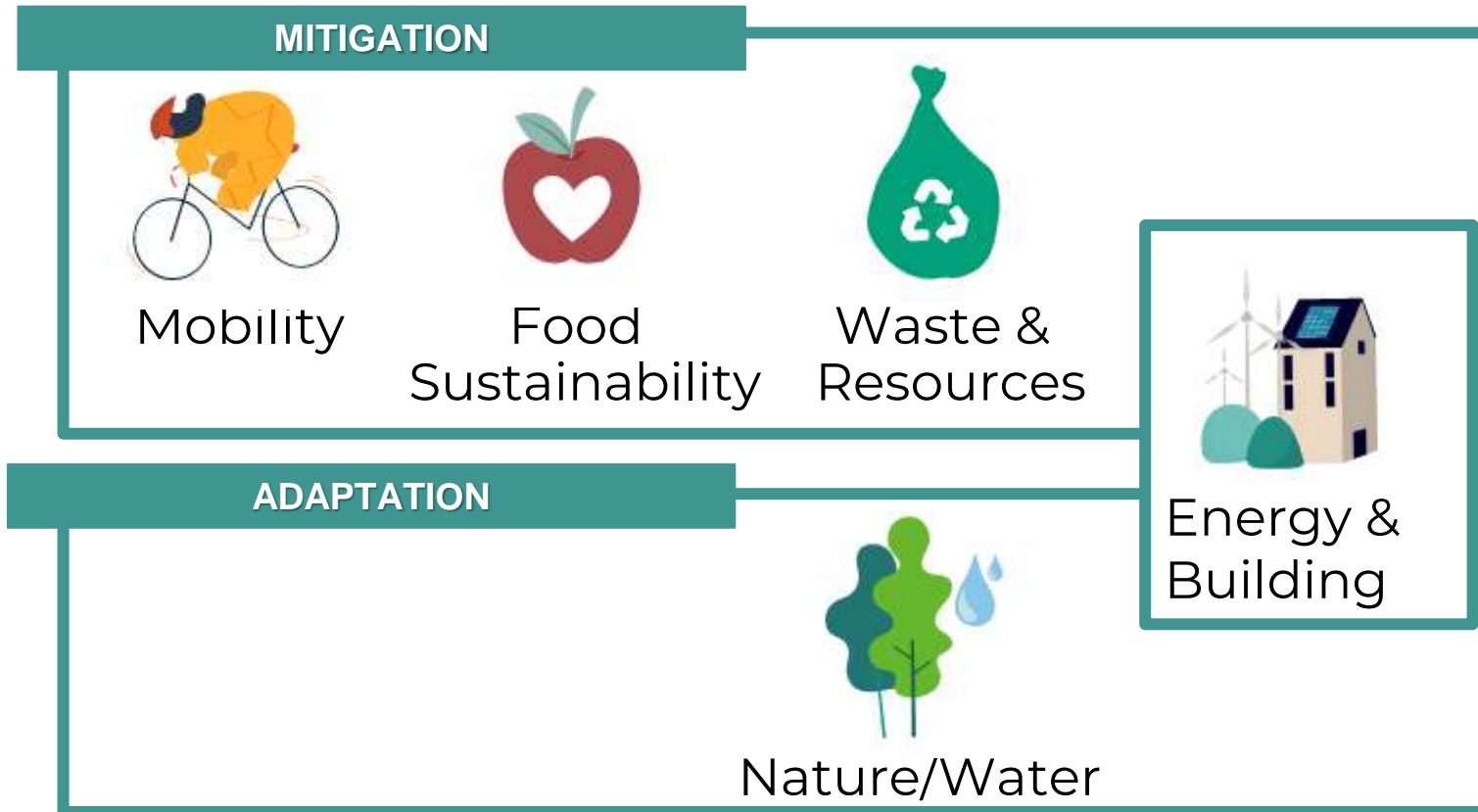
# Municipality of Ixelles – Climate objectives

- ❑ Member of the Covenant of Mayors
  - ❑ Reducing our GHG emissions by 55% by 2030
  - ❑ Reaching carbon neutrality by 2050
- Creation of a « Climate Action Plan » to reach the 2030 objectives (about to be approved by City Council):
- 122 ongoing actions
  - 91 still to be launched



# Municipality of Ixelles – Climate objectives

5 main areas of actions:

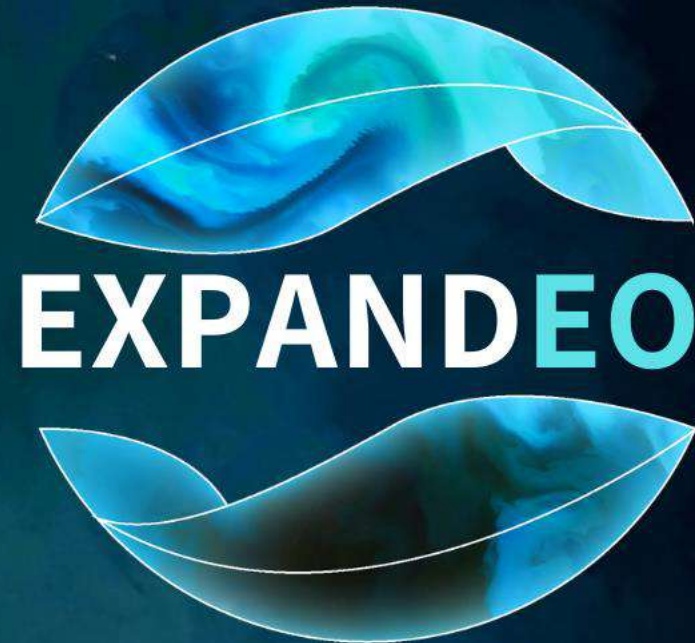


# Climate adaptation by cities – Challenges

- ❑ **Technical ones:** Dealing with **historic city planning** (we cannot widen streets) & with **underground equipment** (tubes/pipes)
- ❑ **External ones:** **Acting on private** spaces and properties & **Resistance to change** of the population
- ❑ **Internal ones:** **Mobilising the entire administration** – Not just sustainable development departments – & Ensuring consistence and continuity of the climate actions despite **changes of political majorities**
- ❑ The highly unpopular necessity to go towards **more coercive measures**
- ❑ Improving our climate resilience **without increasing gentrification** (climate justice dimension at local levels)
- ❑ Main crux: **Lack of financial resources** (HR, investment, subsidies to accompany populations throughout the transition)



