



URBANITE

Supporting the decision-making in urban transformation with the use of disruptive technologies

Deliverable D2.3

SOPO Lab first session “Ask: defining challenges and formulating shared values and principles”

Editor(s):	Jorge García, Tatiana Bartolomé
Responsible Partner:	Tecnalia Research & Innovation
Status-Version:	Final – v1.0 (Provisional)
Date:	31.03.2021
Distribution level (CO, PU):	Public

Project Number:	GA 870338
Project Title:	URBANITE

Title of Deliverable:	SOPO Lab first session “Ask: defining challenges and formulating shared values and principles”
Due Date of Delivery to the EC:	31/03/2021

Workpackage responsible for the Deliverable:	WP2- Social impact of disruptive technologies
Editor(s):	Jorge García (Tecnalia)
Contributor(s):	Denis Costa (WAAG), Max Kortlander (WAAG), Tatiana Bartolomé (Tecnalia)
Reviewer(s):	Massimo Villari (C. Messina), Maria Fazio (C. Messina)
Approved by:	All Partners
Recommended/mandatory readers:	WP6 partners

Abstract:	This deliverable will provide the results and findings of the sessions carried out in each of the cities/nodes in the first round of the Social Policy Lab sessions.
Keyword List:	Social Policy Lab, Co-Creation, Disruptive Technology, Urban Mobility, Amsterdam, Bilbao, Helsinki, Messina
Licensing information:	This work is licensed under Creative Commons Attribution-ShareAlike 3.0 Unported (CC BY-SA 3.0) http://creativecommons.org/licenses/by-sa/3.0
Disclaimer	This document reflects only the author’s views and neither Agency nor the Commission are responsible for any use that may be made of the information contained therein

Document Description

Document Revision History

Version	Date	Modifications Introduced	
		Modification Reason	Modified by
v0.1	05/03/2021	First draft version	TECNALIA
v0.2	08/03/2021	Comments and suggestions received by consortium WAAG	WAAG
v0.2	22/03/2021	Comments and suggestions received by consortium MESSINA	MESSINA
v0.2	25/03/2021	Comments and suggestions received by consortium Technical Coordinator	TECNALIA
V1.0	30/03/2021	Final version for submission	TECNALIA

Table of Contents

Table of Contents	4
List of Figures	5
Terms and abbreviations.....	6
Executive Summary	7
1 Introduction	8
1.1 About this deliverable	8
1.2 Document structure	8
2 URBANITE Co-Creation approach.....	9
2.1 Scoping the Social Policy Labs	9
3 SoPo Lab first session "Ask: defining challenges and formulating shared values and principles".	12
3.1 Amsterdam first SoPoLab Session	12
3.1.1 Context and background	12
3.1.2 SoPoLab First Session	14
3.1.2.1 Purpose, goals and themes	14
3.1.2.2 Participants.....	14
3.1.2.3 Activities	14
3.1.2.4 Outcomes	15
3.2 Bilbao first SoPoLab Session.....	16
3.2.1 Context and background	16
3.2.2 SoPoLab First Session	17
3.2.2.1 Purpose, goals and themes	17
3.2.2.2 Participants.....	17
3.2.2.3 Activities	18
3.2.2.4 Outcomes	19
3.3 Helsinki first SoPoLab Session	21
3.3.1 Context and background	21
3.3.2 SoPoLab First Session	22
3.3.2.1 Purpose, goals and themes	22
3.3.2.2 Participants.....	23
3.3.2.3 Activities	23
3.3.2.4 Outcomes	23
3.4 Messina first SoPoLab Session	24
3.4.1 Context and background	24
3.4.2 SoPoLab First Session	25
3.4.2.1 Purpose, goals and themes	26

3.4.2.2	Participants.....	26
3.4.2.3	Activities	27
3.4.2.4	Outcomes	27
4	Next Steps	29
5	References.....	32

List of Figures

FIGURE 1. URBANITE FORUM, A DECIDIM BASED TOOL FOR CO-CREATION	11
FIGURE 2. PARTICIPANTS TO THE FIRST BILBAO URBANITE SOPOLAB SESSION	17
FIGURE 3. A MURAL MAP REFLECTING THE MAIN FINDINGS AND OUTCOMES FROM THE FIRST SOPOLAB SESSION IN BILBAO	21
FIGURE 4. A MIRO BOARD REFLECTING THE MAIN RESULTS OF THE FIRST SOPOLAB SESSION IN HELSINKI, 2020	24
FIGURE 5. THE SESSION IN MESSINA WAS CARRIED OUT THROUGH MICROSOFT TEAMS	26
FIGURE 6. INFO LEAFLET FOR THE BILBAO SOPOLAB COMMUNITY ON NEXT STEPS.....	31

Terms and abbreviations

CET	Central European Time
CTO	Chief Technology Officer
EEST	Eastern European Summer Time
GDPR	General Data Protection Regulation
ICF	Informed Consent Form
LTZ	Limited Traffic Zone
MUV	Mobility Urban Values
PUMS	Public Use Microdata Sample
SDK	Software Development Kit
SoPoLab	Social Policy Lab
SUMP	Sustainable Urban Mobility Plan

Executive Summary

This document presents the results and findings of the first Social Policy Lab in each of the four URBANITE pilot cities.

