



EURAU18 alicante  
RETROACTIVE RESEARCH  
**CONGRESS PROCEEDINGS**

DOI: [10.14198/EURAU18alicante](https://doi.org/10.14198/EURAU18alicante)

Editor: Javier Sánchez Merina  
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**Titulación de Arquitectura**

**ESCUELA POLITÉCNICA SUPERIOR Alicante University**

Carretera San Vicente del Raspeig s/n 03690 San Vicente del Raspeig. Alicante (SPAIN)

[eurau@ua.es](mailto:eurau@ua.es)

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# The learning loop method applied to urban living labs toward learning communities

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The pilot case of Verona inside the LOOPER project

**Scanagatta, Chiara<sup>1</sup>, Condotta, Massimiliano<sup>2</sup>**

1. University luav of Venice, Venice, Italy

2. Department of Building Technology, University luav of Venice, Venice, Italy

## Synopsis

This brief writing wants to show how to activate the critical dimension of communities by using the learning loop. It is shown how applying this method to urban living labs helps the community to improve co-design of urban spaces, and it also teaches citizens how to evaluate the impact of their decisions.

The experience here described is fostered in the framework of the LOOPER project, co-funded under the JPI Urban Europe program, in a pilot case in the south part of Verona. Citizens here are called to work on the urban issues of air and noise pollution. In this experimentation citizens learn how to: create dialogue with policymakers; comprehend all the aspects of urban issues; understand which type of sensors exist and how to use them; analyse which actions can be applied to urban fabric.

**Key words:** co-design, co-monitoring, learning loop, urban living labs.

## 1. Introduction

LOOPER, Learning Loops in the Public Realm, is a European Research Project funded under the JPI Urban Europe. The aim of the LOOPER project is to build and validate a participatory co-creation methodology based on “learning loops” inside Urban Living Labs (ULLs). It has the ambition of creating a new way of decision-making which bring together citizens, stakeholders and policymakers that iteratively learn how to address urban challenges.

In the pilot case of Verona – that we describe here as an application example – the project focuses on air quality as it is a real and concrete problem of the city and it is a common problem that is increasing exponentially in many European cities<sup>1</sup>. Besides the real situation of pollution, another problem is the perception that citizens have of it. In fact, what people perceive is not always corresponding to the real situation: researches demonstrated how perception is usually distorted by social provenience, neighbourhood conditions, presence or absence of greenspaces, educational level<sup>2</sup>.

## 2. Interdisciplinary education

The concept of the LOOPER project comprises three sequential planning stages conducted inside ULLs (Fig. 1): 1 - Identification of problems (urban issues); 2 – Co-design; 3 – Implementation and monitoring. This three-stage process will be conducted twice in order to trigger a learning loop.

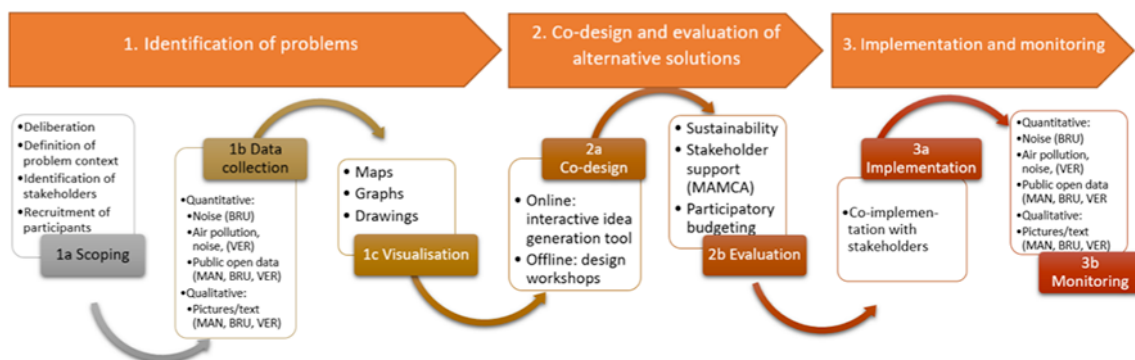


Figure 1.