13 - 14 June 2023  
Brussels, Belgium



EXPANDEO



#WHERE THE MARKET MEETS



Taking advantage of H2020 HARMONIA project to  
push forward Milan municipality's

Silvia Rossi, Project Manager  
Municipality of Milan



Project funded in the Horizon 2020 Programme under Grant Agreement 101003517



# The Environmental and Green Department of the Municipality of Milan

from 2022

**City Resilience Department - 2017**

**Climate and Energy Area**

**Water Resources and Environmental Hygiene Area**

**Unassigned Site Remediation Unit And Fuel Network Planning**



Comune di  
**Milano**



## Responsible of

- Implementation of environmental and energy policies
- Resilience issues
- Functions in the field of environmental protection and the fight against pollution

# Milan 2030 strategy: a green, livable, resilient city

## Current situation

### Air quality:

2 EU infringement procedures for the ambient concentrations of PM10 and NO2

### Climate change:

1901- 2017: average temperature annual + 2 C°

### Vegetation:

Urban green:  
25.614.580 m<sup>2</sup> (2017)  
450.000 trees  
1 million m<sup>2</sup> green roofs



Comune di  
Milano

## Milan Municipality

- 181,76 km<sup>2</sup> territorial area
- 7.439 inhabitants/km<sup>2</sup>
- 1.380.873 inhabitants (2017)

## 2030 goals

### Air and Climate Plan

Respect of limit values atmospheric pollutant concentrations (2008/50 / EC)

CO<sub>2</sub>eq -40% 2030  
Carbon Neutral 2050  
( $\Delta T < 1,5$  °C)

### City Master Plan:

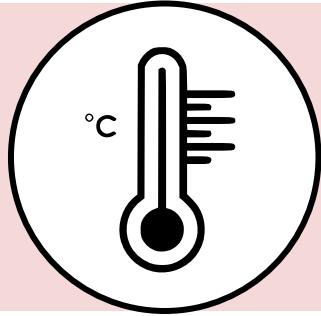
land consumption - 4 %  
20 new urban parks  
11 million m<sup>2</sup> green roofs

### Forestation program:

at metropolitan scale  
creation of a Metropolitan Park



# Milan – the problem we face



Increase in **temperature**

Increase in **heatwaves and drought**

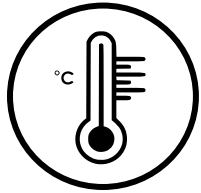
Increase of **extreme meteorological events**

Increase of the **underground water level**



High emissions levels of **CO<sub>2</sub>, NO<sub>2</sub>, PM<sub>10</sub>**

# Milan – the problem we face



**+2°C**

Mean Annual Temperature  
(1901-2017)

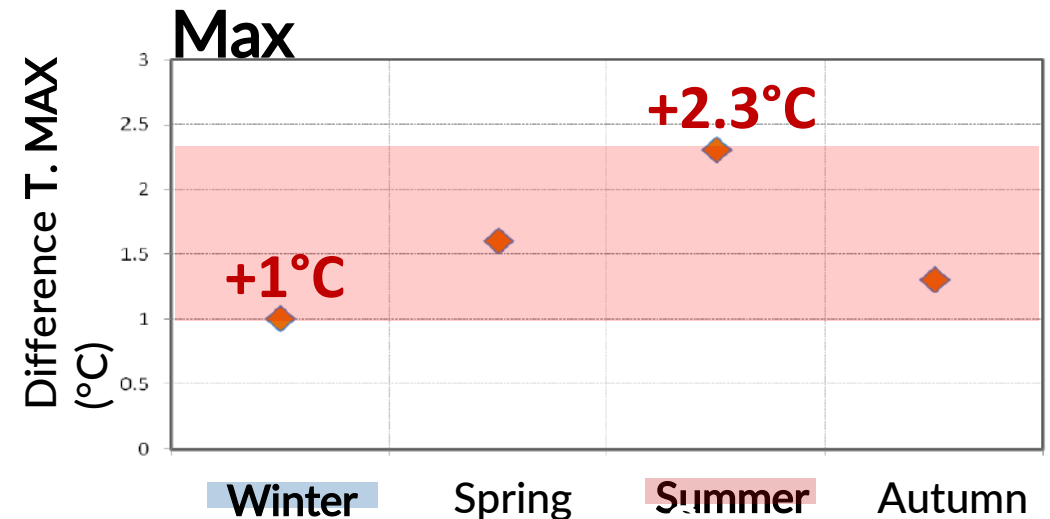
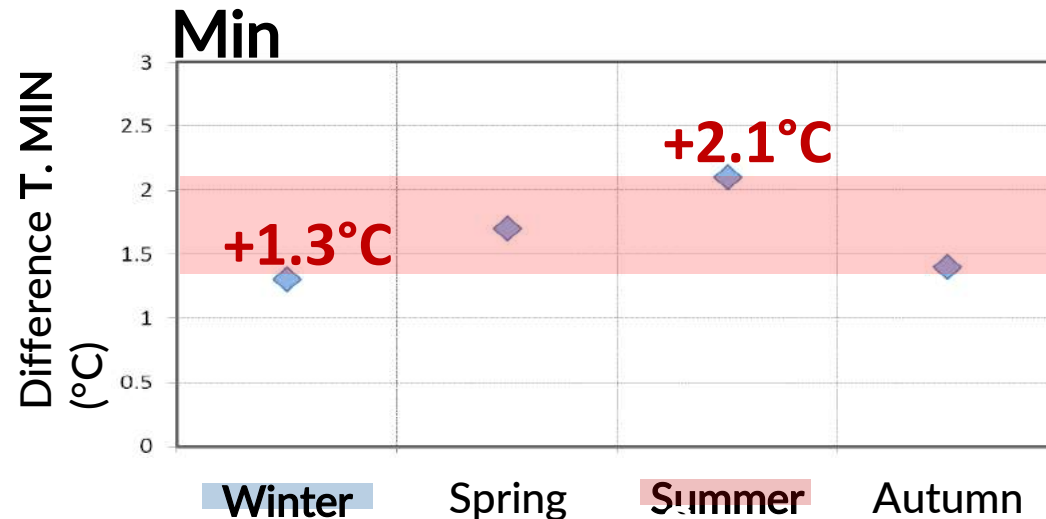
**above 2°C summer**

**above 1°C winter**

Projected minimum and maximum  
Increase in temperature in 2050

fonte: Profile Climatico Locale, Arpa Lombardia e Arpa Emilia Romagna, Comune di Milano

The City Council declared the  
**Climate and Environmental  
Emergency** with motion no. 433 on  
20 May 2019



# Milan – the problem we face



For 19 km the **Seveso** flows under the Milanese asphalt stretch, with urbanization peaks exceeding 80% of the territory. **The concrete tunnel can accommodate a maximum of 45 cubic meters of water per second.** So when you reach 80, 90, even 100 cubic meters full, as happened on 18 September 2010, the Seveso **floods** the city.

