Awareness raising and behaviour change measures implemented in social housing in Bolzano

Online Discussion: Awareness Raising and Behavioural Change for Energy Efficiency in Buildings
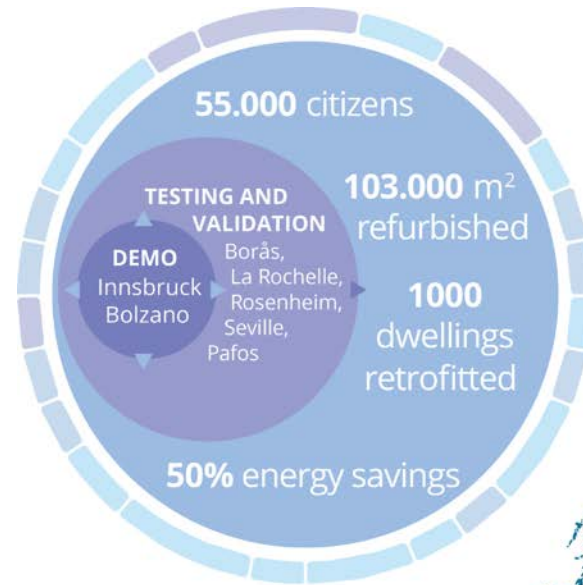*5 December 2018*

