



CitiMeasure - using citizen measurements to create smart, sustainable, and inclusive cities

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Acronyms

BZK	Ministry of the Interior and Kingdom Relations of Netherlands
CCEE	Climate Change and Energy Efficiency
CEST	Central European Summer Time
ECSA	European Citizen Science Association
EEF	Eurocities Environment Forum
EU	European Union
EWRC	European Week of Regions and Cities
GAB	Green Areas and Biodiversity
ICTU	Information and Communications Technologi(es) (U)
NGOs	Non-Governmental Organisations
TML	Transport and Mobility Leuven
UCD	University College Dublin
UK	United Kingdom
UWE	University of the West of England - UWE Bristol
WG	Working Group

1 Executive Summary

There have been seven events organised throughout the CitiMeasure project. The main aim of these events was to disseminate the project results to Eurocities' network and beyond. Given the online nature of the project, five out of the seven events have taken place online except for parallel workshops during the Eurocities Environment Forum 2022 in Grenoble (France) and a workshop at the Living Knowledge Conference 2022 in Groningen (the Netherlands). These events have been designed to bring together experts on citizen science with members of the CitiMeasure working groups, other Eurocities projects and city representatives. All the events have been widely disseminated through our social media channels.

2 Introduction

2. ABOUT CITIMEASURE

Citizen measurement, or citizen science, initiatives contribute to a sustainable transition in European cities. By using an array of tools and instruments, citizens can play a role in the measurement and monitoring of indicators on air quality, temperature, soil moisture, biodiversity, or risk management, among many other environmental areas. Citizen measurement initiatives can also strengthen collaboration between different stakeholders and contribute to the democratisation of science and policy.

The CitiMeasure project (2021-2023) aimed to bring together the experiences and expertise of European cities, organisations and networks in implementing citizen science initiatives (in the form of guidelines, toolboxes, online platforms, apps, etc.). The project built upon the lessons learnt from the Dutch City Deal WGs, a network of stakeholders working on the broader area of smart cities, including citizen measurement initiatives. The City Deals are an instrument of the Dutch Ministry of Interior Affairs and Kingdom Relations. CitiMeasure has used these experiences to inform the development of three outputs:

1. [Guidelines on Behaviour & Policy Change](#)
2. [Guidelines on Competencies for Digital Inclusion](#)
3. [CitiAIR](#), a comparability tool for participatory air quality monitoring initiatives in Europe

A fourth working group, Strategy and Oversight, focused on providing strategic direction and ensuring cohesion of activities across the three Instrument Sub-Groups and the project in general. CitiMeasure has also raised awareness of the importance of citizen science initiatives and capitalised on the results and tools of similar projects by creating an online European Knowledge Centre with a repository of good practices.

3. PURPOSE OF THIS REPORT

This report includes a summary of all the seven events organised throughout the duration of the CitiMeasure project (June 2021-May 2023). It includes information about the context in which the event was organised, a short description, dissemination and communication strategies and main outputs and conclusions.

4. STRUCTURE OF THE REPORT

This report is structured in seven main sub-sections (one per event). In each sub-section, there are four dedicated parts to describe information about the event. The report ends with concluding remarks.

3 Online and physical events

Throughout the duration of CitiMeasure (2021-2023), seven events were organised to raise awareness and create engagement at European level on the potential of citizen measurement initiatives and tools. The following sub-sections include more details about each of these events.

3.1 INFORMATION SESSION (ONLINE, MARCH 2022)

As part of the dissemination efforts of the CitiMeasure project, an online stakeholder webinar was organized on March 15, 2022, to provide an update about the project and its approach, as well as to further disseminate the call for pilots.

3.1.1 Context

The main aim of the online webinar was to inform working group members about the latest developments, as well as to introduce those new stakeholders interested in piloting the instruments to the project. There were 20 participants, seven out of which were not members of the CitiMeasure working groups.

They represented the following organizations and cities: European Commission, Eurocities, city of Ghent (Belgium), city of Milan (Italy), city of Roeselare (Belgium), Senzorvzduchu (Czech Republic), city of Warsaw (Poland), University of Aveiro (Portugal), city of Ostend (Belgium), city of Oslo (Norway), city of Porto (Portugal), ICTU (the Netherlands), the Joint Research Centre, Sensor.Community (Germany), region of Aragón (Spain) and Kunak (Spain).

3.1.2 Short description

The Project Coordinator, Mohammad Gharesifard, opened the session and welcomed the participants. After a brief introduction of the project, the CitiMeasure network and the working groups, a summary of the three prototype instruments (the two sets of guidelines and an online tool) and the pilot phase were presented to the audience (see Table 1 and Figure 1).

This event shared details about what to expect from the pilots and the types of support that the selected pilots could expect to receive. Different examples and scenarios of how the instruments could be potentially tested in real-life cases were presented to inspire the audience about pilot possibilities. Questions from the participants were mainly related to the process of becoming a pilot (e.g., formal application procedure) and timeline of the pilot phase. The 1-hour webinar was organized in Teams.

Time	Agenda item	Duration
15:00– 15:10	Welcome	10 minutes
15:10 – 15:20	Introduction to CitiMeasure	10 minutes
15:20 – 15:30	The CitiMeasure instruments and pilot phase	10 minutes
15:30 – 16:00	Q&A	30 minutes

Table 1: Detailed agenda of the info session (15 March 2022)

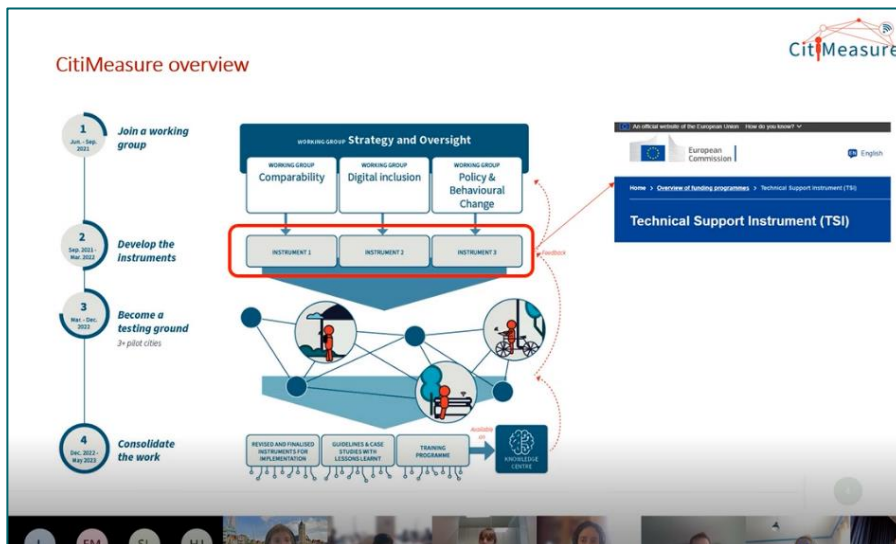


Figure 1: Screenshot of the information session

3.1.3 Dissemination and communication

The information session was disseminated using internal and external communication channels of CitiMeasure, these include e-mails to the working groups members, Eurocities internal newsletters (including to the members of the Environment and Digital Forums) and CitiMeasure social media channels such (Twitter and LinkedIn) (see Figure 2):



