

# 21<sup>st</sup>

## European Week of Regions and Cities

Thriving Regions, Stronger Europe

### Workshop

How to engage local communities  
to drive urban regeneration and  
social innovation

**SQUARE**  
Brussels Meeting  
Centre  
Room  
211-212

**10**  
October 2023  
16:30-17:30  
CET

### Speakers

**Niki Gaitani**, NTNU  
**Maarten de Groote**, VITO  
**Külle Tärnov**, FinEst Centre  
for Smart Cities

### Moderator

**Julien Dijol**, Housing Europe

### Coordinator

**Sladjana Lazarevic**, NTNU



#EURegionsWeek

NTNU

ARV

syn.ikia

oPEN Lab



THE GREEN DEAL  
PROJECTS SUPPORT OFFICE



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Thriving Regions, Stronger Europe

**Niki Gaitani**

Assoc. Professor Project Leader

Norwegian University of Science and Technology NTNU

Email: [niki.gaitani@ntnu.no](mailto:niki.gaitani@ntnu.no)

**#EURegionsWeek**



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## European Week of Regions and Cities

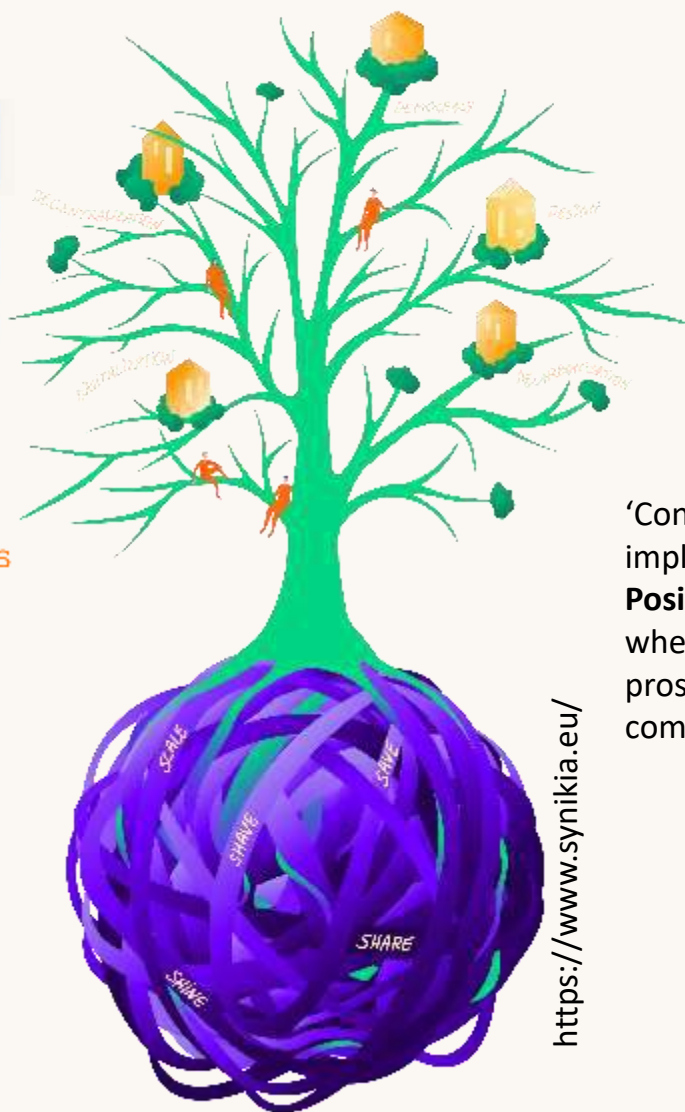
Thriving Regions, Stronger Europe



Sustainable  
plus energy  
neighbourhoods

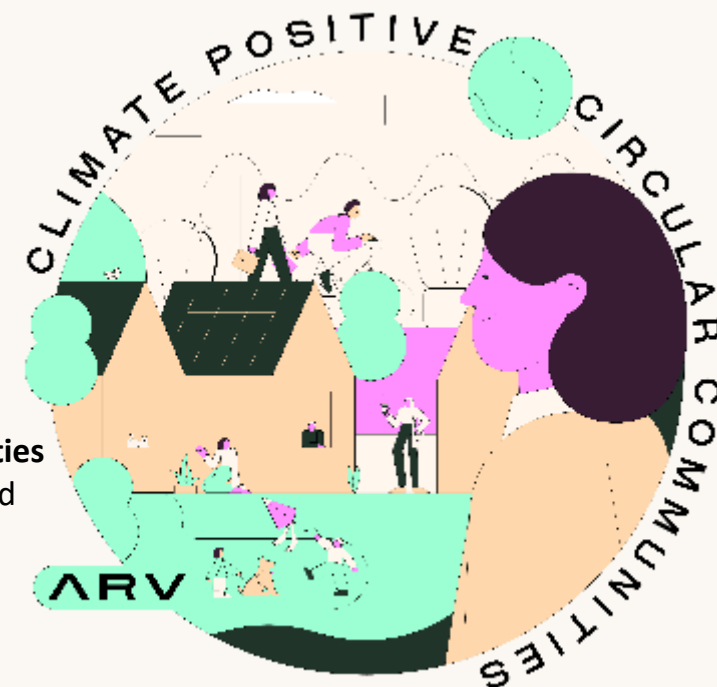
‘Increase the share of  
**Sustainable Neighbourhoods**  
with surplus of renewable  
energy in different contexts,  
climates and markets in Europe’

syn.ikia is a Greek word  
meaning neighbourhood



<https://www.synikia.eu/>

‘Contribute to wide scale  
implementation of **Climate  
Positive Circular Communities**  
where people can thrive and  
prosper for generations to  
come.’



ARV is a Norwegian word  
meaning legacy or heritage