Furthermore, the Lombard capital is among the areas most frequently hit by floods: 30 total events and 20 floods from the Seveso and Lambro rivers. The causes of the floods and flooding in the city of Milan are certainly to be found in the **excessive waterproofing** of the soil, with 32% of waterproof areas according to Ispra data, which has significantly changed the layout of the hydrographic system.



# Milan – the problem we face



## 2 EU infringement procedures

for the ambient concentrations of PM10 and NO2

With a new **concentration level of PM2.5 between 15 and 25  $\mu\text{g} / \text{m}^3$** , Milan is among the European cities with the worst air quality, defined by the classification as "**poor**". Out of 322 cities it occupies the 303rd place and the concentration of ultrafine poor per year, estimated at 20.1 $\mu\text{g} / \text{m}^3$ , saves it from the very last positions, those of the places where the **air** quality is "**very poor**", but the however, it assigns a place reserved for the most polluted urban contests in Europe [EU Environment Agency]



# Milan Resilience Strategy: actions and projects in progress

- **urban forestation program**, which provides for the planting of about 3 million trees by 2030
- **PGT** (Piano di Governo del territorio) with the inclusion of articles relating to resilience
- **climate adaptation guidelines** by 2019, in the framework of the **Air and Climate Plan**
- requalification of squares and the implementation of vertical farming
- urban regeneration on large scale projects (e.g. brownfield, abandoned areas, stopovers, Expo area, etc.)
- **integration of resilience principles** within the periphery plan or the project for the reopening of the Navigli
- guidelines for the circular economy



Riapertura dei Navigli



Depuratore di Nosedo



Invarianza idraulica



Food Policy



OpenAgri



Green Carpet Award



Piano di Governo del Territorio



Progetto 'Piazze aperte'



Progetto Sharing Cities



Scali Ferroviari



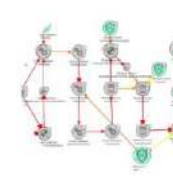
Manifattura Milano



Piano Quartieri



Contrasto al phishing



Threat Model



Security Operation Center



Piano piantumazioni



Reinventing Cities



Progetto CLEVER

# Milan – Air And Climate Plan



## 1\_ SLOW MILANO

a city that moves in a fluid, flexible and sustainable way

active personal mobility (cycle-pedestrian city)  
intermodal personal mobility based on a Mobility as a Service approach  
electric vehicles for freight, emergency and special services



## 2\_ POSITIVE ENERGY MILANO

better and lower use of energy

zero-emission building stock  
smart urban energy system powered 100% by renewable sources



## 3\_ COOL MILANO

A city that cools down

a cool, green and blue city that adapts to climate change



## 4\_ INCLUSIVE MILANO

a healthier, safer and fairer city

a healthy city, a safe city, social and urban environmental balance



## 5\_ INFORMED CITIZENS

shared aims

pro-capita reduction in carbon and lifestyle awareness  
reduction in production of waste through responsible consumption, reuse and recycling  
reduction in both private and public water use

# Milan – PGT (government territorial plan)

## City Master Plan:

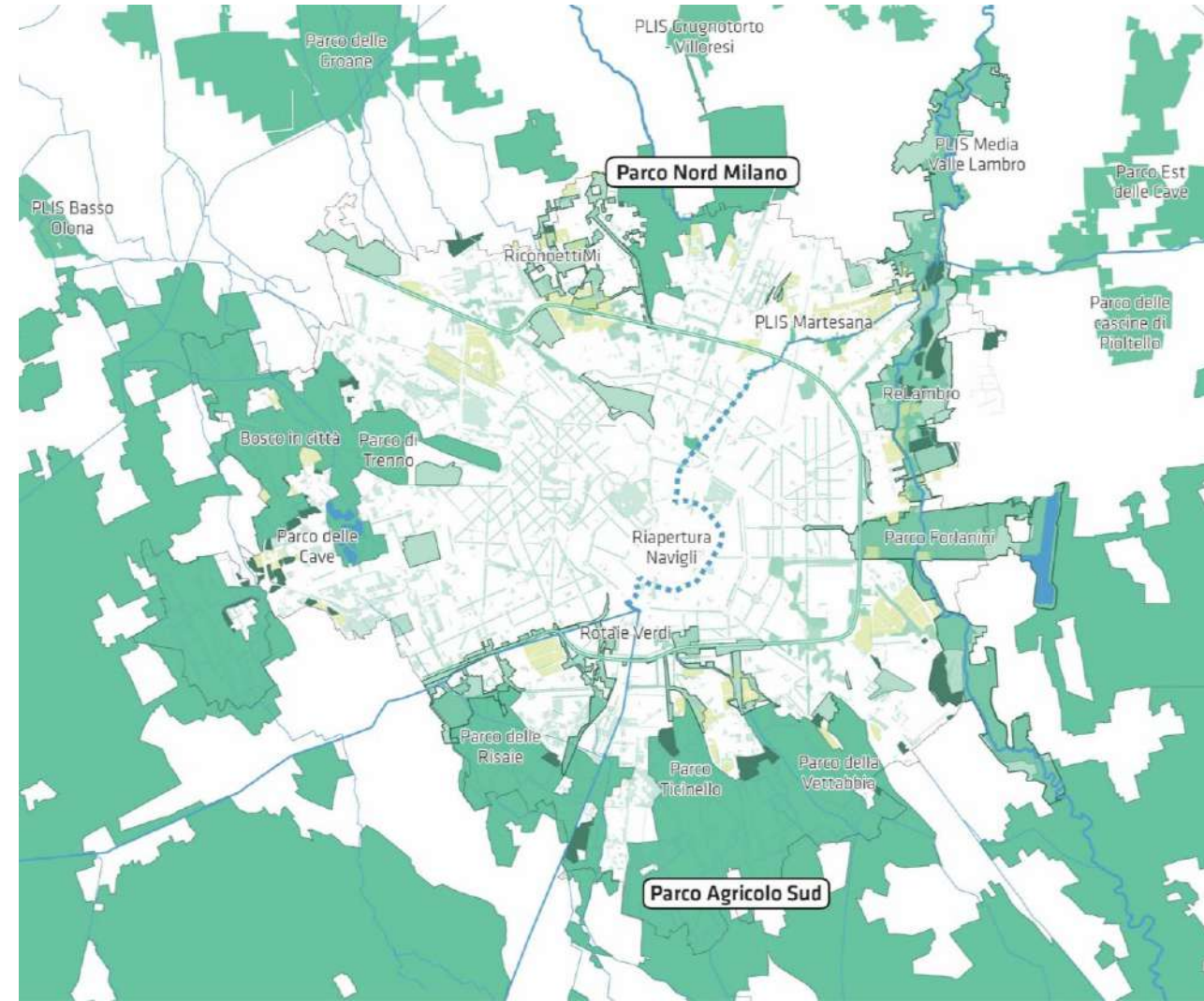
land consumption - 4 %  
20 new urban parks  
11 million m<sup>2</sup> green roofs