Figure 2: Tweet to disseminate the info session

3.1.4 Outputs and conclusions

After the information session, the CitiMeasure team shared the recording, the presentation, and the call for pilots with the working group members and other interested parties via e-mail. The deadline of the call for pilots was extended from March 15 to March 31 to give attendees, especially those who were not participating in CitiMeasure, time to share the information within their own organisations. There were follow-up discussions with the cities of Milan, Roeselare, and the Senzorvzduchu initiative. As a result of this outreach process, and the different negotiations, the two latter became CitiMeasure pilots.

3.2 EUROCITIES ENVIRONMENT FORUM 2022 (IN-PERSON, APRIL 2022)

Every year, Eurocities organises a meeting with each of its forums which are open to Eurocities members. In collaboration with the Grenoble Alpes Metropole, the Eurocities Environment Forum (EEF) took place from 6-8 April 2022 on the theme of behaviour change for the transition to climate neutrality.

3.2.1 Context

The CitiMeasure project was introduced by Eurocities' Senior project coordinator, Brooke Flanagan, to all participants at the plenary session on the first day of the Forum. In addition, the CitiMeasure team co-organised a series of parallel workshops with the Environment working groups (Water, Green Areas and Biodiversity (GAB), Noise, Climate Change and Energy Efficiency (CCEE), Air quality, and Waste) on April 6. The parallel workshops were organised in collaboration with other members of the staff and the CitiMeasure working group members.

The main aim of these workshops was to introduce the work of the CitiMeasure project, more specifically, the Behaviour & Policy guidelines, by its own members. The city of Murcia presented the guidelines to the working groups on Water, GAB and Waste. The city of Ghent presented to the working group on Air quality, and the city of Barcelona to the working group Noise (see Figure 3). Finally, the city of Warsaw presented online to the CCEE working group.

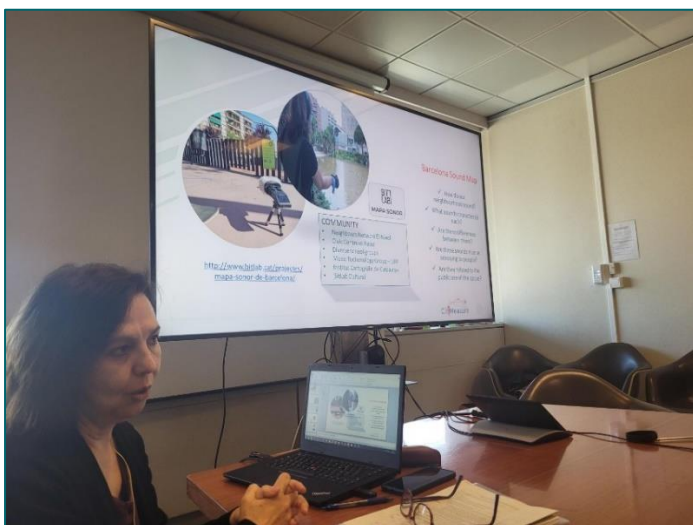


Figure 3: Representative from the city of Barcelona to WG Noise

3.2.2 Short description

All the workshops followed the same structure (see Table 2). In the introduction, the speakers described the agenda and the flow of the session. Then, they shared some local examples of citizen science/engagement projects in their cities on the topic of the Eurocities working group, followed by the presentation of some elements of the Behaviour & Policy guidelines. There were few minutes for some questions from the audience, followed by a 20-minute group work to reflect about the potential use of the guidelines by Eurocities members and validate their approach and content. The group work consisted of the common reflection in groups of four to five people to answer four main questions about local challenges for citizen engagement, advantages of citizen science and their inputs into policy design and implementation, as well as potential applications of the Behaviour & Policy guidelines (see Figure 4). These discussions were concluded with a 10-minute wrap-up. After the event, the CitiMeasure team processed the information included in post-its to validate and add nuance to the recommendations included in the guidelines.

Agenda	Duration
Introduction	5 minutes
Local examples and CitiMeasure guidelines	15 minutes
Q&A	10 minutes
Group work	20 minutes
Wrap-up	10 minutes

Table 2: Agenda of the parallel workshops at the EEF 2022

Group work

In small groups of 4-5 people, please add your thoughts to the below questions using the post-it notes provided. You have 20 minutes for reflection on these questions.

Eurocities will take this information back to the CitiMeasure project coordinators and share the main messages with you as part of the follow up communication of the EEF 2022.

What challenges do you face in developing citizen engagement projects in your city?

What would be the advantages of having (more) citizen science projects on [WG topic] in your city?

How can we translate the advantages of having citizen science projects on [WG topics] into your city's policies?

What opportunities do you see for using the CitiMeasure guidelines presented today?



Figure 4: Instructions for the group work at the EEF 2022

3.2.3 Dissemination and communication

The dissemination of the event was done through Eurocities social media channels. The Eurocities team promoted the workshops through our social media channels on Twitter (see Figure 5) and LinkedIn. The invited speakers also helped with disseminating the session content and outcomes through their own social media channels (Figure 6).



Figure 5: Dissemination tweet (EEF 2022)