Nives Della Valle, PhD
Senior Researcher
Eurac Research

Interreg Europe

European Union | European Regional Development Fund

Sinfonia

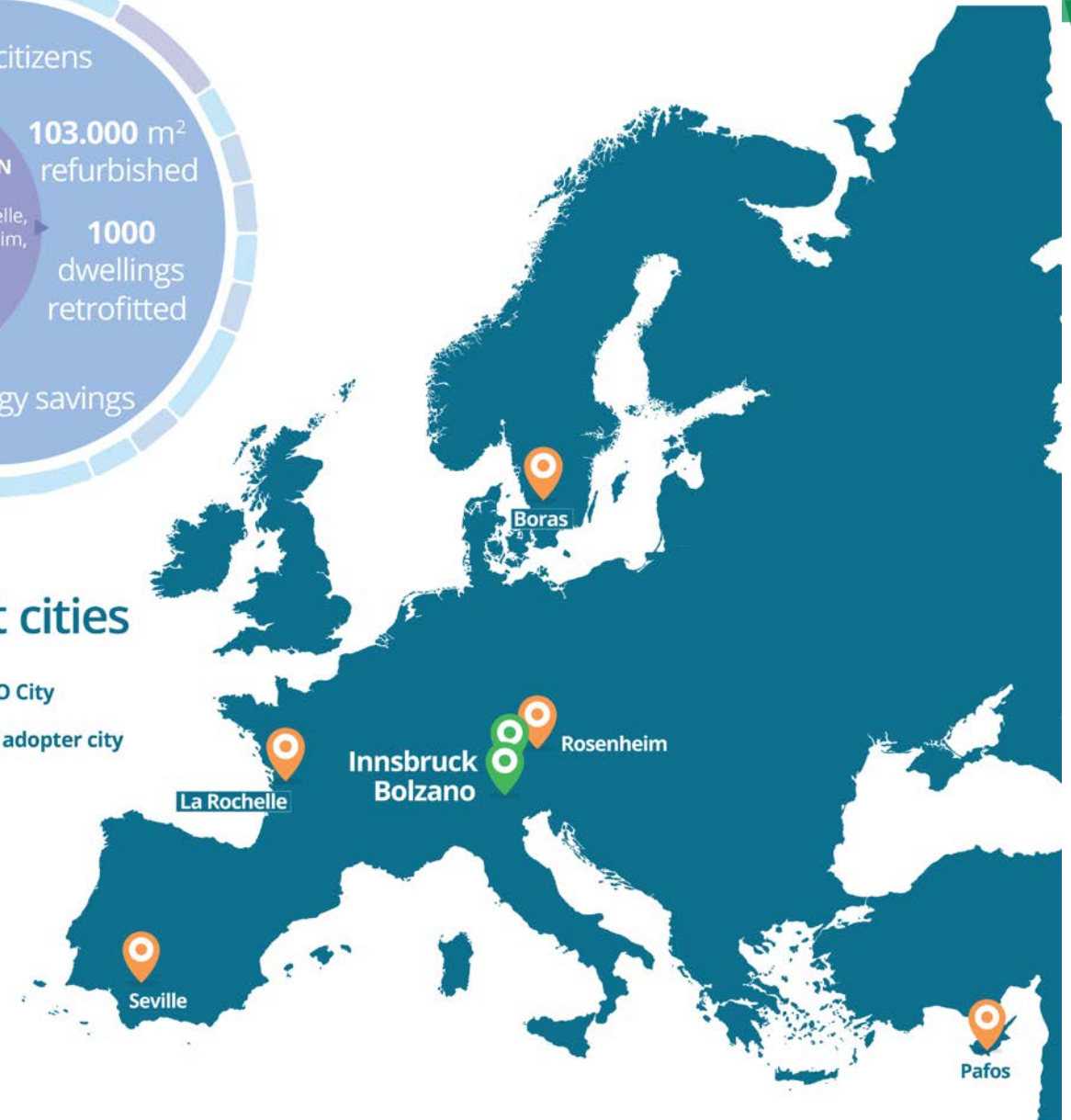**2 Pilot Cities**
- Bolzano
- Innsbruck

5 Early adopter cities
- Borås
- Pafos
- Sevilla
- La Rochelle
- Rosenheim

55.000 citizens

103.000 m^2 refurbished

1000 dwellings retrofitted

50% energy savings

DEMO Innsbruck Bolzano

TESTING AND VALIDATION Borås, La Rochelle, Rosenheim, Seville, Pafos

Pilot cities

- DEMO City
- Early adopter city

Boras
La Rochelle
Innsbruck Bolzano
Rosenheim
Seville
Pafos

DISTRICT HEATING

BUILDING REFURBISHMENT

ELECTRICITY GRID

For more info:
Alyona Zubaryeva
alyona.zubaryeva@eurac.edu
Daniele Vettorato
daniele.vettorato@eurac.edu

www.sinfonia-smartcities.eu

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Improving comfort and efficiency in social housing flats in Bolzano

5 social housing districts
- ➢ 30 000 m^2
- ➢ ~ 50% energy efficiency
- ➢ ~ 20% renewable energy

Several technological solutions

- ➢ Ventilation system
- ➢ PV installation
- ➢ Heating system replacement
- ➢ Windows replacement
- ➢ Cooking replacement
- ➢ **Multifunctional prefabricated facade**