## Reduction in land use

The plan will protect 1.7 million square meters from possible urbanization, thanks to the elimination of areas for urban transformation (ATU), the downsizing of forecasted Mandatory Plans and the constraint of over 3 million square meters to be used for Agriculture.

## Designing a new ecology. Sustainability standards.

High performance rules for new construction will allow a reduction in energy consumption, restore and maximize permeable areas in the city, and to reduce carbon footprint, both in new construction and in upgrading/renovation interventions.



# Milan – Taking advantage of H2020 HARMONIA

The Urban Resilience Department of the Municipality of Milan aims to strengthen the "resilience" of the city, i.e. to **increase the ability to face the main environmental, social and economic challenges** through the **development of urban strategies** based on data evidence and site-specific requirements

COMPLAIN TO  
→



CLIMATE AND AIR  
PLAN – CITIZEN  
AWARNESS

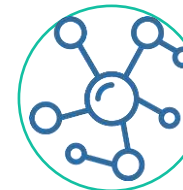


GOVERNAMENT  
TERRITORIAL PLAN  
LAND USE

SUPPORT TO  
→



ADOPT A  
METHODOLOGY FOR  
RECOGNIZING AND  
MAPPING RISK



DELIVER AN  
INTEROPERABLE SERVICE IN  
GEOSS



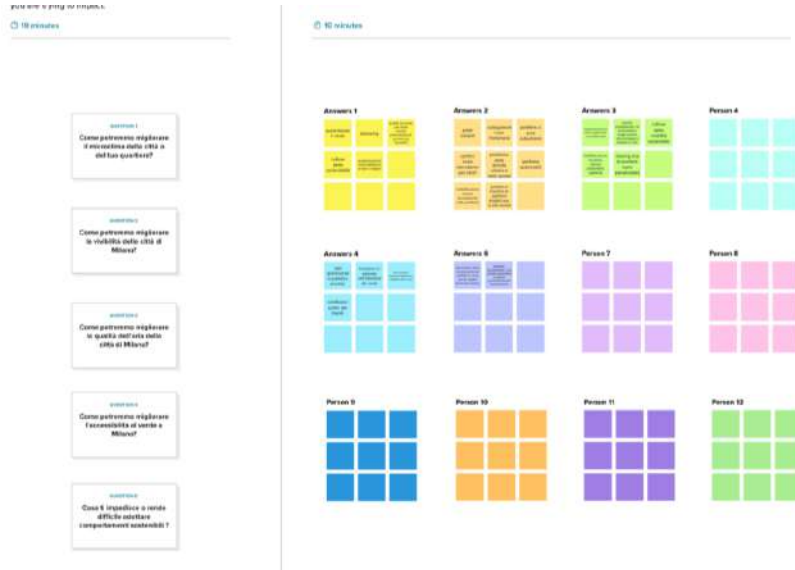
# Milan – Stakeholder for HARMONIA



Level of interest	Citizens Transport services Research centers NGO'S Local environmental associations Local committees	Insurance companies Protezione civile Milan Municipality –DP Resilient Cities Arpa Lombardia MM Weather forecasting agencies AIPO
	Marketing agencies	Urban planning ASST Private developers Media

Level of influence

# Milan – Stakeholder Workshop



## HOW MIGHT WE...

1. ...improve the microclimate of the city or your neighborhood?
2. ...improve the livability of the city of Milan?
3. ...improve the air quality of the city of Milan?
4. ...improve accessibility to green spaces in Milan?
5. What prevents or makes it difficult for you to adopt sustainable behaviors?

- Increasing the green
- Depaving
- Increasing the permeability of the soil
- The culture of sustainability
- Air conditioning