<https://greendeal-arv.eu/>

**ARV**  
CLIMATE POSITIVE  
CIRCULAR COMMUNITIES

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**UDEN**



**39 HOUSING UNITS**

Digital twins at neighbourhood scale  
 Integrating sensors (HVAC) allowing smart controls and diagnostics  
 Load balancing at building & neighbourhood level  
 Tenant involvement for enhanced user satisfaction  
 Performance guarantee  
 Social beautiful concept

**56 HOUSING UNITS**

Establishing a neighbourhood energy system  
 Architecturally integrated PV  
 Smart house technology  
 Smart charging of electric vehicles  
 Low carbon design, largely wood-based construction, prefabricated elements  
 Use of recycled materials  
 Social sustainability with emphasis on shared spaces and IT platform for energy awareness



**FREDRIKSTAD**

marine 

mediterranean 



Sustainable plus energy neighbourhoods



subarctic



continental

**BARCELONA**



**38 HOUSING UNITS**

District heating network  
 Energy sharing with the neighbour buildings  
 Energy manager and visualisation  
 Renewable energy generation is beyond the requirements of building code  
 Innovative public procurement with sustainable and environmental requirements

**230 HOUSING UNITS**

Energy sharing with the neighbour buildings  
 Smart home technology  
 Integrated energy systems and low temperature microgrid  
 Renovation incentives  
 Participatory design  
 User behaviour assessment



**SALZBURG**



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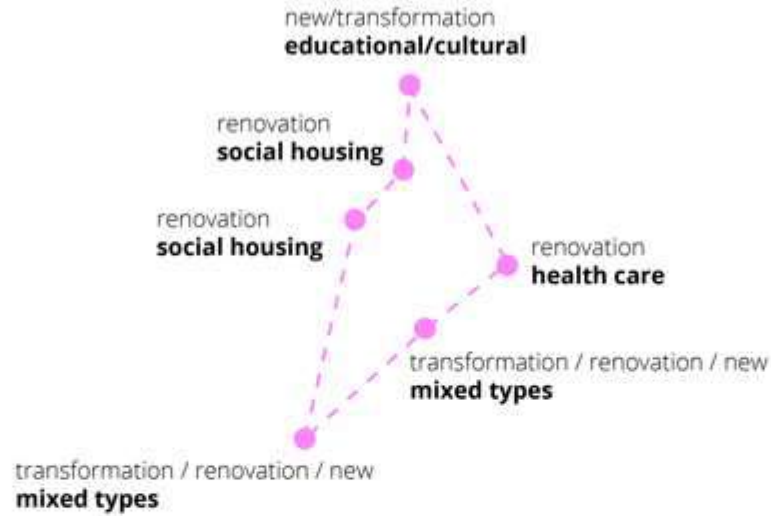