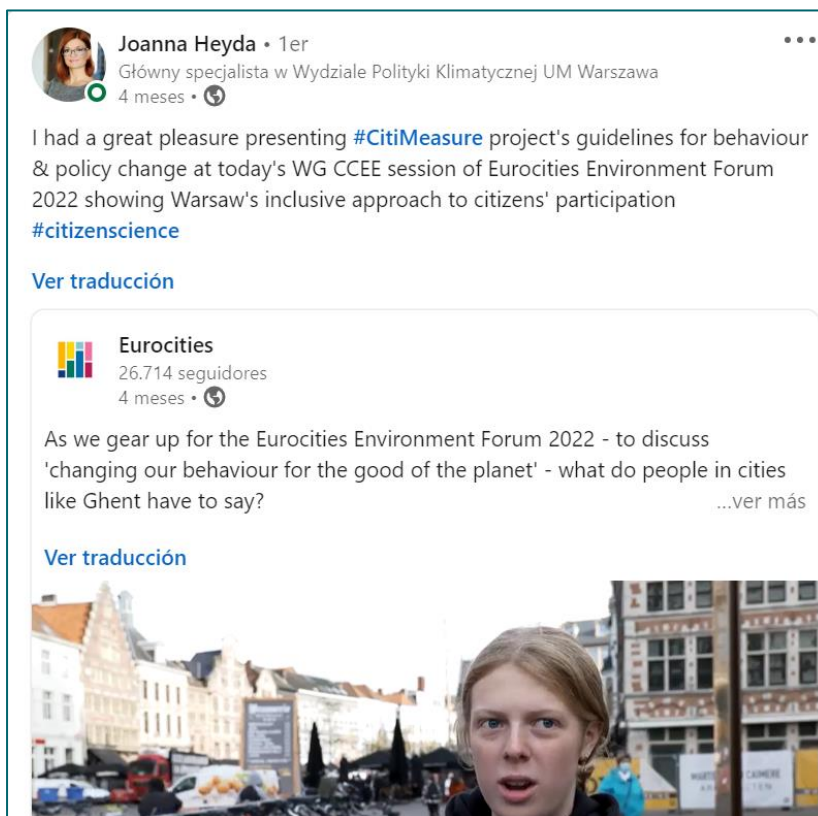


Figure 6: LinkedIn post by CitiMeasure member (EEF 2022)

3.2.4 Outputs and conclusions

Citizen science and the CitiMeasure project were at the centre of the discussions at the first day of the Eurocities Environment Forum 2022. The parallel sessions provided visibility to the CitiMeasure project within Eurocities' network. This was especially relevant because citizen science was a new topic for many cities, and it was a good opportunity for the network to get to know the project and the approach better. In addition, it was also an opportunity to work more directly with Eurocities

members and collaborate with our colleagues working in policy. As a result of these efforts, citizen science was mentioned in an Eurocities policy statement following the closing of the EEF 2022.

Moreover, CitiMeasure working group members had the opportunity to participate (online and in-person) introducing the project and some elements of the draft guidelines. Participants, mostly Eurocities members, provided feedback through the group work and had the opportunity to get to know the project more in-depth, contributing to CitiMeasure products from their experiences in European cities.

Finally, this event strengthened the relationship with the CitiMeasure working group members as it was the first in-person event and CitiMeasure is a primarily online project.

3.3 LIVING KNOWLEDGE CONFERENCE (IN-PERSON, JUNE 2022)

As part of the dissemination efforts, a workshop was organised at the [Living Knowledge Conference 2022](#) in the city of Groningen (the Netherlands) from 29 June to 1 July 2022.

3.3.1 Context

The 45-minutes workshop took place on June 30 from 11:45 to 12:30. The main aim was to introduce the CitiMeasure project and the three draft instruments to an audience familiar with citizen science. In the workshop, participants thus learnt about the CitiMeasure project, its aims, outputs, and next steps.

The session was attended by 28 participants who represented other citizen science projects, universities and research organisations, non-governmental organisations, and private companies (see Figure 7). The feedback was useful and overall positive.



Figure 7: CitiMeasure workshop at the LK9 conference. Photo credit to SPOTTERON Twitter account.

3.3.2 Short description

The workshop introduced the prototype guidelines co-created by the CitiMeasure working groups. The challenges that the CitiMeasure working groups faced in the co-creation process were also discussed. Participants gained insights about the pilot phase. They were then invited to provide feedback to the guidelines design, development process and implementation and share best practices of similar projects or lessons learnt from citizen science initiatives. The world café style format was used, and participants were asked to choose and visit two from the three available stations that

corresponded to the three CitiMeasure working groups. At each station, participants discussed and provided feedback on the working group instruments (see Table 3):

Agenda item	Duration
Welcome and introduction to the session	5 minutes
Introduction to CitiMeasure	5 minutes
Select and visit one station <ul style="list-style-type: none"> • Digital Inclusion • Behaviour & Policy • Comparability 	20 minutes
Plenary discussions and feedback	15 minutes

Table 3: CitiMeasure workshop's agenda at LK9 (2022)

The workshop concluded by reflecting on the main discussion points at each station.

3.3.3 Dissemination and communication

The dissemination of the event was done through Eurocities social media channels. The Eurocities team promoted the workshops through our social media channels on Twitter and LinkedIn (see Figures 8 and 9):



Figure 8: Tweets to promote the results of the workshop at the LK9 2022



Figure 9: LinkedIn post to promote the results of the workshop at the LK9 2022

3.3.4 Outputs and conclusions

The Living Knowledge conference provided an opportunity to increase the visibility of the CitiMeasure project and its main outputs. In contrast with the EEF 2022, participants in this conference were familiar with the concept of citizen science and could provide more feedback on the guidelines and the online comparability tool.

3.4 SCALE-UP AND CITIMEASURE JOINT WEBINAR (ONLINE, SEPTEMBER 2022)

As part of the ongoing knowledge exchange with other projects in Eurocities, a technical webinar “Citizen Science in Urban Mobility” was organised on 28 September 2022 in collaboration with the SCALE-UP project.

3.4.1 Context

The online technical webinar was dedicated to citizen science in urban mobility. Citizen science projects are increasingly recognised as a catalyst for triggering behaviour change and developing social capital around environmental issues. Moreover, citizen science offers effective methods for citizen data collection. In this context, the webinar interrogated the potential of citizen science in mobility planning and mobility projects.

The session was attended by 39 participants who represented mobility experts, universities and research organisations, non-governmental organisations, and private companies.

3.4.2 Short description

The webinar was jointly organised together with the SCALE UP project (funded through an EU-funded Innovative Action). Representatives from the CitiMeasure project offered a methodological overview of what citizen science projects amount to. The potential of citizen science methods for mobility planning and projects was showcased via two examples from the Horizon 2020 WeCount project and the University of Antwerp and their lessons learned.

Duration	Agenda item
11:00 – 11:05	Welcome and introduction Eurocities
11:05 – 11:35	Setting the scene – Citizen Science what are we talking about? <ul style="list-style-type: none">• Mohammad Gharesifard, Eurocities, CitiMeasure project
11:35 – 11:45	Questions and comments from the audience
11:45 – 11:55	The potential of citizen science methods for mobility planning/projects <ul style="list-style-type: none">• Kris Vanherle, TML
11:55 – 12:05	Questions and comments from the audience
12:05 – 12:10	The Madrid use case in WeCount <ul style="list-style-type: none">• Giovanni Maccani, Ideas for Change (tbc)
12:10 – 12:20	Citizen science projects in Antwerp <ul style="list-style-type: none">• Prof. Thomas Vanoutrive, University of Antwerp
12.20 - 12.30	Questions and comments from the audience
12:30 – 12:45	Final moderated discussion with all speakers.

Table 4: Agenda of the joint event

3.4.3 Dissemination and communication

The event was disseminated through the Twitter and LinkedIn accounts of Eurocities, SCALE-UP (see Figure 10) and CitiMeasure. The session materials, including the recording of the online webinar, were uploaded to the Eurocities collaboration platform so all members and partners of the projects could access them.