This process of co-creation sessions through the Social Policy Lab in URBANITE helps us to identify social challenges associated with the use of disruptive technologies in the provision of services by public administrations, specifically in terms of design and urban mobility policies. In this sense, special attention has been paid to the attitude and trust in the use of technologies by public servants and end users.

In this first session, the main objective was the formulation and definition of challenges and shared values.

It has been possible to verify that the challenges identified, although still defined at a very primitive level, could be addressed through the URBANITE platform itself and/or through the initiatives that are framed within the URBANITE project, such as the SoPoLab itself.

In any case, it will be in future SoPoLab sessions where the platform and the options it offers (functionalities) will be analysed in more detail and how they can help to solve the challenges in terms of trust, attitude and social aspects that will be detailed.

In the document, we reflect 1) the URBANITE co-creation approach and the methodology used, 2) the summary and outcome of the sessions in each of the cities and 3) the next steps to be taken for the following sessions.

These next steps will be reflected in the future deliverable D2.4 "SoPoLab Second Session 'Create: Going into the details of challenges and designing roadmaps'".

1 Introduction

This document reflects the process carried out within WP2 in order to establish a participatory process involving the whole value chain and stakeholders related to urban mobility in each of the pilot cities.

The document focuses not only on the process itself, but also on the results obtained from the first co-creation session held in each of the cities, which analysed the trust of the society in disruptive technologies, at a government and general level, and the trust of society in data-driven decision-making.

1.1 About this deliverable

This document is the responsibility of Tecnalía Research & Innovation, and it was ultimately this partner that signed and drafted the document.

The document is a product of the contributions made by all the partners involved in the WP. The leader of WP2, WAAG, has worked together with Tecnalía in the definition and approach of the co-creation sessions, the methodology to be implemented and the structure and approach of this very document; while the pilot cities themselves have done the work of collecting the results of the co-creation sessions held in their respective cities and the leader of WP2.

This document, in turn, is the first of a series of 3 deliverables that will reflect and collect the vision of all stakeholders related to the impact of disruptive technologies in public administrations from an urban mobility management point of view. This work aims to provide an empirical analysis on the confidence, attitude, impact, benefits, and risks of stakeholders in the use of URBANITE disruptive technologies.

1.2 Document structure

The document presented here is structured as follows:

- 1) An introductory section in which we explain the co-creation process carried out, the action plan defined, the general objectives of the co-creation process and specific objectives of the first session, the dynamics and tools used and the expected results.
- 2) A second section in which we directly present the results obtained in each of the four sessions held in the four pilot cities. The specific objectives of the session, the participating organizations, the activities held, the results and some other details are shown.
- 3) A final section in which we show the next steps in the co-creation process in view of the next session to be held in 6 months. We discuss the next steps from a content, process and virtual infrastructure/support point of view.

2 URBANITE Co-Creation approach

2.1 Scoping the Social Policy Labs

When analyzing the scope that the laboratories would have in the framework of the URBANITE project, one question came to mind: How do we reformulate the approach in the Post-COVID19 era?

It is obvious that the pandemic has had an impact on all areas of life, and the URBANITE Social Policy Labs have been no less.

The approach formulated in the initial proposal logically had a physical, face-to-face, high level component; that is to say, the Social Policy Labs had to be social. It was important to value relationships, group work and social interaction so that a group of multidisciplinary people with diverse professional profiles could work with a common vision in the identification and resolution of challenges related to the use of disruptive technology in urban mobility management. And then, March 2020 arrived... and the social interaction, the relational and physical component of the laboratories could not be carried out. This has meant refocusing the methodology towards a more virtual approach that is relatively more compressed and asynchronous.

In terms of the content and initial inputs we would need to carry out the co-creation process, there have been no substantial modifications, i.e. the first thing we needed to do was to identify the agents/stakeholders that would potentially form part of the ecosystem in each of the pilot cities. This work (along with the technical justification, agent profile, interest in the project, etc.) has been carried out in deliverable D2.1 “Mapping the Stakeholders”, and it is precisely this deliverable that serves as the starting point for building the communities in each city. And as for the initial content, the document that should serve as a starting point to initiate the debate in the co-creation sessions, there have been no substantial modifications either. The D2.2 “Analysis of previous experiences in other sectors” was the deliverable used in each of the cities to inspire the participants and boost the debate.

The scope of the Social Policy Lab (SoPoLab) is to assess the social impact of disruptive technologies in public administrations and to develop new proposals for government processes and decision-making tools. Key activities of the Social Policy lab are to engage with civil servants, citizens and other stakeholders in co-creation processes.

Considering our initial goal, which is to gather the vision of all stakeholders related to the impact of disruptive technologies in public administrations, we wanted to create a space (virtual space at this point) where the trust of the society and public servants in technologies can be analyzed and the early outcomes of the project discussed with the main actors of the new urban mobility scenario: citizens, service providers, public servants and policy makers. So we define co-creation as any act of collective creativity that is experienced jointly by the stakeholders where there is a component of uncertainty as it is a special case of collaboration where the intent is to create something that is not known in advance. Our intention is for co-creation to be a force for participation and democratization that does create meaning for all stakeholders, rather than simply an alternative research technique or a way of creating value through co-opting the skills and creativity of different participants. This is what Magala calls the ‘Postmodern pattern of sensemaking’ [1] where there is a transparent, open-ended flow of social communication, built around the negotiation and renegotiation of meanings that leads to a networked, evolving social world; so we have used this approach to raise an open and negotiated debate around urban mobility and the impact of disruptive technology on the management of urban mobility.

