



UNIVERSITY OF TARTU



Implementing the three pillars of smart city: **SUSTAINABILITY, DIGITALISATION and SOCIAL INCLUSION** in Tartu, Estonia

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IMPLEMENTING THE SMART CITY IN TARTU



SUSTAINABILITY - renovation of the Soviet-era apartment buildings + sustainable transport solutions

DIGITALISATION - technological solutions that allow to measure the environment

SOCIAL INCLUSION - affect the acceptance and diffusion of sustainable and smart solutions among all citizens

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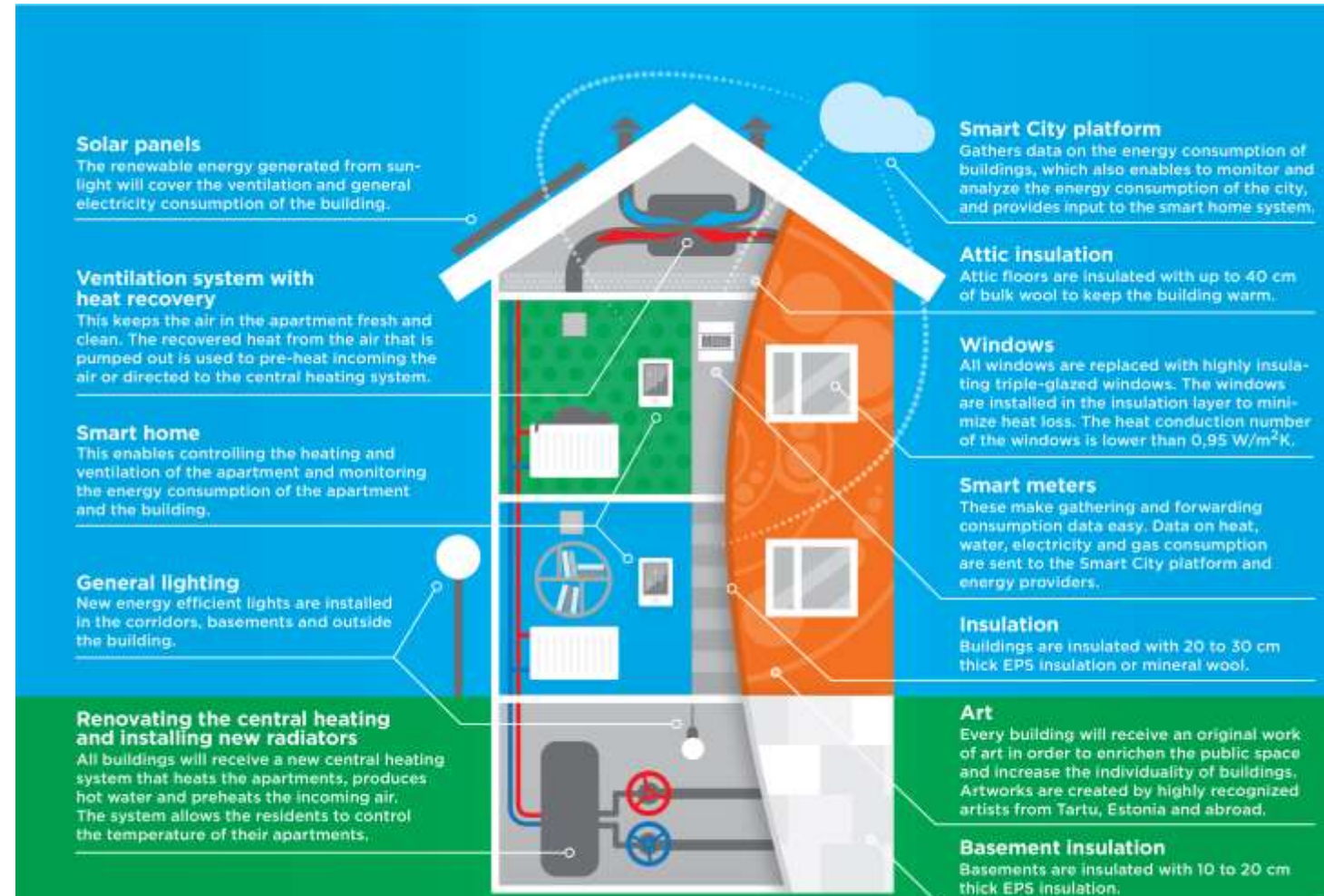
Tartu
heade mõtete linn

SUSTAINABILITY



Renovation of the Soviet-era apartment buildings to nearly zero energy buildings.