# ARV

## 6 climate positive circular communities



- ENERGY EFFICIENCY
- JOINT SOLUTIONS FOR RENEWABLE ENERGY
- ENERGY SHARING / SMART MANAGEMENT
- ENERGY FORECASTING / ENERGY FLEXIBILITY
- CIRCULAR SOLUTIONS / MATERIAL USE
- TRANSFORMATION/RENOVATION



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**Külle TÄRNOV**

Head of Innovation

FinEst Centre for Smart Cities

Email: [kulle.tarnov@taltech.ee](mailto:kulle.tarnov@taltech.ee)



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TAL  
TECH

A!

Aalto University



Co-funded by  
the European Union

## FinEst Centre for Smart Cities

### Who we are?

FinEst Centre for Smart Cities is an international research and development centre driven by the passion to enhance the quality of life in urban areas.



Our **ambition** is that our 10 smart solutions will be developed and implemented in at least 30 European cities by 2030.

### What we do?

Our **mission** is to ensure that as cities grow and evolve, they remain centred on the needs and well-being of their residents.



We're here to bridge the gap between science and cities. We create innovative, practical solutions to complex urban challenges.

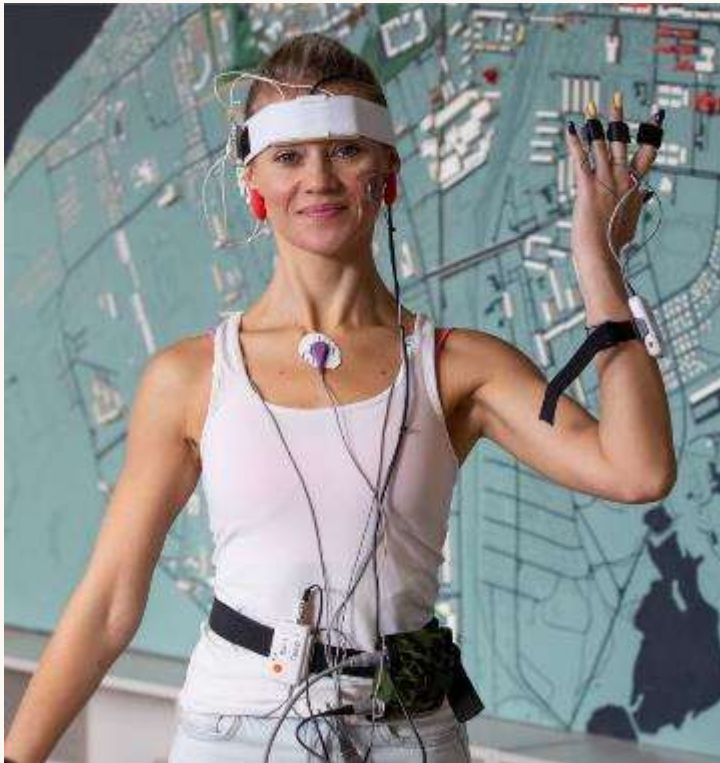
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## Citizen Well-being Diagnostics

An objective and evidence-based understanding how people feel in certain places in your city

- ❑ A valuable additional input for general planning to create a city for its citizens
- ❑ A tool to plan and measure the effect on well-being of a concrete development project in your city – before and after