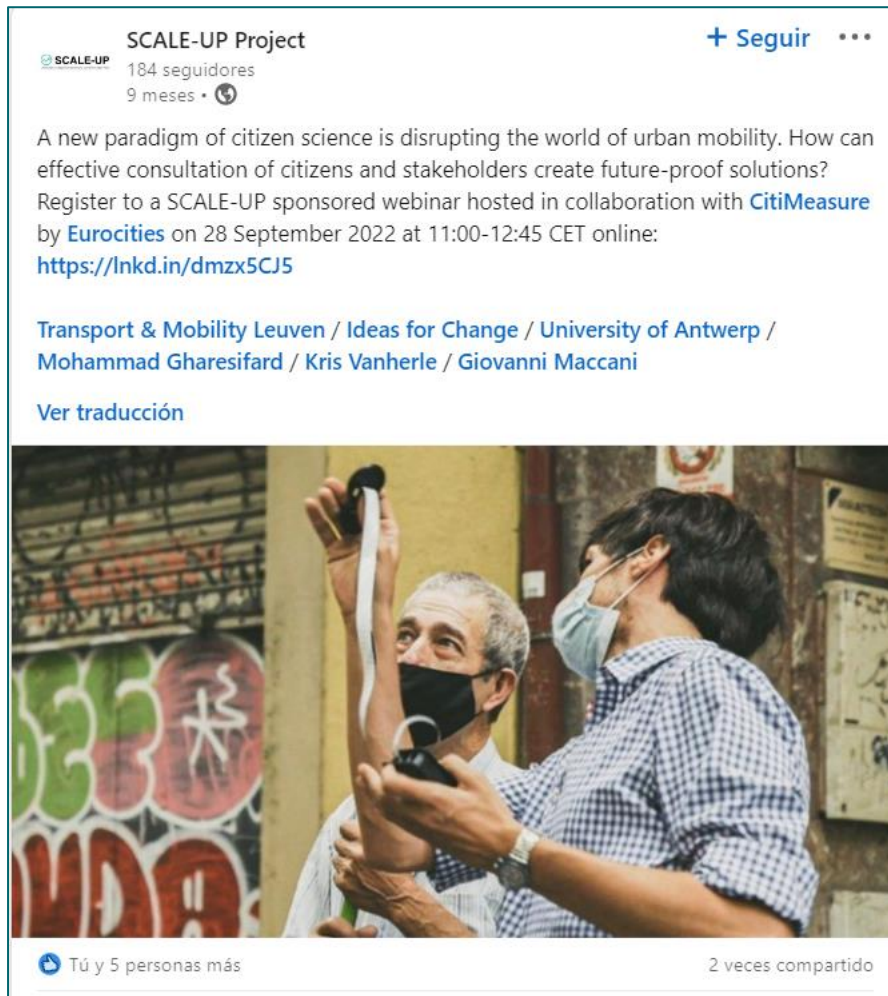


Figure 10: Post to disseminate the registration to the joint webinar

3.4.4 Outputs and conclusions

The joint webinar “Citizen Science in Urban Mobility” was an opportunity to collaborate with the Eurocities Mobility team and the members of this forum. Mobility is an area with more and more linkages to citizen science. In the webinar, the Project Coordinator introduced the concept and the main outputs of the project, also inviting participants to add the initiatives related to air quality monitoring involving citizens to the comparability tool: CitiAIR. In the round of questions and answers, participants asked about some behavioural and policy, and inclusivity aspects of citizen science.

3.5 EUROPEAN WEEK OF REGIONS AND CITIES (ONLINE, OCTOBER 2022)

The [European Week of Regions and Cities 2022](#) is the biggest annual Brussels-based event dedicated to cohesion policy bringing together regions and cities from all over Europe, including politicians, administrators, experts and academics.

3.5.1 Context

This online event was organised in collaboration with the European Citizen Science Association (ECSA) which submitted the application, and three projects working on citizen science and air quality: Compair, Socio-Bee and CitiMeasure, on October 12 from 4:30 to 6:00 PM. The main aim of the 90 mins workshop “Achieving green and just transition with citizen science: the case of air quality” was to jointly present the role of citizen science projects in the green and just transition, more specifically, regarding the topic of air quality. There was a total of 83 people registered from research organisations and universities, non-governmental organisations and few municipalities and regions (mostly from Southern and Eastern Europe).

3.5.2 Short description

Table 5 showcases the agenda of the workshop. At the beginning of the session, the team wanted to find out about participants’ background and experience with citizen science. Most of the people were from Brussels, with the rest joining from the Netherlands, Greece, Spain, and the UK. 73% said they worked on a citizen science project. 8% said they were experts in citizen science. There were also some who said it was the first time they heard about citizen science (18%). Answering the question about the main sources of air pollutants in their city, most participants selected traffic. This was followed by agriculture, factories, and refineries.

Time	Agenda
16:30 - 16:37	Introduction to session and speakers
16: 37 - 16:40	Slido
16:40 - 17:01	Intro to projects
17:01 - 17:05	Transition to breakout rooms
17:15 - 17:40	Breakout rooms
17:40 - 17:50	Feedback

Table 5: Agenda of the workshop at the EWRC 2022

After a brief presentation of the concept of citizen science, the speakers presented three EU-funded citizen science projects COMPAIR, SOCIOBEE and CitiMeasure (see Figure 10), all related to air quality monitoring.



Figure 11: Presentation about CitiMeasure at the EWRC 2022

During the break-out sessions, participants discussed specific aspects about project outputs and the team stimulated a more close-knit discussion within small groups. The CitiMeasure breakout session included a three-part exercise that was designed in Miro. After a short welcome, participants were asked to use a set of post-its to indicate their name and type of organisation that they were representing. They could choose from a set of pre-defined options, or add ‘other’ types of organisations. The results showed that there were representatives from academia, civil society organisations, private sector and NGOs in the room.