The second pillar on which we have based our Social Policy Lab approach, in addition to co-creation, is community building, thus, building a community of kindred spirits[2].

The “Community” form is most relevant when developing something for the greater good. Groups of people with similar interests and goals can come together and create. This model - so far - works mostly in software development and leverages the potential force of a large group of people with complementary areas of expertise. Therefore, the mapping of relevant actors in the initial phase is so important and because all of them, regardless of being different profiles and belonging to different organisations, share an interest in urban mobility management and the use of technology for urban mobility management.

The third pillar we intended to base our co-creation approach on is co-creating Social Value [3]. Whenever an artefact, product or service has to be designed, it has to be designed with its next wider context in mind: a chair in a room, a room in a house, a house in an environment, an environment in an urban plan. This is what Eero Saarinen reminds us.

To create social value in co-creation processes, the process has to be approached from aspirations for a long-term, humanistic and more sustainable way of life. Starting the discussion with open questions, without preconceived notions of the final outcome, implies that determining the shape of the outcome is part of the challenge itself. This has been the approach towards generating social value in the co-creation process. Co-creation of this kind involves the integration of experts and people from everyday life working closely together, which is why we have identified everything from citizens and associations or collectives that can represent them, to policy-makers and expert technologists. Collective visualisation of ideas and opportunities can enhance their collective creativity. This type of co-creation requires direct personal involvement between people, which fits perfectly with our Social Policy Lab and Community building approach. Also, it requires expressing, listening and discussing multiple divergent points of view, favouring empathy between participants.

Thus, in each of the pilot cities, we have identified not only the participants (from the mapping of actors) but also facilitators for the dynamics and rapporteurs who take note of the different dynamics that take place in the sessions.

These three pillars of co-creation, community building and social value have been tremendously affected by the current pandemic, as we have mentioned above, and that is why, in order to carry out the approach based on these pillars, we have had to identify telematic tools that allow us to debate openly, interact and generate community as well as to get to know each other better and understand each other's vision, favouring empathy.

Fortunately, we now have a wide range of solutions to work virtually, and therefore we have selected tools such as Zoom¹ to carry out the sessions and record the dynamics, Mural² or Trello³ to reflect on a shared board the results and topics of interest that have emerged in the sessions and, finally, a specific development made by the project and based on Decidim⁴, to work asynchronously, via discussion forums and debate of ideas⁵, on the most relevant or interesting threads resulting from each of the sessions in the pilot cities.

¹ <https://zoom.us/>

² <https://www.mural.co/>

³ <https://trello.com/>

⁴ <https://decidim.org/>

⁵ <https://forum.urbanite-project.eu/>

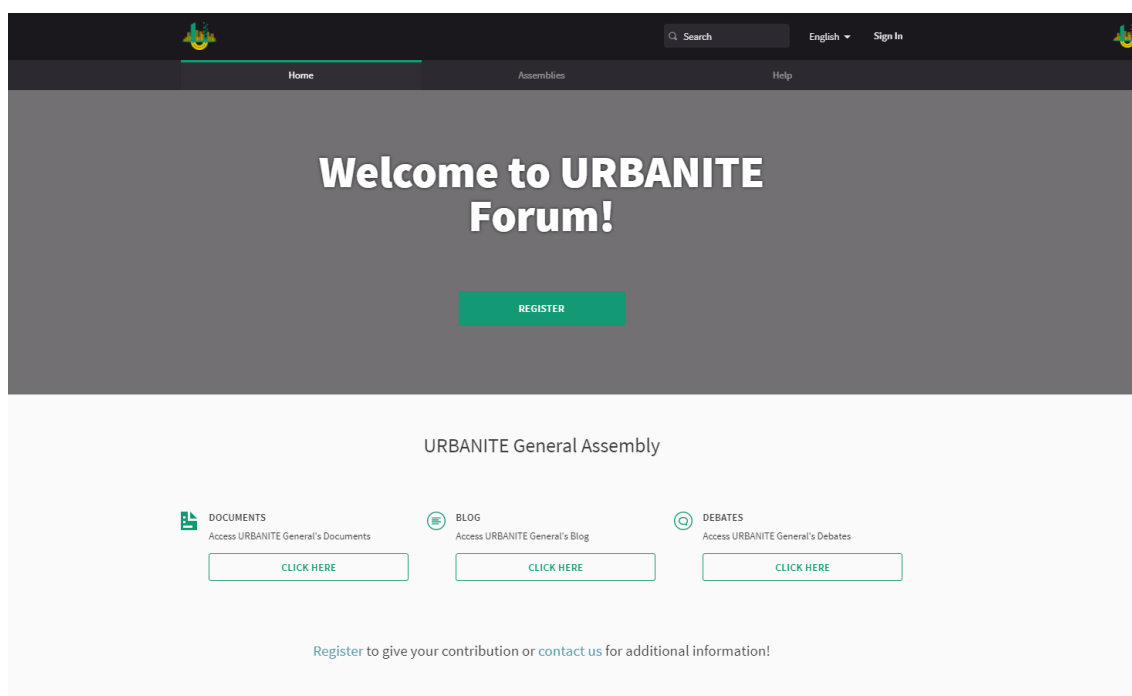


Figure 1. URBANITE Forum, a Decidim based tool for co-creation

In order to carry out the first sessions in each of the pilot cities, as we have commented previously, the facilitators of the dynamics and the rapporteurs have been identified in each city.