Furthermore, the LOOPER project brings two “learning stages” inside ULLs, that will take place during each one of the two Learning Loops (Fig. 2).

<sup>1</sup> See Air quality in Europe – 2017 report

<sup>2</sup> See Bladwin Johnson, 2011; Oltra and Roser, 2014; Saksena, 2011

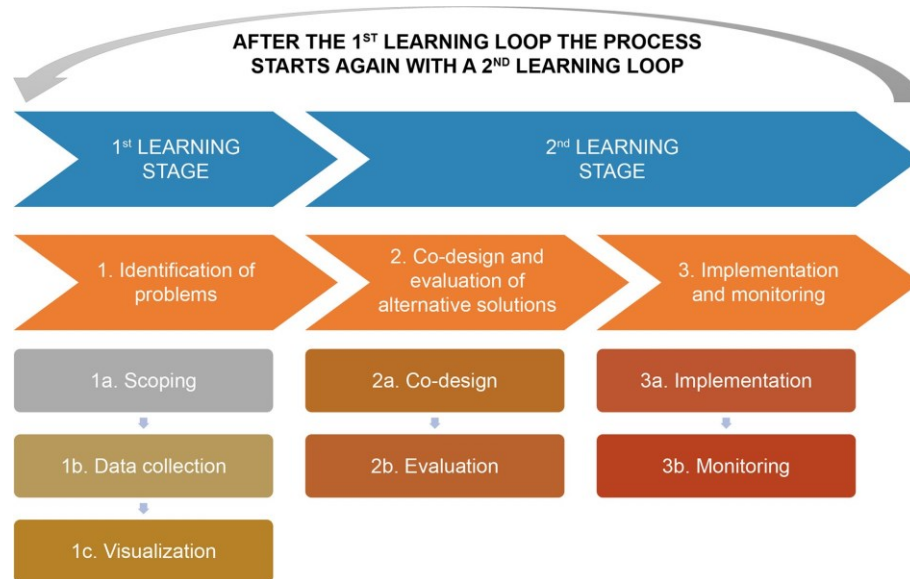


Figure 2.

The first “learning stage” creates awareness on urban issues and on the status of problems through some consciousness activities. The first focuses on the scoping of issues done during ULLs meetings organized with stakeholders. Here citizens can learn what others perceive as issues, and which matters are real or not. Following to this first activity starts the co-monitoring. This can be done by asking citizens to combine the issues they found with the places to be monitored and with the consequent positions where they want to place sensors. As soon as the co-monitoring is ended, stakeholders are called to analyse the information that they collected through an interactive geo-platform that visualizes the data gathered during co-monitoring.

The second “learning stage” covers the activities of co-design and evaluation of urban mitigation measures inside the ULLs. The selected solutions are then implemented in the city, and the results are monitored with a second monitoring campaign. Here citizens, but also administration, assess the results of their activities and increase knowledge on possible solutions to urban issues. From this moment, the whole process is repeated creating a second loop that learns from the first one.

The co-design process based on ULLs and on the learning loop, which is proposed by the LOOPER project, has also the intent, or pedagogical ambition, of transforming negative feeling of anger and protest of citizens in positive energies of proposition and participation. This process is important because most negative feelings towards policymakers stem from a low knowledge on urban issues by citizens, and this leads to an inertia towards improvement measures by public administrations<sup>3</sup>.

<sup>3</sup> See Legrenzi, 2016

### 3. Application

#### 3.1. The area

The case of Verona is applied at the neighbourhoods of Borgo Roma and Golosine-Santa Lucia localized in the south part of the city (Fig. 3) where it was established and developed an Industrial Agricultural Zone. The consequence was the rapid growth of two residential zones on the sides of this large area. The neighbourhood is clearly separated from the historic city by the railway infrastructures, while an important road axis that connects the highway with the old town divides the city into two residential parts without a real urban centre and mutual relations.