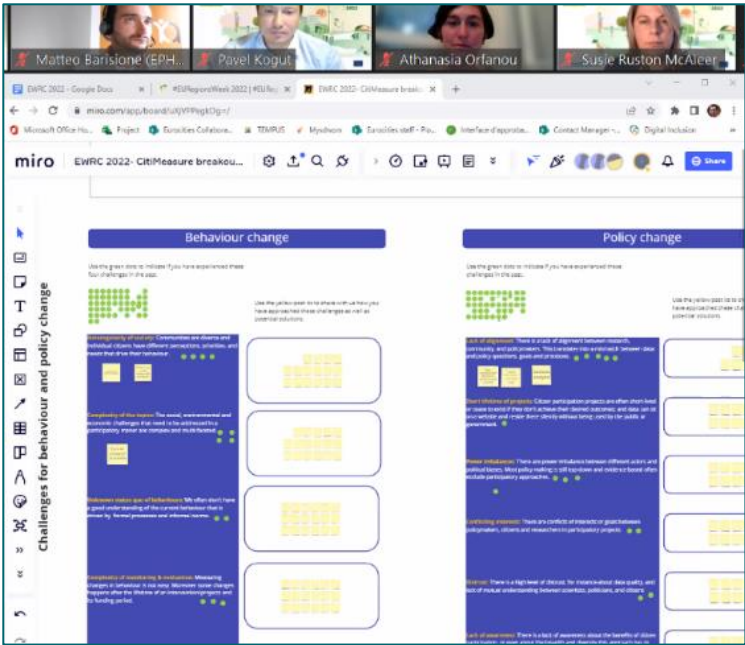


Figure 12: Interactive exercise in Miro at the EWRC 2022

The second part included a voting exercise to identify the most prominent challenges related to behavioural and policy impacts of citizen science. Participants could use dots to vote for a number of challenges that were identified based on the CitiMeasure Behaviour & Policy guidelines (Figure 12).

Below there are the choices and the results of the votes:

Behaviour change:

- Heterogeneity of society: Communities are diverse and individual citizens have different perceptions, priorities, and needs that drive their behaviour. (4 votes)
- Complexity of the topics: The social, environmental and economic challenges that need to be addressed in a participatory manner are complex and multi-faceted. (4 votes)
- Unknown status quo of behaviours: We often don't have a good understanding of the current behaviour that is driven by formal processes and informal norms. (2 votes)
- Complexity of monitoring & evaluation: Measuring changes in behaviour is not easy. Moreover some changes happens after the lifetime of an intervention/projects and its funding period. (3 votes)

Policy change:

- Lack of alignment: There is a lack of alignment between research, community, and policymakers. This translates into a mismatch between data and policy questions, goals and processes. (5 votes)
- Short lifetime of projects: Citizen participation projects are often short-lived or cease to exist if they don't achieve their desired outcomes; and data can sit on a website and reside there silently without being used by the public or government. (1 votes)
- Power imbalances: There are power imbalances between different actors and political biases. Most policy making is still top-down and evidence-based often exclude participatory approaches. (4 vote)
- Conflicting interests: There are conflicts of interests or goals between policymakers, citizens and researchers in participatory projects. (2 votes)
- Distrust: There is a high level of distrust, for instance about data quality, and lack of mutual understanding between scientists, politicians, and citizens. (2 votes)
- Lack of awareness: There is a lack of awareness about the benefits of citizen participation, or even about the breadth and diversity this approach has to offer. (2 votes)
- Complexity of monitoring & evaluation: A significant proportion of citizen science projects' impacts, including policy change impacts, happen after the lifetime of the projects and their funding period, it is therefore highly difficult to measure such changes. (1 vote)

In the third part of the exercise, participants used post-its to brainstorm on how to approach these challenges, as well as potential solutions. Customised communication, early identification of motivations for participation, and trying to have a specific focus in the project design (as opposed to trying to be as broad as possible) were among the ideas for implementing projects that aim to foster behaviour change. In addition, early context analysis, engaging diverse stakeholders at early stages of the project, and constant communication with them to specify the goals were among suggestions for enhancing policy impact of citizen science projects.

3.5.3 Dissemination and communication

ECSA and the three projects disseminated the event with the same message and hashtag #citizenscience4cleanair through internal communications (newsletters), social media channels (Twitter and LinkedIn) and websites.



Figure 13: Tweet to promote the event at the EWRC 2022

The recording is available online: <https://vimeo.com/759834179>

3.5.4 Outputs and conclusions

The workshop showed the potential of citizen science to be a powerful driving force behind the green and just transition by creating a space where local actors can work collaboratively on urban challenges like air pollution. The projects also demonstrated how a combination of Living Lab methodologies, co-design approaches, low-cost sensing devices and advanced analytical tools (e.g. digital twins) can produce a well-rounded knowledge of impact that human and industrial activities have on health, environment and climate with examples from pilots. This will further demonstrate how this knowledge can be leveraged to drive change in policies and behaviour across Europe, leading to better air for all while also supporting the decarbonisation agenda.

3.6 LEARNING FROM THE CITIMEASURE PILOTS (ONLINE, MARCH 2023)

The guidelines for (1) Behaviour and Policy Change and (2) Digital Inclusion – two of three major outputs of the CitiMeasure project – were tested in practice in Barcelona, Prague, and Roeselare. A 75-minute webinar was conducted to discuss the results.

3.6.1 Context

“Learning from the CitiMeasure pilots” took place online on 9 March 2023. The main objective of the webinar was to share challenges and lessons learned in implementing the guidelines. This would a) help the CitiMeasure team better understand their strengths and limitations, and b) clarify what other initiatives would need to be considered prior to implementation.

The webinar was attended by 27 people from diverse professional backgrounds ranging from academia to government and industry. This number includes three speakers from the respective pilot projects, a moderator, and two CitiMeasure team members.

3.6.2 Short description

Time	Agenda	Speakers
13:30 – 13:40	Welcome	Brooke Flanagan
13:40 – 13:55	CitiMeasure and its outputs	Irene Vivas Lalinde
13:55 – 14:25 13:55 – 14:05 14:05 – 14:15 14:15 – 14:25	The CitiMeasure pilots: Barcelona Citizen Science Office Sensor2School (Prague) Smartwaterland (Roeselare)	Diana Escobar Vicent Michael Lazan Jasmien Wellens
14:25 – 14:40	Q&A	Brooke Flanagan
14:40 – 14:45	Closing	Brooke Flanagan

Table 6: Agenda of the webinar to present the pilot results

The webinar started with a short welcome and introduction to the CitiMeasure project. The three major outputs – (1) Guidelines on Behaviour and Policy Change, (2) Guidelines on Digital Inclusion, and (3) CitiAIR, an online inventory of participatory air quality initiatives – were presented and explained. Next, each pilot project was given ten minutes to share main results and findings.



Figure 14: Diana Escobar sharing the main insights gained through the pilot project

Diana Escobar Vicent demonstrated how an established citizen science institution can make a difference in creating more liveable cities. The **Barcelona Citizen Science Office** is the first of its kind in Europe and aims to mainstream citizen science both in the city and the metropolitan area. In doing so, it connects with new audiences in major events and establishes alliances with like-minded civil society organisations. Within ten years, 20 citizen science projects have been successfully completed.

The pilot project was implemented following a three-step plan, including a (1) needs assessment workshop (July 2022; 15 contributors), a (2) conference session on the Behaviour and Policy Change Guidelines (October 2022; 40 attendees), and a (3) seminar on both guidelines (November 2022).