Tecnia has provided support in the preparation and implementation of the sessions in Messina and Bilbao, and WAAG has provided support in the cities of Helsinki and Amsterdam. In addition, training sessions for facilitators and rapporteurs have been carried out in order to train them in the creation of communities, co-creation dynamics and use of the Decidim platform for URBANITE. In addition, specific sessions to prepare the Social Policy Lab sessions taking into account the specific characteristics and needs of each city have also been carried out. All of this has been accompanied by a toolkit with documents related to GDPR (ICF for each city), a generic script for the session and a proposal for support tools.

The first co-creation sessions in the framework of the Social Policy Lab and focused on “Ask : defining challenges and formulating shared values and principles” took place in the 4 pilot cities between the last week of January and the first week of February. We will go into detail about each of them in the next section of this document.

3 SoPo Lab first session "Ask: defining challenges and formulating shared values and principles".

Based on the results from the stakeholders mapping, the first session of Social Policy Lab has been held in four pilot cities at the end of January and beginning of February. In this first session, the focus has been on shared values, goals and question articulation. The topics that have been addressed in the session go from the transformative impact of disruptive technologies to trust and attitude of civil servants/citizens and local regulation.

Here we present the summaries and outcomes from each of them.

3.1 Amsterdam first SoPoLab Session

3.1.1 Context and background

Amsterdam, the capital of the Netherlands, is a municipality with 800.000 inhabitants. The city harbours many creative and technological businesses and has a strong focus on innovation, winning the iCapital award in 2016 with their Amsterdam Approach. This approach to innovation is not solely economically driven and incorporates cooperative strategies involving the quadruple helix. Amsterdam aims to stay a frontrunner in the digital transition of government services and the changing role of government in society. The city recently presented its agenda on this topic “The Digital City”, which focuses on a free, inclusive, and creative city. This agenda includes policy, experiments and guidelines on digital infrastructure, digital rights, and room for creative projects, enabling innovation with the citizen at its centre. The organization and collaboration between commercial, societal and governmental is organized in consortia, such as Amsterdam Smart City. Here parties look at city wide innovation topics and together develop initiatives to tackle urban challenges.

Another topic that is of growing importance in the city is figuring out their data position. This evolving position looks at how to deal with data generated by the city and how data is generated and used by businesses in cooperation with the city. One of the main ways the city relates to this issue, is by developing leading principles on data usage. These principles are collected in the TADA manifest. These six principles are designed by the city in collaboration with stakeholders on how to deal with data responsibly.

Another core issue in Amsterdam is its rapid growth. More inhabitants and visitors lead to increased mobility and traffic issues. In order to deal with this growth, there is a specific focus on Smart Mobility. The city has complex traffic streams with massive amounts of bicycles combined with cars and public transport. To manage these traffic issues, there is a need for better data analysis in order to create sustainable mobility solutions.

New mobility technologies are evolving at a rapid pace. There are many attempts in Amsterdam to build (mobility) data sharing platforms collecting the data generated by these new technologies. However, many do not take into account the needs and values of all stakeholders (including citizens) and are developed with commercial interests. Also, there is a lack of guidelines, and together with Vervoersregio Amsterdam (mobility region Amsterdam) and the CTO department of the Amsterdam municipality, we want to develop a better data sharing platform while keeping in mind the public interest. Amsterdam provides a lot of open data on mobility and commercial shared mobility services, such as bikes, scooters, etc., are required to share their data with the city. To combine this data in a meaningful way, which enables public servants and others to increase the quality of decision making is the aim of this use case. An important concept in this use case is data commons. Data commons is a citizen-centric approach to data governance. In data commons, data is self-controlled and available for broader

communal use, with appropriate outcomes for privacy protection and value distribution. To create shared data platforms based on public principles and values, the aforementioned TADA principles are leading.

There is still a need to design new processes and find ways to structurally imbed a citizen-centric approach into practice. In this project, we want to find ways to successfully implement this citizen-centric approach into the structures of policy-making.

In this context, the SoPoLab sessions in Amsterdam were part of a longer process of orienting project partners to the needs, experiences, and current projects and initiatives related to mobility in the city and region. It focused primarily on municipal efforts, but also included conversations and research into a number of independent third parties who gather cycling data in the city.