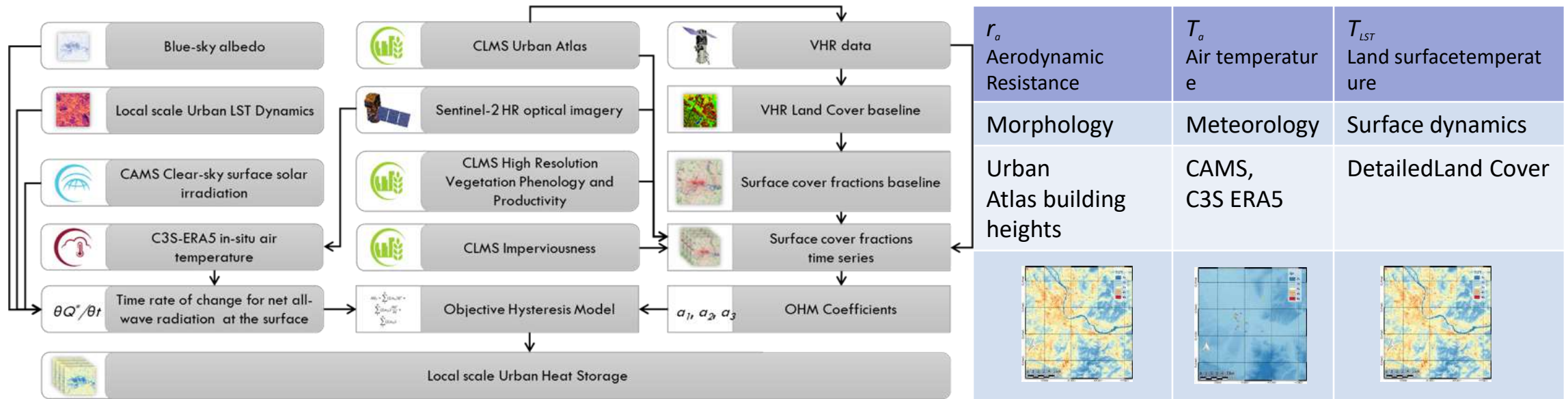
- Cycle path
- Hinterlands links
- Thinkin about suburbs
- Borders: what do you mean as city?
- Sprawl
- Traffic management
- Resources Management: more for suburbs
- PEDIBUS and more other activities for school-job-house path

- Air cond. Regulation
- Rain: if the municipality knows that for a long period won't rain there must be a traffic rules – stop car
- Car sharing
- Sustainable mobility culture
- Secure mobility

- PPP
- Including companies in adopting the green
- Change the call for tenders criteria
- Common Gardens

- Security perception: public transport in the night, based also on urban furniture
- Policies: the sustainable choices are often economically not convenient

# IRAP\* Platform for MILAN



## Planning

- Goal: Local Scale Urban Heat Emissions (QH) and Heat Storage Flux ( $\Delta QS$ )
- Land Cover Fractions
- 3D Information





**Gemeente  
Haarlem**

**THE EUROPEAN  
CAPITAL OF  
INNOVATION  
AWARDS22**

**Haarlem**

**#iCapitalAwards**



**URBAN  
AGENDA**  
FOR THE EU  
WORKING TOGETHER FOR BETTER CITIES  
PUBLIC PROCUREMENT



European  
Innovation  
Council



**WINNER**  
European  
Rising  
Innovative  
City



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Procurement, Expert



**Gemeente  
Haarlem**

**URBAN  
AGENDA**  
FOR THE EU  
WORKING TOGETHER FOR BETTER CITIES  
PUBLIC PROCUREMENT



# Network of Urban Agenda Partnership on Innovative and Responsible Public Procurement



↑ in 2017

in 2023 →



# City of Haarlem

# Ambitions



**Innovation, Procurement and Climate Services**

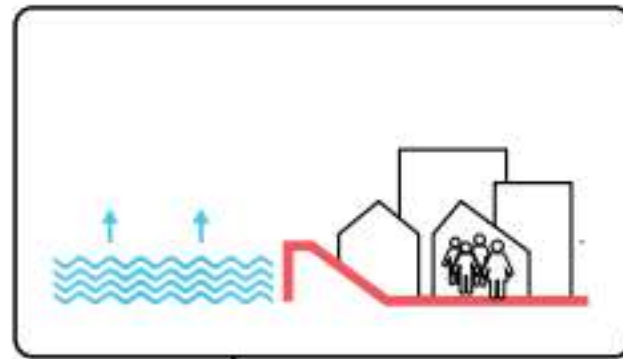




# City of Haarlem

## Challenges

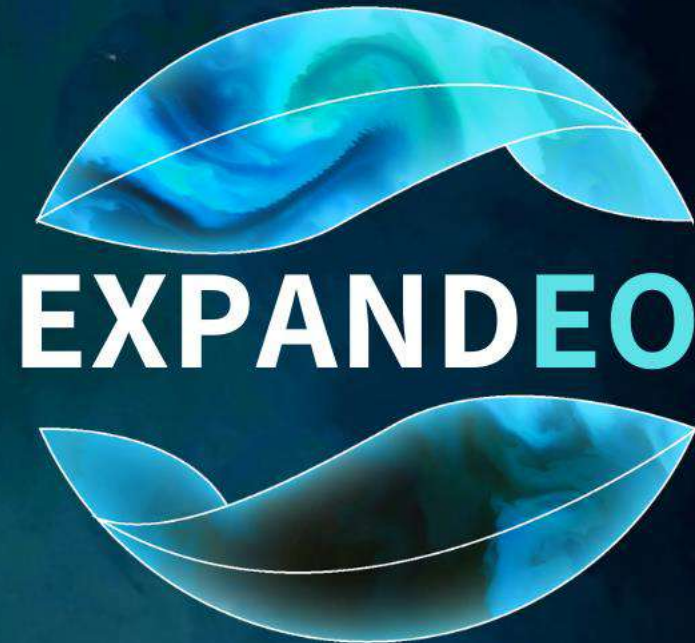
- Rapid mapping of floods
- Predicting (waste) fire
- Identifying illegal dumping of waste and tracing
- Predicting the demand for water to match supply and demand (specially in drought)
- Detecting climate vulnerability to prepare resilience plans
- Smart traffic
- Security
- Carbon emission reduction
- Smart energy







13 - 14 June 2023  
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#WHERE THE MARKET MEETS