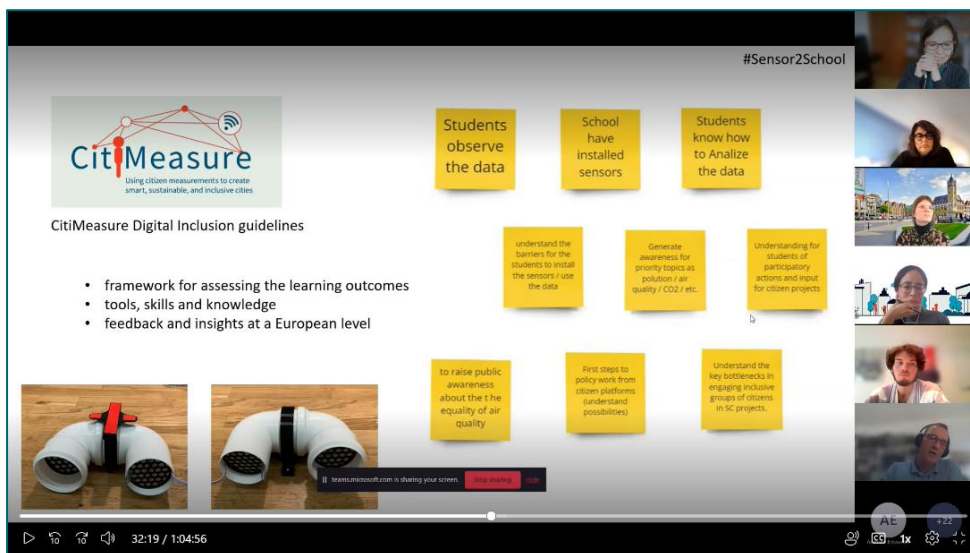


Figure 15: Michael Lazan explaining how the Guidelines helped increase inclusivity

Senzorvzduchu, z.s., is a small NGO organising air quality sensor workshops. Their focus was on the Digital Inclusion Guidelines, which they tested in a school in Prague. The first sensors were installed in June 2022. **Michael Lazan** and his team then conducted pre- and post-project surveys to monitor the development of the students' digital skills over time. Of 251 students, 175 participated in the surveys. Not only did they learn to use sensors, but some also managed to build sensors themselves. With the help of CitiMeasure, the network was extended to 15 schools, with around 3,000 students having participated in total.

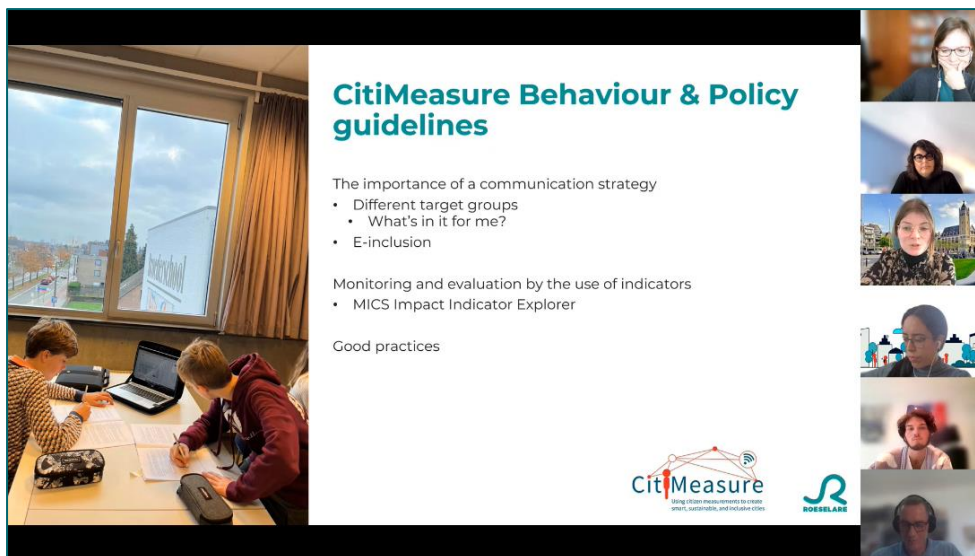


Figure 16: Jasmien Wellens on ways in which the Behaviour and Policy Change Guidelines had an impact

Jasmien Wellens presented **Smartwaterland**, a project in Roeselare aimed at gathering rainfall data through the creation of a network of digital rain gauges. Jasmien Wellens and her team tested the Behaviour and Policy Change Guidelines, eager to initiate changes at individual, societal, and institutional levels. A communication strategy was followed by a monitoring and evaluation plan.

In the context of Smartwaterland, students aged 12 to 13 learned to assemble and implement the rain gauges in multidisciplinary lessons. They also learned to interpret the data collected by the gauges, which were used by students, teachers, and the city administration alike. The data informed Roeselare’s water management significantly. In the long run, a better understanding of rainfall makes flooding less likely and can help bridge periods of drought.

3.6.3 Dissemination and communication

The webinar was promoted on [LinkedIn](#) and [Twitter](#), and through established communication channels. Though it was advertised that general conclusions were to be drawn from the pilot projects, the speakers were still invited to talk about their specific experiences. This particular focus made dissemination challenging at the beginning. However, despite the “niche” character of the webinar, a significant number of people attended.

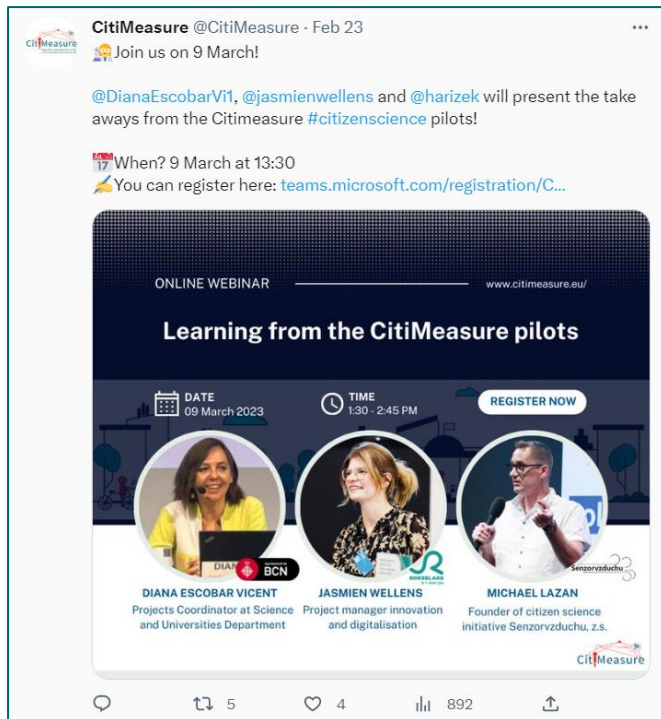


Figure 17: Tweet to promote the "Learning from the CitiMeasure pilots" webinar

A recording of the webinar is available here: [\[link\]](#)

3.6.4 Outputs and conclusions

Diana Escobar Vicent suggested that the two guidelines were “a must” in creating links between citizen science practitioners and policy-makers. She argued that they were particularly helpful in kickstarting processes in institutions (and regions or cities) with little citizen science experience.