The process began in September 2020 and culminated in two official SoPoLab sessions in late January and early February of 2021. Key discussions in process prior to the SoPoLabs include:

- 14th September 2020: Members from the Smart Mobility Lab, Municipality of Amsterdam, & Waag discussed guidelines and potential attendees of upcoming sessions to feed into SoPoLabs
- 21st September 2020: A 2hr session was held to document the needs of a number of actors related to bicycle mobility, including the Smart Mobility Lab (conceptual/ think tank), Program Bicycle (long run), Data Analyst, (Data) Digital Services (short run, using data right now) all Municipality Amsterdam; Vervoersregio (possible problem owner). This meeting identified needs and challenges related to:
 - Combining data from several (municipal) departments.
 - Buying data (in particular, the challenges in accessing data from an ‘owner’ rather than from citizens who create that data).
 - A ‘Common Perspective’; how to make citizens the ‘owners’ of their own data?
 - What a municipal department can offer to give citizens in fair exchange for their mobility data.
 - Gathering and using data within the city’s Doughnut framework⁶⁷?
- Late September 2020: A series of emails identified and discussed findings from previous co-creative initiatives in Amsterdam (e.g. MUV, Smart City SDK). In URBANITE, a potential area to improve and expand upon these foundations include an approach to mobility data that is focused on communication (e.g. utilizing visualizations, forums, and data narratives to inform citizens and equip them for meaningful involvement). This conversation also included a data analyst from the municipality, who provided an inventory of data-needs in the Amsterdam municipality.

⁶ <https://www.amsterdam.nl/en/policy/sustainability/circular-economy/>

⁷ <https://www.theguardian.com/world/2020/apr/08/amsterdam-doughnut-model-mend-post-coronavirus-economy>

- 3rd November 2020: A 2hr ‘pre-SoPoLab’ meeting was held, including municipal employees in the field of mobility, local commercial data parties and local URBANITE project partners. The discussion added clarity on what bicycle data is currently used for by the municipality (e.g. knowing the number of people who pass a certain spot; knowing the number of parked bicycles), what commercial data actors have access to that the municipality does not (e.g. bicycle route data), and what type of data public administrators are seeking (e.g. qualitative data about what people find important when cycling and what they want the government to be working on). The discussion included considerations of how citizens could become involved in new processes for gathering bicycle data in Amsterdam, particularly regarding the practicalities of implementing an approach whereby citizen data producers as the owners and beneficiaries of that data.

3.1.2 SoPoLab First Session

The session in Amsterdam was split into two days, the first one held on the 26th of January 2021 and the second one on the 3rd of February of this year. It was an online session carried out via Zoom videoconference service where 11 people participated.

3.1.2.1 Purpose, goals and themes

Building from the conversations listed in the section above, as well as other desk research, interviews, and one-on-one discussions, the SoPoLab meetings included those who had been in previous discussions to formally consider local attitudes, challenges, capacities, and current contexts with regard to disruptive technologies and participatory mobility. Other goals of these meetings were to:

- Confirm a common understanding of the role, possibilities, and limits of URBANITE
- Understand the challenges and risks the municipality faces with bike/urban mobility
- Position URBANITE in the context of other existing mobility initiatives in Amsterdam, both internal and external to public initiatives within the municipality.

3.1.2.2 Participants

The list of the participants included people and organisations such as Data specialist, Datalab, program Bicycle, Smart mobility lab, Chief Technology Office (all municipality Amsterdam). Vervoersregio Amsterdam (Overarching Transport Organisation for Amsterdam), Bike-Data-commercial party (Ring Ring), Dutch Bike Union.

3.1.2.3 Activities

The first and second meetings in Amsterdam (both of them part of the very same first SoPoLab session) included:

- Introduction of URBANITE: Goals, activities, planning and potential for Amsterdam
- Short presentation of the day’s objectives and program
- Introductory round for the participants
- Discussion about the role of citizens and the potential of citizen participation in shaping Amsterdam’s mobility policies in the future. Related to this, we mapped out how participation should go beyond data collection. Some of the key questions identified are:
 - What kind of reciprocal relationship can be established between Gemeente Amsterdam and its cyclists/residents when it comes to shaping bike mobility policies?

- How can participatory practices be kept for the long run and not be one-off as current policies?
- Discussion about the inner workings of the policy making, policy control and policy execution processes of the Gemeente Amsterdam in the mobility field. This led to a discussion about the role of disruptive technologies in fostering data-driven decision making.
 - Key issues identified include Fragmentation of knowledge, information and data. Multiple departments of the Gemeente Amsterdam work on different clusters of bike mobility policies; however, there a lack of overview about who takes decisions, on what grounds, when and how decisions relate to the Gemeente’s overall strategies.
 - Key possibilities identified include: Civil servants are generally positive about utilising new technologies and data in supporting their work, especially while better articulating and substantiating their decisions. However, bike data should better be shared within the Gemeentes’ departments and be integrated with other data sources like air quality.
 - Key questions addressed include:
 - How can bike mobility data be better shared within and outside the Gemeente?
 - How can diverse bike data sources be integrated with other relevant sources to improve existing policy-making, policy controlling and policy execution procedures?
 - How can bike data be used to substantiate bike mobility decisions?
- Diving into the specifics of URBANITE in Amsterdam. In this brainstorming exercise we:
 - Discussed about how Urbanite could add to existing mobility platforms, including Mobilab
 - Agreed on conditions, including:
 - Inclusion: URBANITE will make all collected bike mobility data openly available
 - Participation: URBANITE will seek citizen’s involvement in bike mobility policies
 - No-live data: URBANITE won’t collect live data, but integrate existing data sources.
 - Accessible: URBANITE’s platform should simplify civil servants work; not add complexity.
- Closing

3.1.2.4 Outcomes

The main findings that can be considered as outcomes from this first session are:

- Confirmed a common understanding about the role, possibilities, and limits of URBANITE – specifically, that the Amsterdam pilot would not focus on establishing new modes of gathering bicycle data. Rather, the pilot will focus on identifying and unifying existing (open) data sources; and on citizen inclusion and communication regarding new mobility policies and approaches.