- Insulation: basement, walls, attic
- Replacing windows
- Renovating the central heating
- Ventilation with heat recovery
- Solar panels



SUSTAINABILITY



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- Art



SUSTAINABILITY

Sustainable transport solutions

- Bike share system
- Fast chargers for electric vehicles
- Reuse of electric car batteries
- Biogas buses



DIGITALISATION



Technological solutions that allow to measure the environment in both renovated houses as well as in urban space.

- Smart home system in renovated houses
- Smart LED streetlights + environmental sensors
- GPS devices on bikes



SOCIAL INCLUSION



Influencing the acceptance and diffusion of sustainable and smart solutions among all citizens.

- Trainings
- Ambassadors program
- Public engagement events
- Selection of an art mural for the walls of the renovated houses



USAGE of DIGITAL DATA



**SUSTAINABLE and DIGITAL SOLUTIONS +
SOCIAL INCLUSION**



RESEARCH and APPLICATIONS to monitor spatio-temporal dynamics of environment and human mobility.

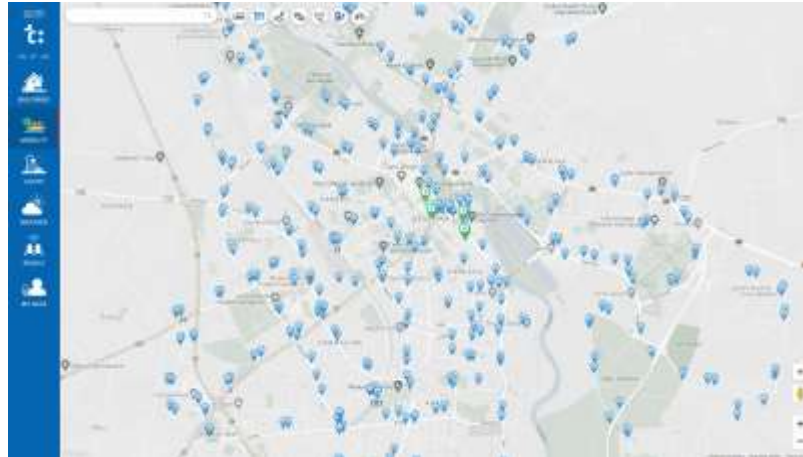


DATA-DRIVEN DECISION MAKING for the city government, service providers and the residents.

CITY INFORMATION PORTAL



Bus stations, electric vehicle
charger stations



Bike share system dock
stations



Buses and traffic



Solar energy



TARK TARTU
SMART CITY

t:

EN ET DA

BUILDINGS

MOBILITY

LIGHTS

WEATHER

PEOPLE

MY DATA

<https://tarktartu.telija.ee/>

POPULATION MOBILITY MONITOR



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Mobility Lab

Platform for visualising actual mobility flows based on digital mobility data sources.



