



Tenants' involvement

Municipality of Bolzano – Demo sites

Federico Michael Fleischmann

Municipality of Bolzano

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High efficient eco buildings

Via Passeggiata dei Castani (BOZ)

Before



(22 months



(3 months
later)

After



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Awarding the Works: **April 2017**

Works started: **July 2017**

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Works finished: **May 2019**



High efficient eco buildings: **Main results**

Via Passeggiata dei Castani (BOZ)

2 buildings
72 apartments
7.364,80 mq total area

Before the energy
refurbishment
Casaclima class G
(201 kWh/mq a)

After the energy
refurbishment
Casaclima class A
(16 kWh/mq a)



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High efficient eco buildings Via Aslago (BOZ)

Before



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Awarding the works: **September 2017**

Works started: **October 2017**

(22 months)



(5 months later)

After



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Works finished: **July 2019**



High efficient eco buildings: **Main results**

Via Aslago (BOZ)

4 Buildings

70 apartments

5.500 mq total area

Before the energy refurbishment

Casaclima class G

(228 kWh/mq a)

After the energy refurbishment

Casaclima class A

(21 kWh/mq a)



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Main refurbishment works

- External wall insulation through an innovative prefabricated façade in via Passeggiata dei Castani / EPS and XPS panels in via Aslago
- Installation of a decentralized controlled mechanical ventilation system
- Replacement of all the windows (shutters included)
- Installation of PV solar panels, solar thermal panels, a geothermal heat pump based heating system in via Passeggiata dei Castani
- Installation of a pellet fired central heating system in via Aslago
- Dismantling of the single gas boilers and connection of the flats to the new central heating system in via Passeggiata dei Castani



Communication strategy for the involvement of the tenants

Main goals

- Complete trust
- Just-in-time information
- Problem solving
- Conflict prevention
- Change of the household energy consumption behaviour

Communication strategy for the involvement of the tenants

Main activities

- Meetings with the tenants
- Daily meetings with the trustees
- Demo apartments
- User manual

Communication strategy for the involvement of the tenants

Meetings with the tenants of Passeggiata dei Castani

- 15 October 2014
- 8 March 2016
- 8 June 2017

Meetings with the tenants of Aslago

- 14 October 2014
- 10 March 2016
- 25 September 2017



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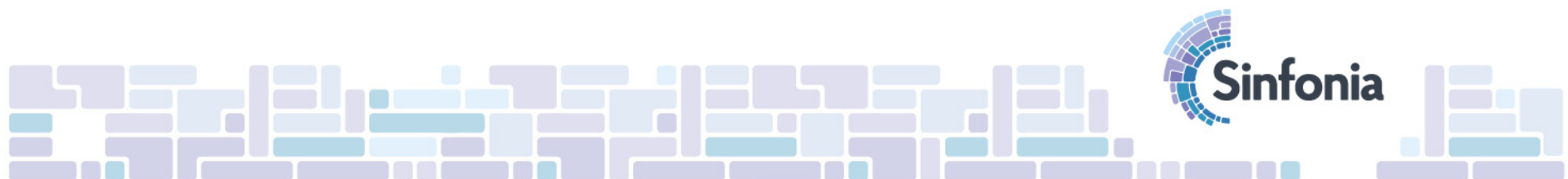
Communication strategy for the involvement of the tenants

Annual meetings with the tenants

In order to explain the project and the foreseen refurbishment works and to receive feedback about the project

Monthly meetings with the trustees

in order to communicate all the new activities (inspections and refurbishment works) inside the apartments through informative letters, posters, etc.



Demo apartments

- October 2018 in Passeggiata dei Castani
- December 2018 in Aslago

Main goals

to explain the installed technologies and to give an example of the result after the refurbishment works

to receive feedback from the tenants about expectations and experiences

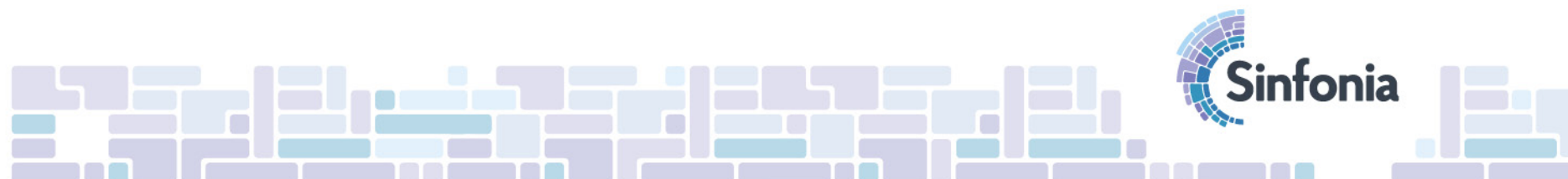




PHOTO CREDITS: Eurac research

User manual

A graphic novel based manual suited for the tenants

All the chapters are characterized by a colour and a scope

- **red chapter:** a detailed guideline for the management of facilities in the apartments and an explanation about illumination, shadowing, ventilation and heating as well as water and energy consumption
- **green chapter:** an overview on necessary daily maintenance activities
- **the yellow chapter:** comfort and health and the influence of user behavior on the building energy performance
- **the blue chapter:** templates of the annual maintenance activities
- **The light blue chapter:** a description of the displays, know-how transfer regarding the energy saving and the correct flat usage