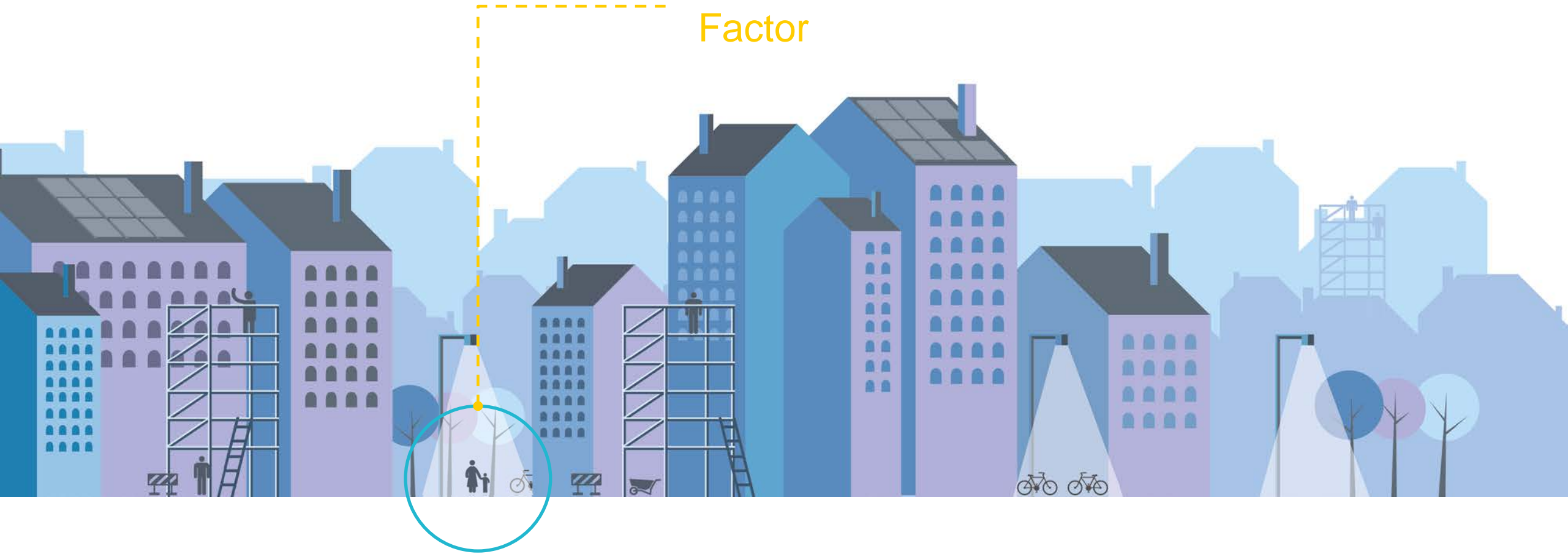Old window

Credits: IPES – G. Minotti

The new inserted window

Prefabricated wooden frame used to solve the wall-window node

Controlled mechanical ventilation

To reduce inconvenience for tenants

WOBI IPES

To improve comfort and efficiency

Human
Factor

Changing Tenants´ Behaviour
A big team

- Local knowledge: social housing owners

To Build Trust	To Increase acceptance
Daily Interactions	
Use of Intermediaries	

- Scientific knowledge: Eurac Research and IDM

To Raise Awareness and Acceptance	To enhance virtuous behaviours
Demo Apartment	
Guidebook	
Workshops	
Real-Time Display	

Mailbox for complaints

ID-Number for all workers on the building site

Cantiere IPES Baustelle WOBI 64

Quick replacement of all tv-dishes !!

Credits: IPES - G. Minotti

Demo Flat

Amy Segata and Marco Castagna

- **4 months to design, conceive and prepare the exhibition**
- **a company was subcontracted for helping**

Guidebook (outlook)

Davide Gigli

- **4 chapters in a folder**
- **1 year to elaborate and review structure and content**
- **working hours also dedicated to:**
- ❖ **observe tenants' behaviour**
- ❖ **collect personal thoughts and insights**

How to align behaviour with retrofit?

In search of behavioural and social levers for effective social housing retrofit programs

Nives DellaValle, Adriano Bisello, Jessica Balest

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Highlights

- Energy behaviour is deepened under the lenses of behavioural Economics and Sociology.

- An application to Bolzano social housing district is presented.

- Survey data highlights context-specific behaviours influencing retrofit interventions efficacy.

- Insights on designing context-specific behaviour change strategies are presented.

- **Questionnaire before the retrofit**
- **With an interdisciplinary lens, we extrapolated social and behavioural levers**