Bike share
system data

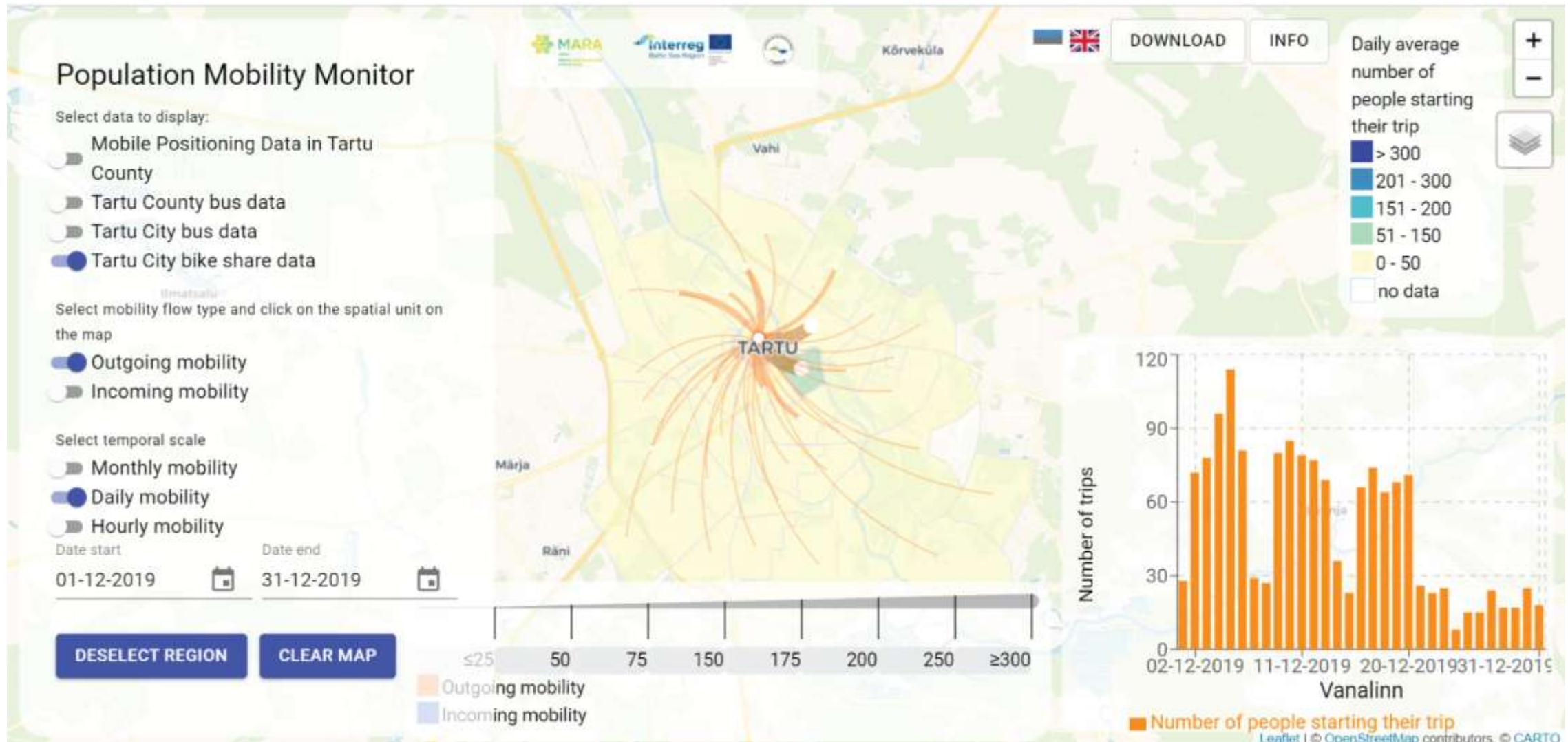


Public transport
data



Mobile positioning
data

POPULATION MOBILITY MONITOR



<https://mara.ut.ee>

INFOTECHNOLOGICAL MOBILITY OBSERVATORY (IMO)



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Mobility Lab

imo.ut.ee

- Data infrastructure that supports mobility studies and decision-making.
- Integrates different data sources.
- Linking, harmonization, validation.
- Making data more available.



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TALLINN UNIVERSITY



TAL
TECH



Thank you!

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Mobility Lab



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Ahas, Mooses, Kamenjuk, Tamm (2019) Retrofitting Soviet-Era Apartment Buildings with 'Smart City' Features: The H2020 SmartEnCity Project in Tartu, Estonia. D.B. Hess and T. Tammaru (eds.), Housing Estates in the Baltic Countries, https://doi.org/10.1007/978-3-030-23392-1_17