User manual



PHOTO CREDITS: COMUNE DI BOLZANO



User manual



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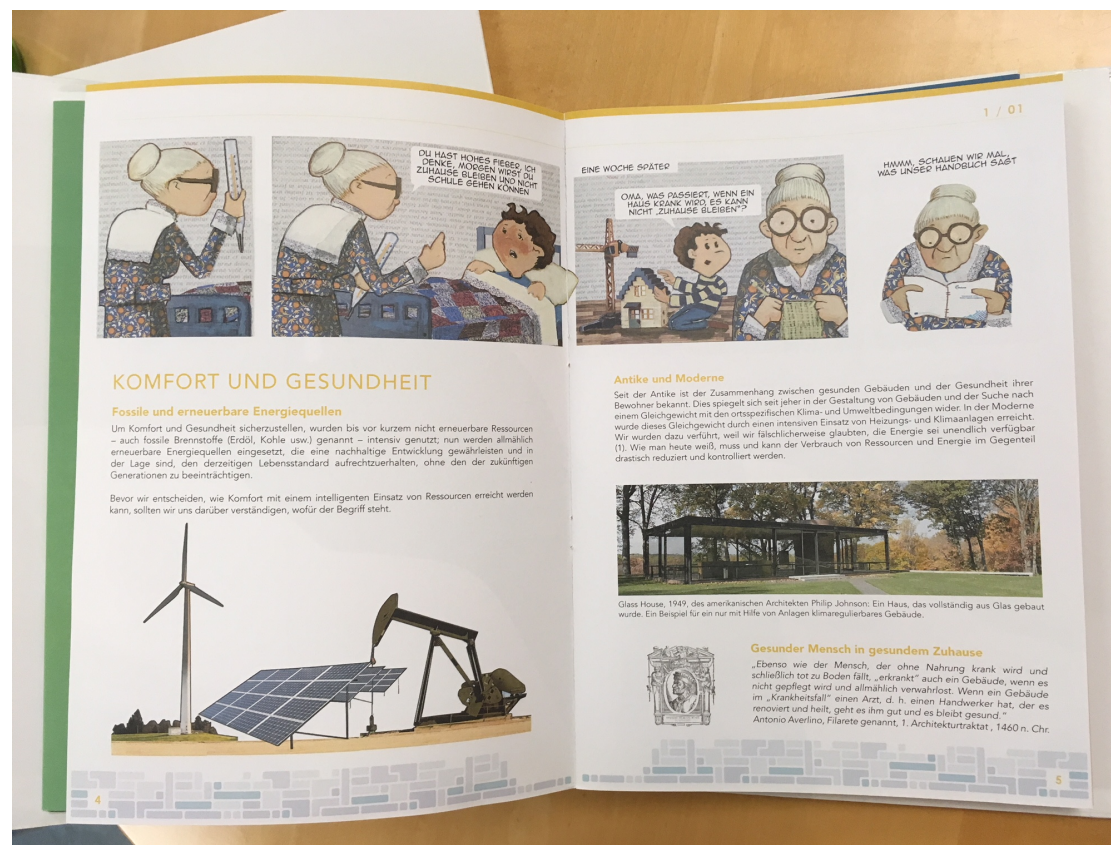


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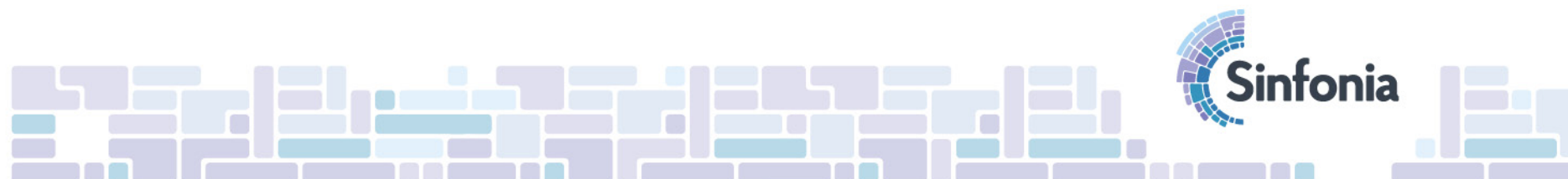
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Workshop