to attenuate the mismatch between energy behaviour and retrofitted flat

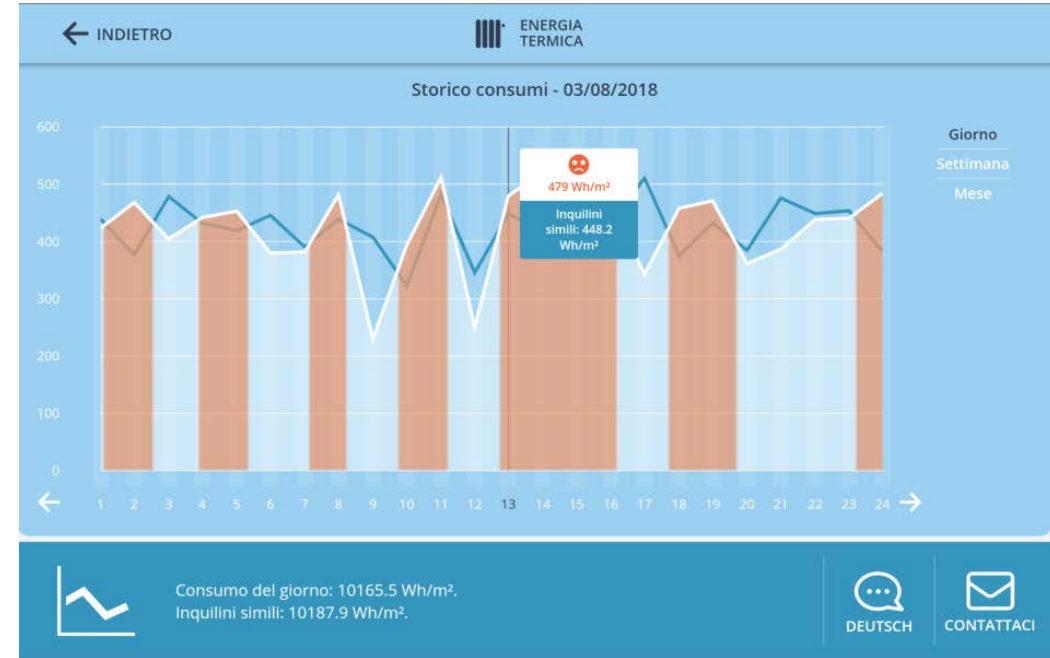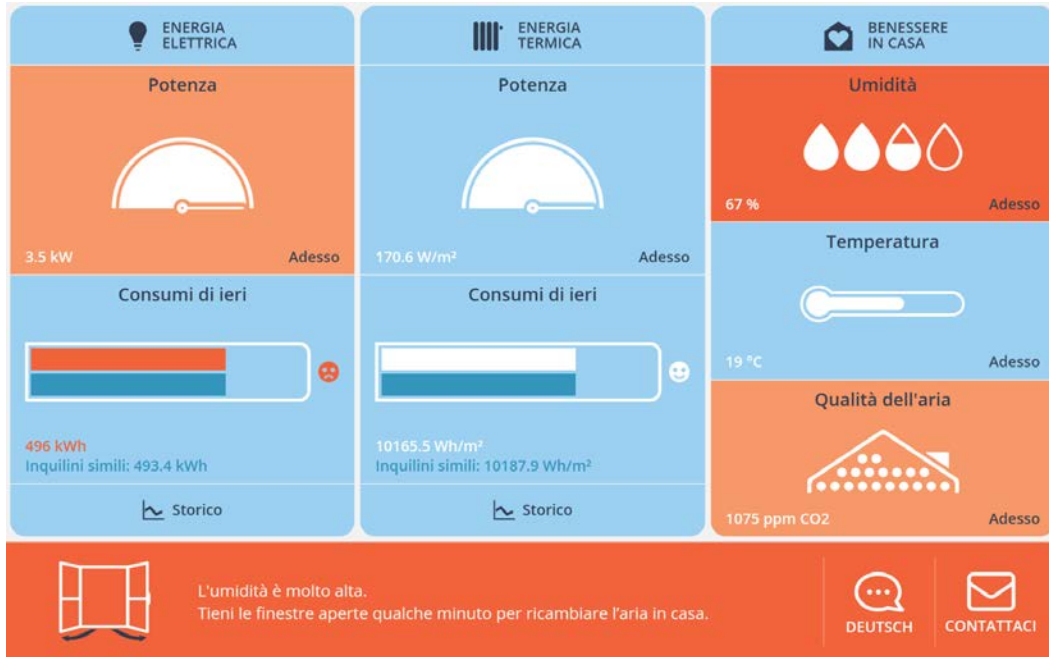# Workshops with tenants (outlook)

Jessica Balest

- **To increase energy literacy**
- **To engage tenants**
- **To enhance change of everyday energy practices**
- **To understand problems and find solutions**

Real-time Display (outlook)

Amy Segata, Pietro Zambelli, Aaron Estrada, Marco Castagna, Nives Della Valle

Each display is coupled with several sensors measuring:

- **Windows opening**
- **Energy (thermal and electrical) consumption**
- **Air quality**

Thank you!

Nives Della Valle, PhD
nives.dellavalle@eurac.edu