Figure 3.

#### 3.2. The research work

The setting of the framework of issues for the pilot case took place between November 2017 and February 2018. During this period, it was possible to determine with stakeholders which where the urban issues to be considered (air and noise pollution). It was also possible to choose with them where and when to make the monitoring (Fig. 4), held using mobile stations of the national environmental agency and low-cost passive sensors.

The decisions about where and when to make the monitoring campaign

where taken within three meetings where both citizens and policymakers participated and collaborated to reach a final result which was satisfying for everyone. In the following figure (Fig. 5) it is possible to see the places where the stakeholders proposed to position some sensors, by their houses or close to public buildings, and where the proposed spots overlap with criticalities.



Figure 4.

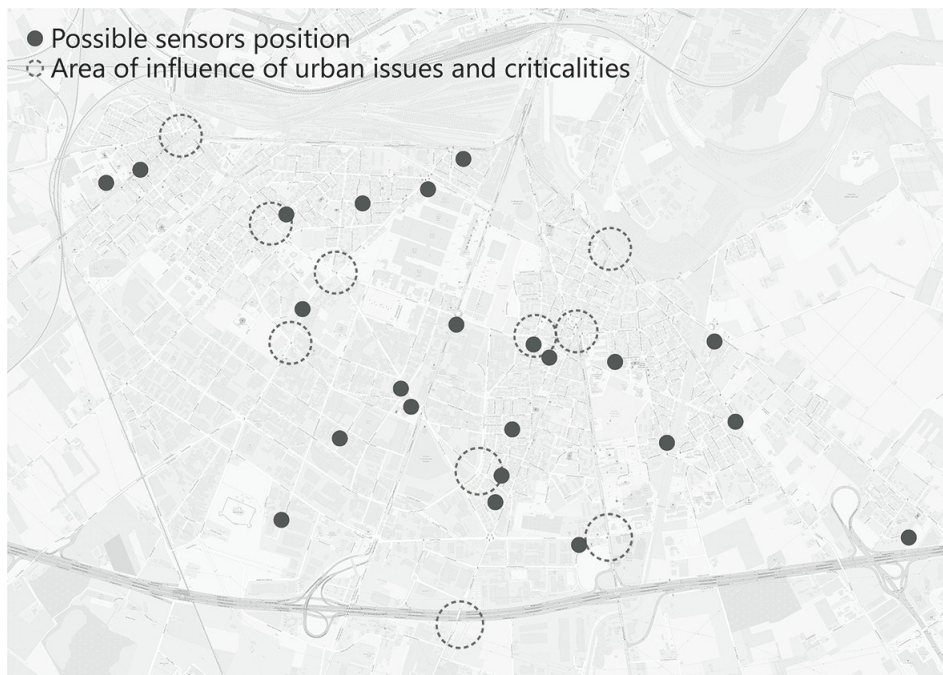


Figure 5.



After this process of scoping of urban matters, and of questioning on where to position sensors, it was evaluated which places were suitable for mobile stations and which could be used to position low-cost passive sensors for air pollution. In this activity stakeholders were helped by giving them the tools which were necessary to choose wisely (i.e. knowledge about the issues found during the scoping, competences on sensors and on the laws that regulate air monitoring). The first monitoring campaign took place between February and April 2018 (Fig. 6).