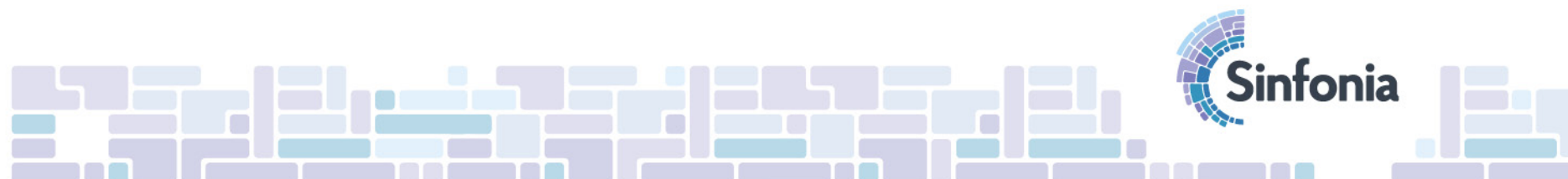
Was held by Eurac (november 2019) in partnership with the Municipality of Bolzano about the installed technologies (displays) in the monitored flats

Aim: to explain the installed technologies in the flats, mainly in the deep monitored flats and to obtain a first feedback about the everyday use



The trustees

- Elected representatives of the tenants, a good connection between the Municipality and the tenants. Positive partnership during the propedeutic phase
- A drastic change during the works in the inner of the flats occurred, they became suddenly critic and opponent
- The Municipality introduced a new figure, the mediator, in addition to the trustees



Mediator

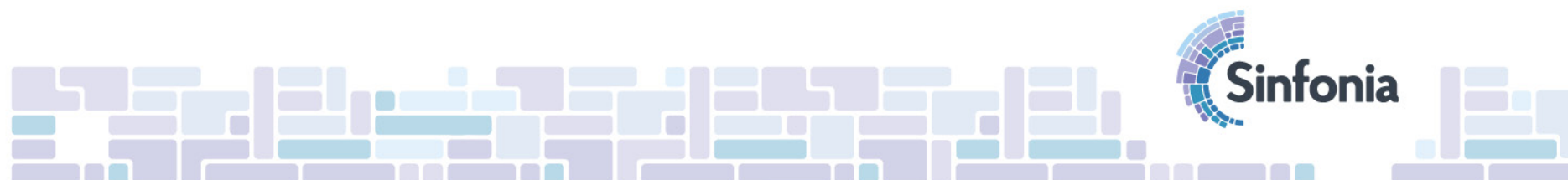
- A municipal employee characterized by high competence in mediation
- He plays the role of bridge-builder between the Municipality, the trustees, the tenants and the construction firms, involved in the refurbishment works
- On the construction site he managed the foreseen different daily activities in the flats (e.g. the intervention in the inner of the flats, explanation of the use of the new mechanical ventilation system) and the unexpected (e.g. he received complaints from the tenants about the excessive dust inside the flats due to the construction works)



The social surveys

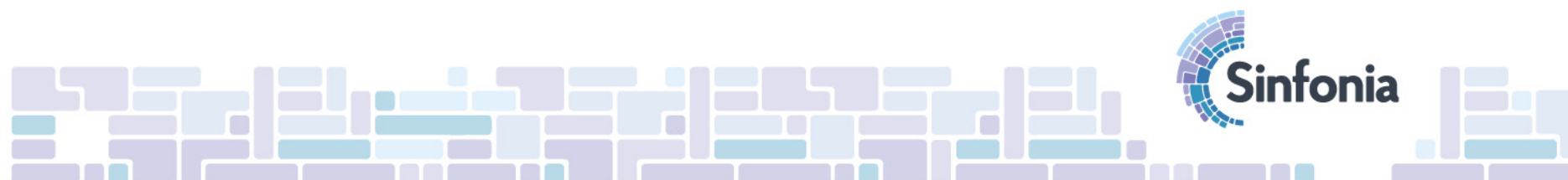
Before and after the refurbishment intervention, surveys were submitted to the tenants regarding the social and economic (only in the pre-refurbishment phase) aspect in order to receive their perception and opinion about the energy saving themes

- Is the energy saving important in your daily life?
- How is your flat in winter/summer?
- How often do you ventilate your flat?



The social surveys

- Different legal framework in each phase due to the new GDPR regulation
- Different way of submitting the surveys
- In the pre-refurbishment phase through the trustees and Eurac, in the after-refurbishment phase through phone interviews



Lessons learnt

- Continuous flow of information and feedback
- Continuous communication with the tenants
- Central role of the trustees
- If required a mediator has to be introduced
- The mediator can be a civil servant or an external figure



Thank You for Your attention

Dott. Emanuele Sascor - Comune di Bolzano
emanuele.sascor@comune.bolzano.it

Arch. Rosita Izzo – Comune di Bolzano
rosita.izzo@comune.bolzano.it

Federico Michael Fleischmann
federico.michael.fleischmann@comune.bolzano.it



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