- Identified challenges in bike mobility – with specific relevance to the URBANITE pilot in Amsterdam, most specifically the context challenges of positioning the project amongst many others; the social challenges of engaging citizens in topics of mobility (particularly during Covid); and the technical challenges of identifying and linking appropriate data sources.
- Confirmed the position of URBANITE in Amsterdam as being about gathering existing (open) sources of bicycle data that aims to establish citizen participation in discussions surrounding mobility data as a central component of DDMDM in Amsterdam.

3.2 Bilbao first SoPoLab Session

3.2.1 Context and background

With an area of 41,60 km² and around 355,000 inhabitants, Bilbao is located right in the heart of a metropolitan area that extends along the estuary of the Nervión River with a population close to 1 million.

In the last 25 years, Bilbao has suffered a significant urban transformation from an industrial economy with heavy industries and harbour facilities to a city based on a service economy. This has helped to balance the city and provide a friendly environment for pedestrians with wider pavements; reduction of on-street car parking in the city centre; traffic light control system to cater to pedestrians; promenades for walking and cycling. Today, 65% of internal movements are produced on foot.

In the framework of the ITS (Intelligent Transport Systems) Plans of the city, Bilbao's investment has been oriented to promote public transport, user-centric information services (e.g. open data policy integrating static and dynamic standardized information), to improve safety and reduce traffic congestion (by means of new traffic management systems) and pollution. The exploitation of the city's IT infrastructure has allowed defining and implementing a modular ITS architecture, ready to grow up and admit any new system.

In the city of Bilbao, Bilbao Open Data Policy aims to promote the development of user-centric mobility services. The city manages the information related to the transport network they are responsible of, but there are other mobility service providers (public and private) in the city that produce data related to other transport modes and their uses. These distributed and non-standardized data approach derives in a misuse of information to really understand the mobility patterns of the city to lead into the best policies and mobility services implementation.

Besides, there are other social, economic, and cultural factors that influence the mobility and technology services choices of the citizens that may not be considered in mobility and urban planning and that require further attention.

In this context, the SoPoLab has been seen as an opportunity not only to address the challenges arising from the URBANITE project itself but also as a space to network, exchange ideas and foster the ecosystem among the recently launched Bilbao Sustainable Urban Mobility Plan (SUMP)⁸ for the horizon of 2030.

⁸ <https://www.bilbao.eus/blogs/pmus/>

3.2.2 SoPoLab First Session

The session was held on the 27th of January 2021 at 10.00 a.m (CET) and lasted for three hours. It was carried out through Microsoft Teams videoconference service and 24 people attended.

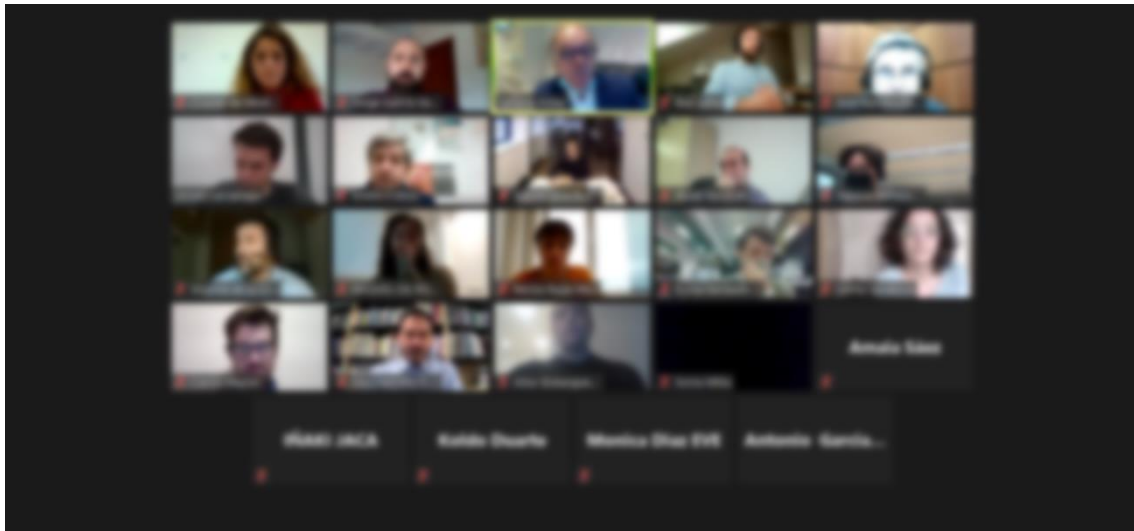


Figure 2. Participants to the First Bilbao URBANITE SoPoLab session

3.2.2.1 Purpose, goals and themes

The main expected result of this first SoPoLab is the identification of pathways in which the use of disruptive technologies in public services can be improved. In this way, it is intended to know the barriers, attitude, trust and motivation that generates them and figure out also the main links to ethical issues.