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NTNU

ARV

syn.ikia

oPEN Lab  
of the environment

Profil Centre  
for Smart Cities





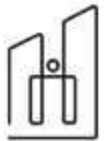
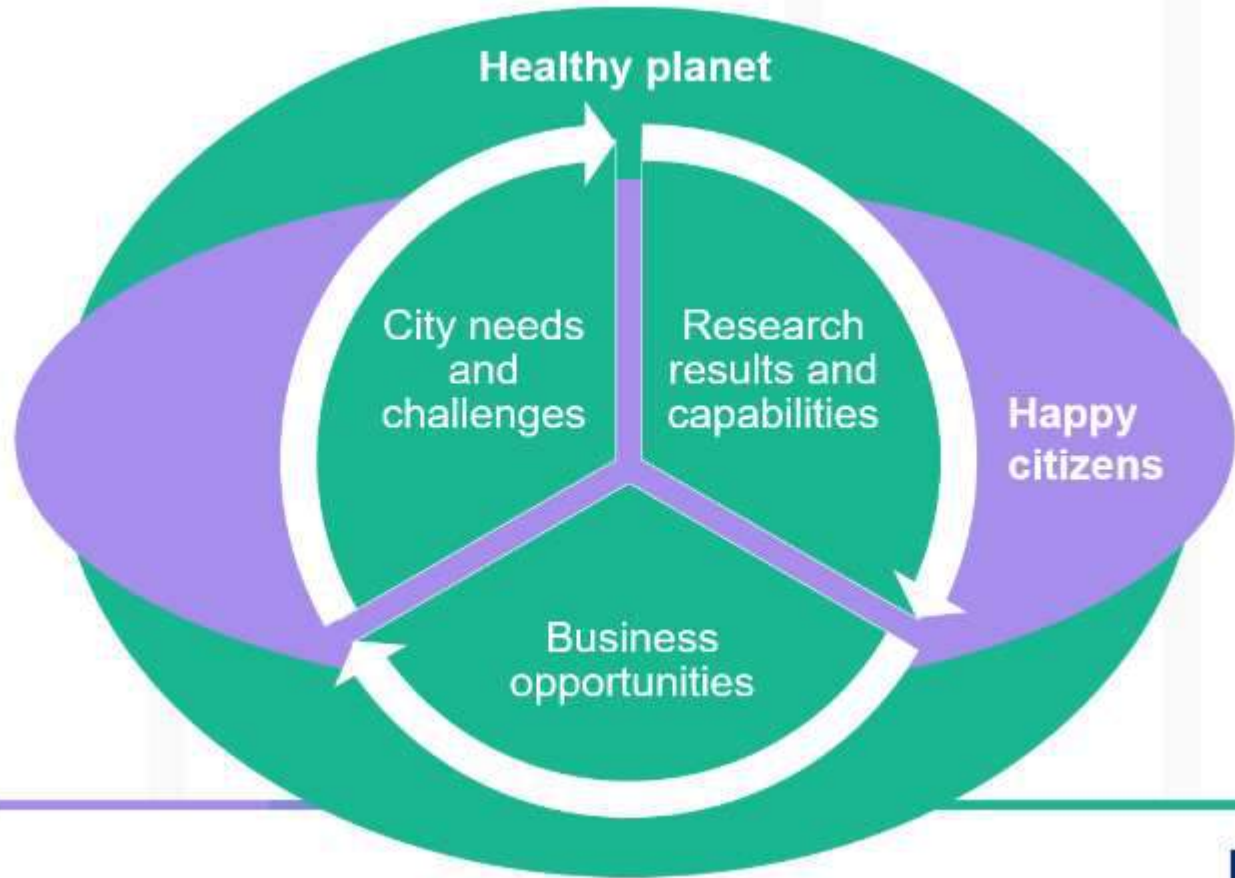
# Smart City Challenge 2023