## Helsinki climate actions going digital

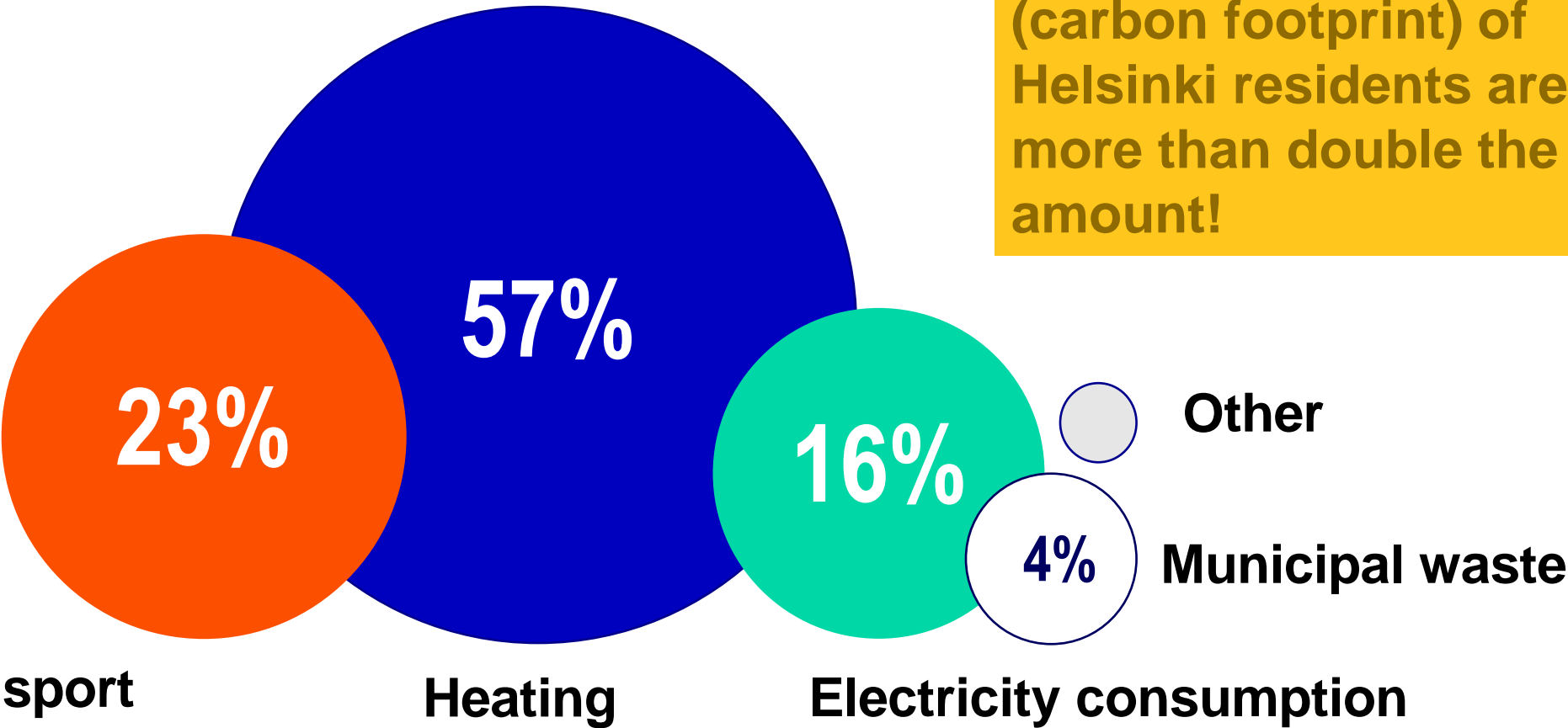
Sami Sahala, Lead expert Smart Mobility  
Forum Virium Helsinki



Project funded in the Horizon 2020 Programme under Grant Agreement 101003517



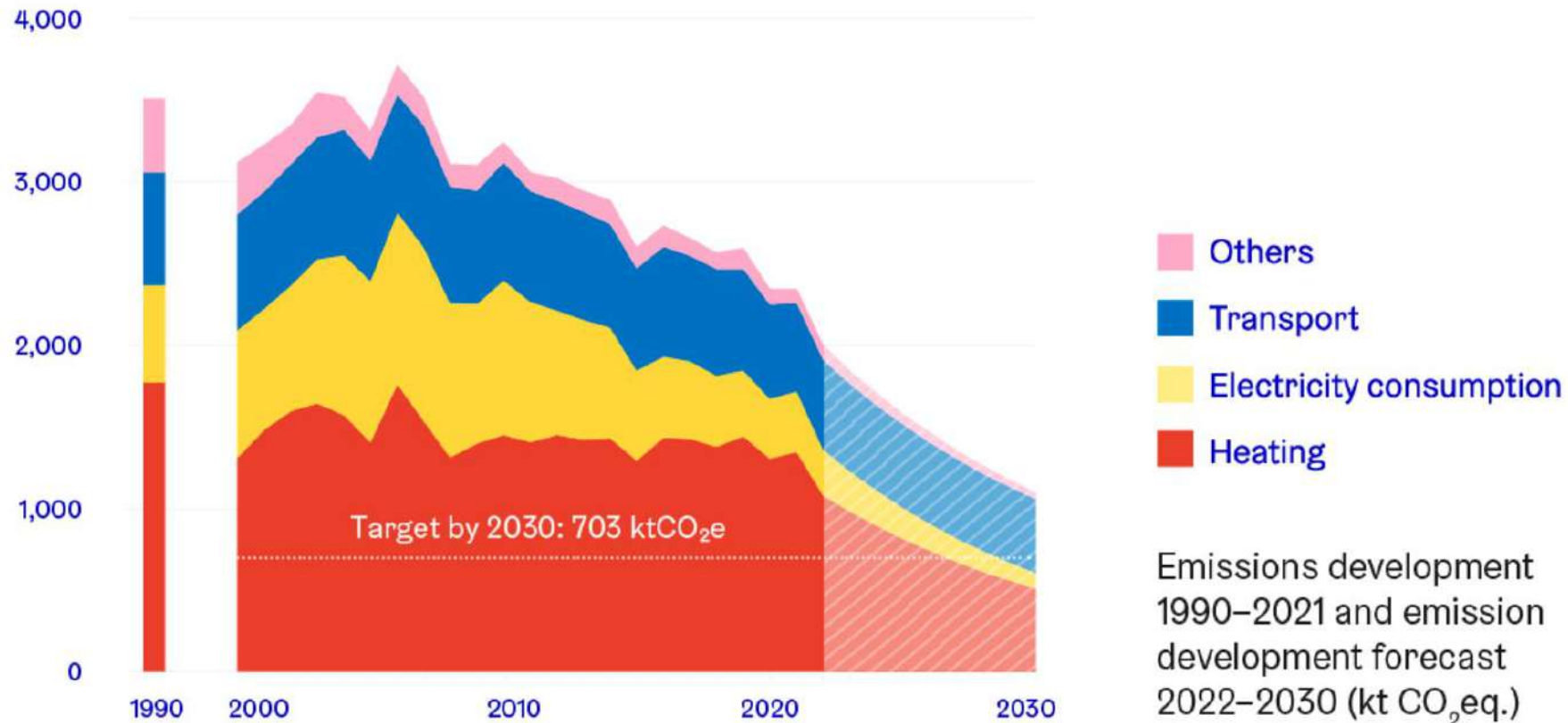
# Emissions in Helsinki



The actual emissions (carbon footprint) of Helsinki residents are more than double the amount!