Michael Lazan argued that some parts of the Czech Republic were among the most polluted in Europe. While awareness of the issue exists, little has been done to encourage citizens to monitor air quality in their neighbourhoods. The Digital Inclusion Guidelines, Michael Lazan continued, gave his team and other citizen science practitioners he worked with a better understanding of the tools, skills and knowledge needed to initiate and promote sensor-building projects across the country.

Jasmien Wellens felt it was important to demonstrate clearly how citizen science projects benefit all stakeholders, including policy-makers and parents (“What’s in it for them? Why should politicians or parents contribute?”). The Behaviour and Policy Change Guidelines made her realise the importance of knowing one’s audience and target groups. The guidelines too helped the team strengthen inclusion aspects, making sure that every student had equal access to laptops and other required digital tools. The practical examples of similarly successful citizen science initiatives included in the guidelines were helpful, Jasmien Wellens noted, in the implementation of specific elements such as the communication strategy.

The webinar successfully demonstrated the practical application of both guidelines. It is particularly remarkable that the guidelines were useful in different settings and their success did not depend on whether a citizen science “infrastructure” existed (as in Barcelona). Inclusivity principles, the importance of which is outlined in detail in both guideline documents, were decisive in ensuring the success of the pilots. Young students, parents, teachers, politicians, civil society groups – they all

contributed towards establishing better cities for all. To get everyone on board, the webinar has shown, citizen science practitioners must strive to produce tangible results and thus establish the multiple benefits of citizen science.

3.7 CITIMEASURE FINAL EVENT (ONLINE, MAY 2023)

The final CitiMeasure webinar provided a summary of the project, presented the three outputs, and included a short panel discussion on the future of citizen science.

3.7.1 Context

The webinar ('Citizen Science: New ways to engage people for more liveable cities') took place on 16 May from 10:30 to 12:00 (CEST). The number of registered participants was 98. On the day of the webinar, 57 people attended. The webinar combined interactive elements – a Slido session and a Q&A format – with a presentation of the project results and a panel discussion between four citizen science experts: Júlia Miralles de Imperial (Barcelona City Council), Filip Salmon (Citizen Scientist/participant in CurieuzenAir), Anna Berti Suman (Joint Research Centre – European Commission), and Francesco Pilla (University College Dublin).

3.7.2 Short description

Time	Agenda	Speakers
10:30 – 10:40	Opening	Brooke Flanagan
10:40 – 11:00	Overview of project results	Irene Vivas Lalinde Loe Guthmann
11:00 – 11:10	Collaborating with other platforms: Living-In.EU	Gabriela Ruseva
11:10 – 11:50	Panel discussion with experts and Q&A	Brooke Flanagan Júlia Miralles de Imperial Filip Salmon Anna Berti Suman Francesco Pilla
11:50 – 12:00	Closing	Brooke Flanagan

Table 7: Agenda of the CitiMeasure Final Event

The webinar was opened by moderator Brooke Flanagan (Head of Climate Neutrality at Eurocities). A short Slido session with four different questions to 'energise' the participants was held. This was followed by a summary of the CitiMeasure project and presentation of the three outputs: (1) CitiAIR, (2) Guidelines on Behaviour & Policy Change, and (3) Guidelines on Competencies for Digital Inclusion. Given that the final webinar took place less than two weeks after the launch of the guidelines, the overview was kept short to allocate more time for the panel discussion.



Figure 18: Example of one of four Slido questions

Short-term projects sometimes fail to sustain project results beyond their lifetime. To prevent this from happening, the CitiMeasure outputs will continue to be disseminated through living-in.eu, a Eurocities initiative to push forward digital transformation in cities and communities in Europe. Gabriela Ruseva, Project Coordinator at living-in.eu, gave an introduction to the platform and formed links to CitiMeasure, its instruments, and citizen science more generally.

After this intervention, there was a panel discussion with three citizen science experts. What does it take to make citizen science more mainstream? How do we ensure that citizen science projects are accessible to all? And why is citizen participation so crucial for shaping the cities of tomorrow? These and many more questions were tackled by the panellists.

Brooke Flanagan ended the webinar with a short reference to a CitiMeasure workshop ('Citizen Science – Engaging people for a greener future') on 13 June at the Brussels Urban Summit (12-15 June 2023).

3.7.3 Dissemination and communication

Like previous webinars, the final event was promoted on [LinkedIn](#) and [Twitter](#) (using both the CitiMeasure and Eurocities channels) and through established communication channels. This included, for instance, groups of citizen science practitioners (e.g., 'Citizen Science Nederland' on LinkedIn; see Figure 9). The webinar – perhaps by nature of being the last event – stirred considerable attention.