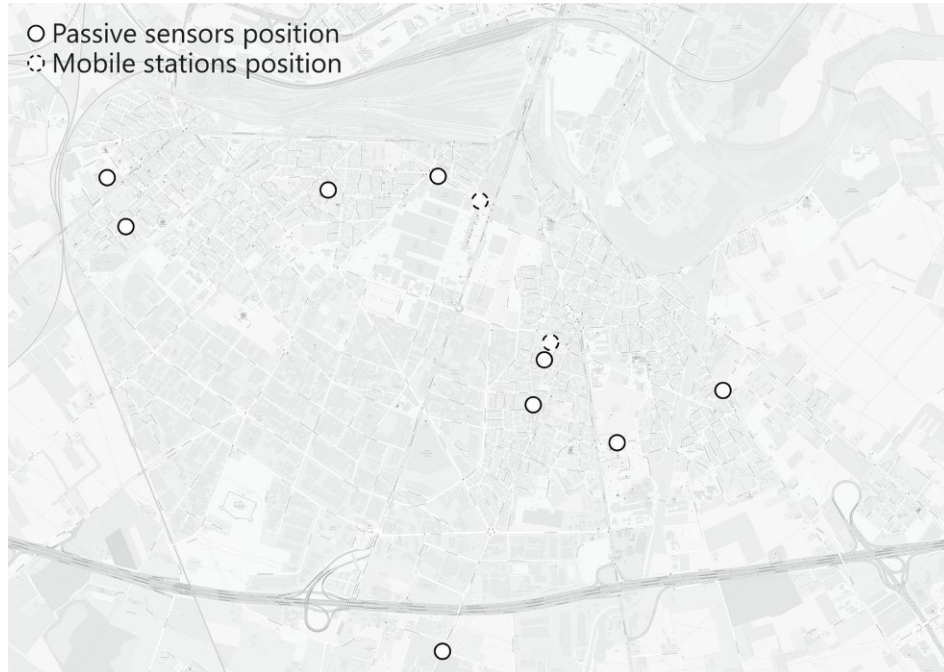


Figure 6

### 3.3. Next steps

After the co-monitoring stage the process will proceed to the co-design and to the evaluation stages. During the co-design stage citizens will learn how urban spaces can be changed to improve the neighbourhood, and what is possible (or not) to do in an urbanized area. After the implementation of the selected mitigation measures, citizens will be called to evaluate their work with another campaign of monitoring to see if the solution ideated and chosen during the co-design improved the situation (evaluation stage).

### 4. Conclusions

The first learning stage is almost concluded, but it was already possible to gain interesting results. During the meetings it was possible to notice how, faced with the duty of choosing where to position sensors, citizens had to think back on their views and had to deepen their knowledge on pollution related issues and on what produces it. What is expected now is, during the co-design phase, to establish a process of collaboration with the public administration (bringing contributions and improving urban management), and to lift the clash that there is nowadays, which generates inertia and failure to solve urban issues.

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## Biography

**Chiara Scanagatta.** PhD student at the School of Doctorate Studies of the University luav of Venice in Italy. She took her Master Degree in Innovation in Architecture at the University luav of Venice, she passed the government exam and licensed as a profession architect.

She is taking her PhD in “New technologies for the Territory, the City and the Environment” and her work is focused on participatory design, with an eye to air quality and noise pollution related issues.

She works as architect within renovation projects of museums and of directional buildings, and she is collaborating in a participatory design project for the renovation of a City of Sport area in the Province of Venice.

She also collaborated with the University Consortium for Applied Research (CURA) of Padua.

**Massimiliano Condotta.** Assistant professor of Building Technology at University luav of Venice. He holds a master’s degree in architecture and a PhD in “New Technologies and Information for the City, the Territory and the Environment”.

Since 2000 he works at various academic research projects focusing on collaborative e-learning systems, on the application of IT in architectural and urban design, on the organization and management of urban data through knowledge management systems, on sustainable building design and technologies.

He is member of the International Terminology Working Group of the Digital Art History Access Department, Getty Research Institute, Los Angeles, California.

Has been adjunct professor of Urban Design at Accademia di Belle Arti di Venezia.

Works as professional architect in relevant architectural projects regarding renovation and restoration of historical buildings and complex urban environment.

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### Special EURAU18 thanks to:

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Juan Mora Pastor	Juan Antonio Lizancos	Halldóra Arnardóttir
Javier Hergueta Garnica	Maribel Serrano Guillén	Antonio Maciá Mateu



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