# ..with promising projection

Emissions development by sector (kt CO<sub>2</sub> eq.)



# Helsinki's emissions target

- The total emissions target of Helsinki has become steadily stricter

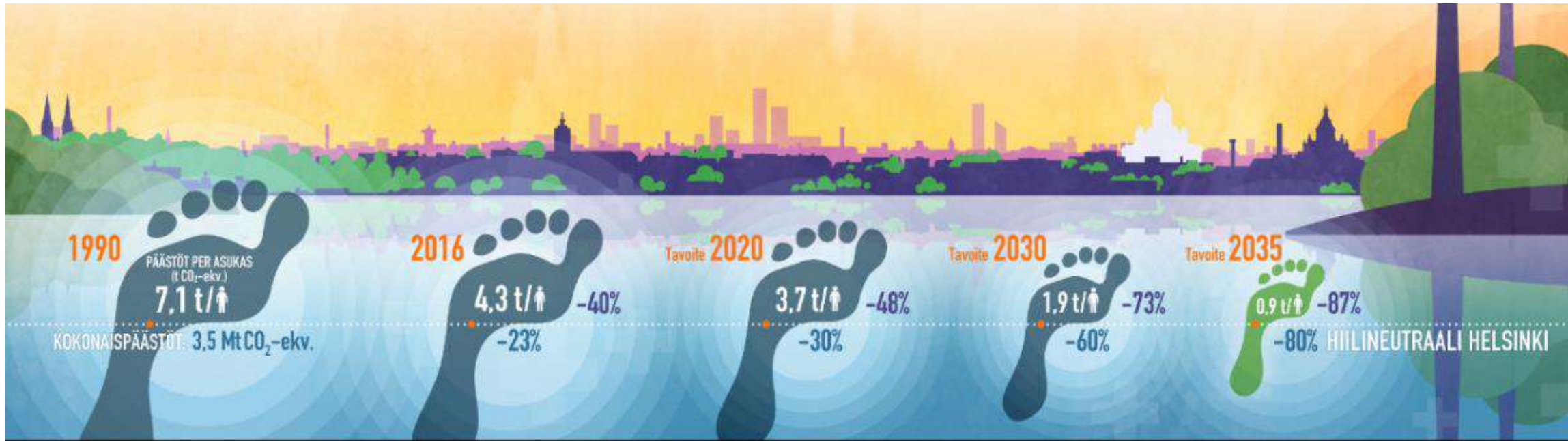
–20% 1990–2020 (2008)

–30% 1990–2020 (2013)

–60% 1990–2030 (2017)

Carbon neutrality 2035 (2017)

Carbon neutrality by 2030  
(2022)



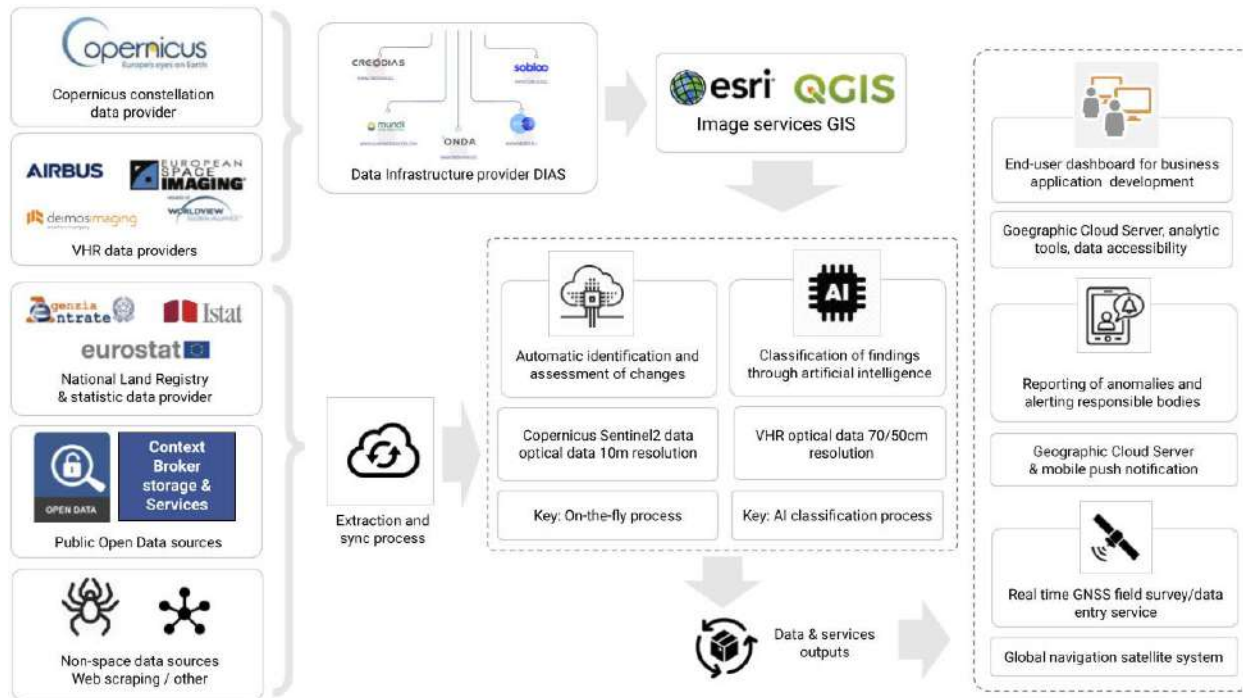
# Carbon Neutral Action Plan

- **147 actions, 3 categories**
- **1.** Actions that reduce emissions: the action has a direct impact on the sectors selected as focal areas; moving forward, most new actions will be in this category.
- **2.** Required actions that facilitate emissions reduction: the action is a prerequisite for implementing the category 1 actions, even though the action itself does not involve a direct impact on the emissions reductions.
- **3.** Surveys to determine new emissions reduction actions: the actions require additional preparation or studies with the aim of preparing category 1 and 2 actions.