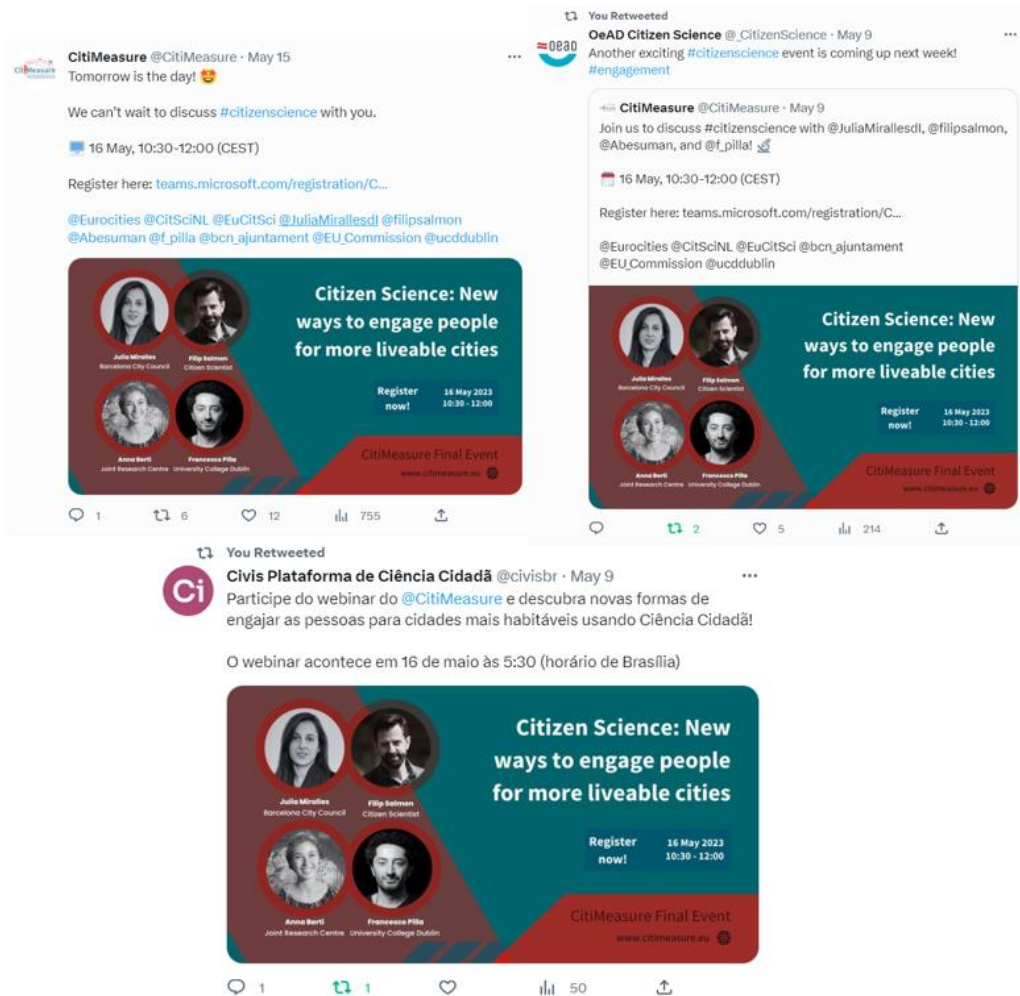


Figure 19: Twitter activities and reactions (final webinar)

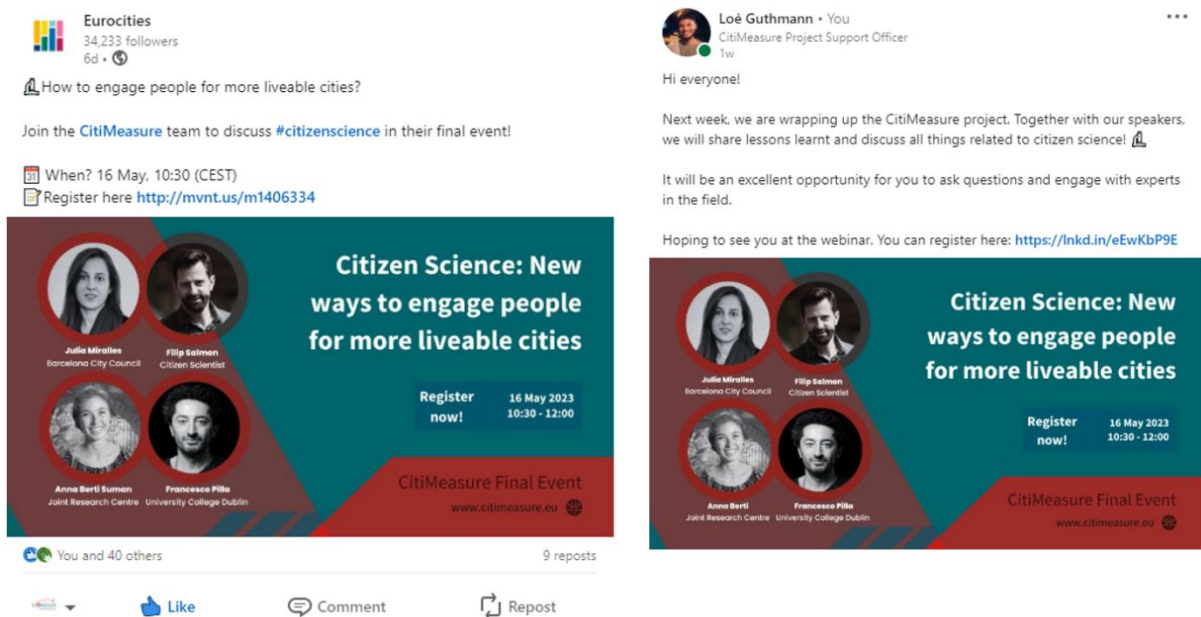


Figure 20: LinkedIn activities (final webinar)

A recording of the webinar is available here: [\[link\]](#)

3.7.4 Outputs and conclusions

The end of CitiMeasure of course is not the end of citizen science – quite the contrary. Cities increasingly recognise the importance of citizen engagement and participation, and citizens for their part demand a greater say in co-creating public space. The panellists at the webinar pointed out multiple challenges.

To **Filip Salmon**, who participated in the CurieuzenAir initiative measuring air quality in Brussels, inclusion was the greatest test in citizen science – today and in years to come. He said that, working as a communications manager at a university in Brussels, he knew the struggles of engaging with traditionally hard-to-reach groups. He also mentioned the issue of continuous engagement; he wanted to continue the engagement and be kept in the loop after the end of CurieuzenAir.

In the face of the climate crisis, **Anna Berti Suman** argued that citizen science can be a powerful tool, providing people with a sense of agency and empowerment in spaces where their involvement has not always been welcome. To maximise inclusion, project initiators should go to great lengths, she continued, to include participants from various backgrounds.

Júlia Miralles de Imperial, representing the Barcelona City Council, agreed and suggested that cities would need to be clear about their target groups. She mentioned an example of a citizen science project in Barcelona that specifically aimed for the inclusion of migrant women. Institutionalised citizen science – the Barcelona Citizen Science Office being a good example – can provide people with a point of contact in contributing towards more liveable cities.

Francesco Pilla acknowledged that a lot of work remained to be done in citizen science. But for all its shortcomings, he said, citizen science was arguably one of the greatest levers for engagement. Without including their residents in decision- and placemaking, cities of tomorrow would be ill-equipped to tackle the myriad of challenges in the near future.



Figure 21: Reaction of a panellist on Twitter

The webinar successfully wrapped up the CitiMeasure project and the feedback was positive. Multiple participants commented on the commendable speed with which the three instruments had been developed, without sacrificing quality. Linking the results to living-in.eu helps ensure that their impact is sustained.

4 Concluding remarks

From the information session to launch the pilots in March 2022 to the final event in May 2023, seven events (five online and two in person) have been organised to promote CitiMeasure. Through the dissemination of the events on social media and other communication channels, +350 individuals have been reached. While some events have been organised by CitiMeasure, other events such as the parallel workshops at the Eurocities Environment Forum 2022 and the joint webinar with the Scale-UP project have been co-organised with other Eurocities colleagues. In addition, we have also collaborated with external organisations and projects to organise joint events such as our session at the European Week of Regions and Cities 2022. While the primary goal of these events was to disseminate the outputs of the project, these have also served to provide concrete feedback to the prototype of the CitiMeasure instruments during the instrument development and pilot phases. These interactions have also strengthened the collaborations within and beyond the CitiMeasure working groups.