<https://finestcentre.eu/innovation-with-cities/smart-city-challenge-2023/>

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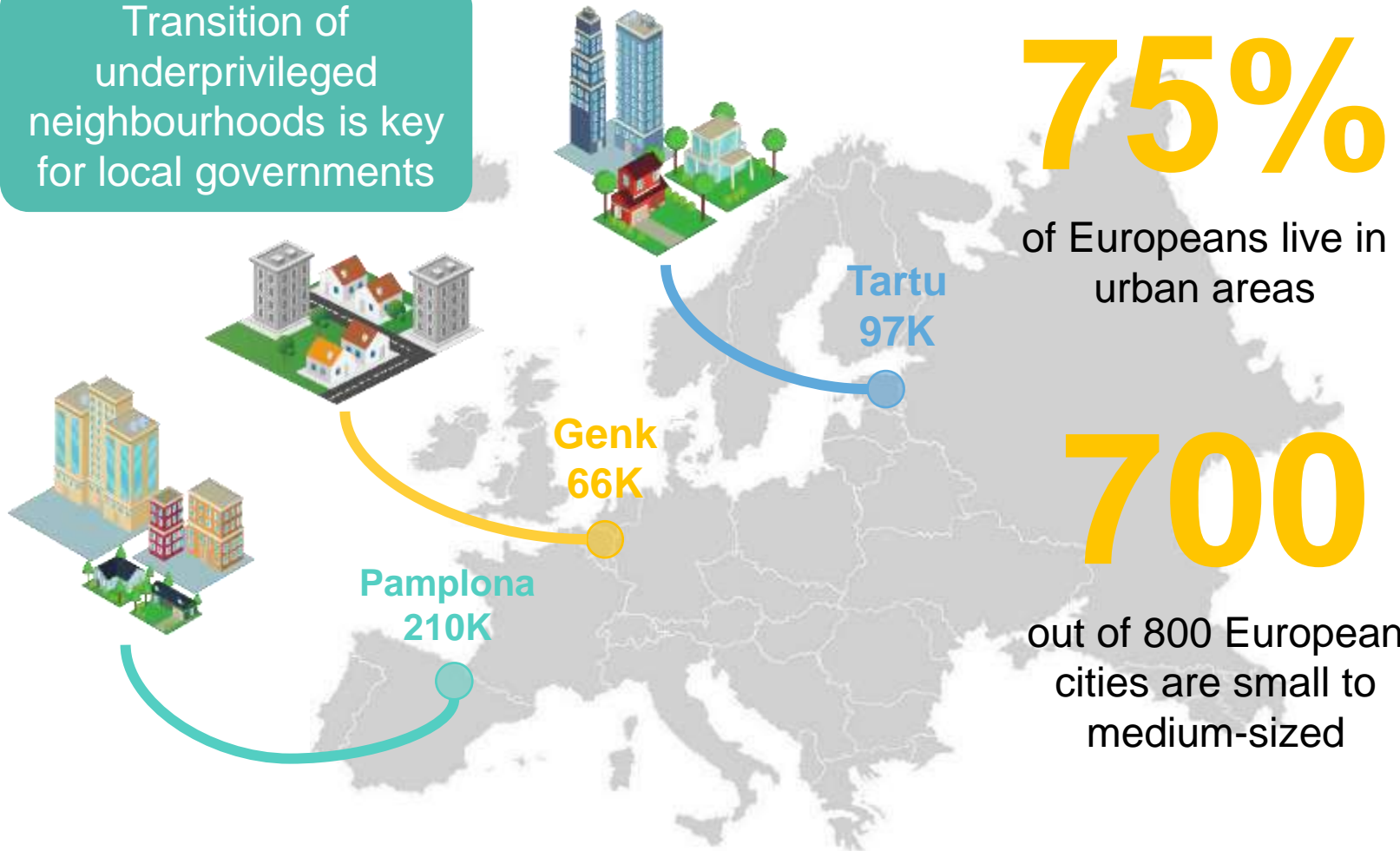






# oPEN Lab: revitalisation of urban areas towards Positive Energy Neighbourhoods

Transition of underprivileged neighbourhoods is key for local governments



- 1. POSITIVE ENERGY NEIGHBOURHOODS**  
*within existing urban contexts*
- 2. LIVING LAB**  
*innovation processes in real-life test environment*
- 3. OPEN INNOVATION**  
*to enable commercially viable solution packages*

# 3 oPEN Living Labs, 3 different settings

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Tartu (EE): renovation of  
3 Soviet-era apartment  
buildings to PEN



Genk (BE): single family –  
private and social –  
housing district



Pamplona (ES): blending  
tertiary building with  
social housing

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### Workshop Coordinator

Dr. Sladjana Lazarevic, Assoc. Prof.  
Norwegian University of Science and Technology  
Email: [sladjana.lazarevic@ntnu.no](mailto:sladjana.lazarevic@ntnu.no)

### Visit syn.ikia & ARV

<https://www.synikia.eu/>  
<https://greendeal-arv.eu/>

### Visit FinEst Centre for Smart Cities

<https://finestcentre.eu/>

### Visit oPENLab

[oPEN Lab | Leading the transition to positive energy neighbourhoods](#)

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