3.2.2.2 Participants

These are the different stakeholders identified for SopoLabs and that participated in the first SoPoLab session:

- Sustainable Mobility Forum: City Forum integrating different neighbourhood and business associations and other relevant mobility agents. Forum to interact with business and society for the city SUMP development and monitoring. More dynamic tools and improved methodologies to interact and involve society in the city mobility plans expected. City's administrators, Local Authorities target group.
- Urban Freight Distribution Forum: Forum integrated by agents related to urban deliveries created by the city together MLC to discuss on last-mile aspects. Forum to interact and discuss with urban delivery agents.
- BilbaoTIK: Municipal ICT provider. They manage all Communication Infrastructures in the city, exploiting the Informatic Systems and providing hardware and software aspects. As municipal ICT provider, they are subject of adapting/integrating the project developments to the IT infrastructure of the city. Any module/system to be implemented will require their support. They will provide requirements and may implement improvements and additional functionalities to have more advanced systems in the city.

- City’s administrators, Local Authorities target group. Expected participation as “Limited delegation”: Partner organizations give limited control over decision making to the community.
- Metro Bilbao: Bilbao Metro Operator. Metro Data provider. Public Transport operators in the city could benefit from data analytics to better adapt the offer to demand, avoid duplicities in the transport offer and identify potential multimodal exchanges. Business Companies, Urban Mobility Platforms target group.
- IDOM: Consultancy and Engineering Services. City Advisor. As consultant companies, they can benefit from project results to better support the making decision process of mobility politics. Business Companies, Urban Mobility Platforms target group. Expected participation as “Advisory input”: Community has a formal advisory role.
- LEBER: Traffic & Transport Consultancy. City SUMP Advisor. Business Companies, Urban Mobility Platforms target group. Expected participation as “Advisory input”: Community has a formal advisory role.
- KAPSCH: Mobility service provider. Traffic Control Centre System Provider. As contractors in charge of municipal services and/or systems management, they may benefit from implementing functionalities that better support them in integrating data with other systems. Business Companies, Urban Mobility Platforms target group.
- BATURA: Mobility service provider. BilbaoBus app developer. As contractors in charge of municipal services and/or systems management, they may benefit from implementing functionalities that better support them in integrating data with other systems. Business Companies, Urban Mobility Platforms target group.
- ConBici and Biziz Bizi: City bike users association. As citizens and users of mobility services they may benefit from more dynamic communication channels related to SUMP implementation and from measures and solutions to be implemented supported by data analytics which should provide a better understanding of mobility demand in the city in the making decision process. Civil Society/platform users/neighbour associations target group.
- TECNALIA Smart Mobility Lab: Unique infrastructure that enables the rapid prototyping of smart traffic management applications and systems in urban and interurban areas. It is aimed at increasing the level of intelligence in mobility management systems through advanced tools for analyzing, simulating and predicting traffic information.

3.2.2.3 Activities

The session was structured into six separate slots that were previously shared among the participants. The schedule was:

- Welcome to participants. A brief round of presentations and acceptance of recording of the session.
- Presentation of the day. A presentation of the Objectives of the day and structure of the session itself.
- Introduction to the URBANITE project. Presentation of the objective and context of the project.
- Presentation of inspiring practices.
- Open debate. Open round of questions so that different session attendees can participate and offer their vision.

- Closure. Assessment and conclusions of the session.

3.2.2.4 Outcomes

The open debate was intended to take place in three parts. The first, based on the analysis of previous experiences in other sectors (coming up from the D2.1) and the motivation of end-users in the various examples, was intended to delve into what such practices can entail in democratic policy governance. In addition, it was intended to link with the value that tools such as the URBANITE platform can bring to the dynamization of citizen participation.

The insights concluded here were that not only digitization of the public processing is needed, but the real achievement is also to focus on the knowledge of citizenship. It is not only about collaboration but the deployment of tools that allow information flowing in both directions. Involving the citizen from the very beginning, designing human-centered services can improve the welcoming these services will have in the implementation. Moreover, URBANITE Virtual Space can allow those neighbourhood districts to be somehow universalized. The City Council adds that if they have an accessible tool in which everyone can participate, there can be a qualitative leap.

The main challenges identified here was “How can we make the implication for co-creation and not go into a debate of individual interests in the URBANITE Platform?”

The second slot of the session was to reflect on the need of data for decision-making.

- Sometimes Administration initiatives do not go ahead because the way of reporting is not good enough and user-focused.
- It is necessary to indicate the return of the data, put it in value and show clearly the benefit of that data request.
- There is an absence of knowledge of the privacy policy that will protect the user.
- The Administration always has an audition role and then users are afraid of being audited; this makes the user lose confidence.
- Within the Administration there has been a knowledge of the data based on the audit and know the exact data that can be of interest in certain issues. However, other sources are not valued in terms of the general traffic situation that perhaps allows a more general and not so focused view. Technicians need to consider what data they need to monitor and which to manage.
- Administrations take minimal data. Even though the data is anonymized, certain personal data is necessary for the typing of users.

The challenges identified here was that “It is not only about the anonymization of sensitive data but how we show the users that they are only a number in all that data?” The awareness of anonymization.

The last part of the debate focused on Cooperative Intelligent Transport Systems (C-ITS) and the value that these services can contribute to end-users. The main questions here were: which is the value of these kinds of services? Which are the motivations for using them? The main goal was to know how it could improve the trust and subsequent use of the services that require the transfer of data, as well as to dig deeper into the level of knowledge that municipalities have on technologies for the implementation of these services.