# Going Green & Digital

## Spotted Framework



# ...and exploring use cases for it



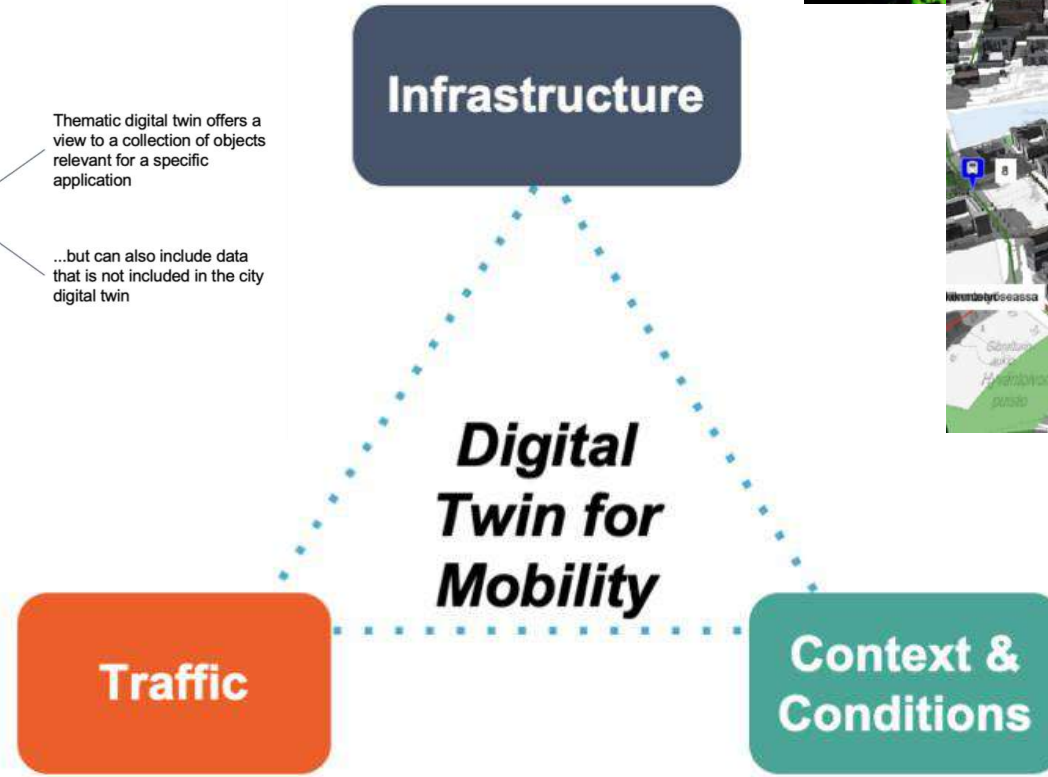
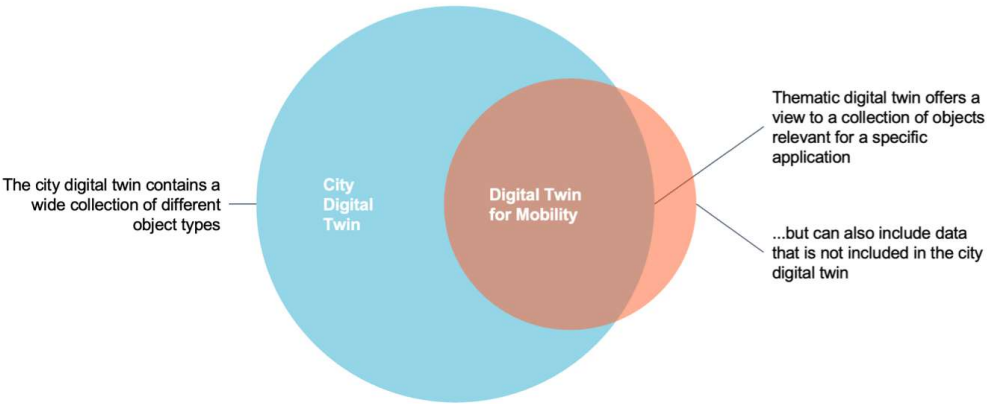
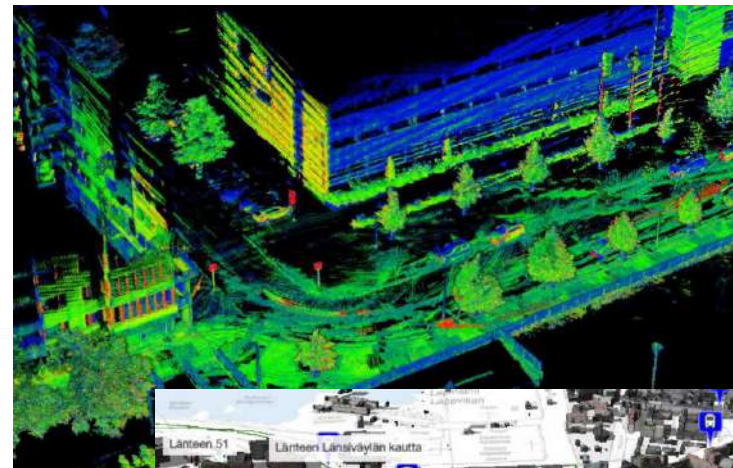
# ...with Digital Twin as the platform





# ...for all domains

## Case: MOBILITY



Join us in co-creating urban futures!

@forumvirium | forumvirium.fi



**Sami Sahala**  
sami.sahala@forumvirium.fi

# FORUM VIRIUM HELSINKI





# Green Deal implementation at local level

Joachim Maes, European Commission, Directorate-General  
for Regional and Urban Policy

*EXPANDEO, Brussels, 14/06/2023*

# Climate adaptation under the European Green Deal and cohesion policy

- Climate law and climate adaptation strategy
- Mission on climate change adaptation
- Structural investments in climate adaptation and nature-based solutions under cohesion policy
- Urban Agenda and European Urban Initiative – Greening cities



<https://www.urban-initiative.eu/>

# Thank you



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