- The data that exist between the different departments of the Administrations are unknown. This entails that users do not understand the need for the Administrations to gather more data. It is necessary to know which data is available in each department and even data that still had another purpose, with the integration of new technologies other purposes may arise.
- From the Administrations there must be a comprehensive knowledge and technologies must help them to do so and, above all, be more agile in the generation of these policies.
- It is necessary a change of mindset, it is still not necessary to know in detail the technology itself, but the way to operate. This implies an accompaniment to the Administrations, people who manage services based on disruptive technologies need to be trained in the usage of them.
- Administrations need to professionalize public services in terms of quality for citizens to perceive them in this way.

Another important issue here is the technological gap. An increasing segment of the population is considered digital native. However, another important part has difficulties or is reluctant in the use of new technologies. It is necessary to design hybrid services, which consider the different audiences. As the technological gap decreases, the penetration of these technologies will increase. In addition, factors such as context or culture play a key role.

Apart from the technological gap, other motivation aspects were identified:

- For the city, the use of disruptive technologies could allow measuring of very global components and in a continuous way. There are solutions that are being oriented not to need physical supports. This deployment needs less infrastructure, which can reduce considerably cost structure.
- Private services are oriented to the defined user segment. However, the big challenge in service design for public services is that they must respond to different user segments. For this reason, implementing a service that meets the needs and requirements of different user profiles means that many users do not see the direct benefit or value of the service. Moreover, the service not only has to offer a differential value for the end user, but the user experience must be satisfying so that the user does not abandon it in the middle of the process. Here is highlighted the importance of involucrate users from the initial phases, so the services proposed can be tested, before finding after a real inversion in the deployment, that the service is not used. For example, last mile distribution operators indicated that the solution deployed for loading and unloading spaces do not meet suppliers' real needs, which consequently makes that this solution is not used by the number of users expected.

Once the activities carried out have been summarized and above all the concluded contributions of the session have been highlighted, these have been moved to a mural with three worktables in which they can be represented in a visual way. With the aim of continuing the actions to be carried out in the community of Bilbao and that they serve to link the next SoPoLab, future lines of action have been identified:

- On the one hand, share the conclusions obtained from the session with the attendees to involve them and make them participate in the whole process. In addition, it is intended to share the conclusions obtained in the session and briefly introduce the functionalities of the URBANITE Forum.

- On the other hand, this mural is going to be the starting point to consider the discussion threads for the forum. At this point, a reflection here is needed to consider if the debate should be open to other topics or even consider other end users to which the tool is aimed and perhaps, they do not have had as much prominence in this first session. At this point, it is also necessary to consider whether it may be required to hold a more specific session with a group of agents to delve into a specific issue.
- Moreover, to increase the engagement between the participants, discussion threads are going to be scheduled in a timeline (until the next SopoLab), resulting in a defined time slot to focus on each specific issue.

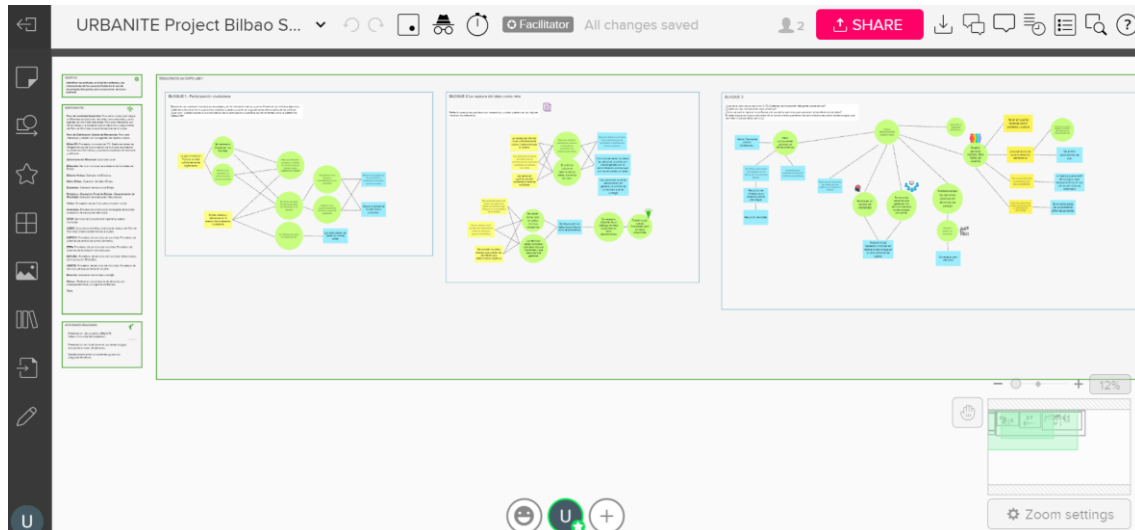


Figure 3. A Mural Map reflecting the main findings and outcomes from the first SoPoLab session in Bilbao

3.3 Helsinki first SoPoLab Session

3.3.1 Context and background

Helsinki is the Capital of Finland and the centre of the Helsinki Region, a functional urban region of about 1.48 million inhabitants and 767,000 jobs.

The Helsinki West Harbour area and its surroundings is an international transport hub and corridor as well as a long-time development site of transport-related R&D and home of real-life mobility challenges. Intensive development of the area and growth in transport are challenging the transport system and services to enable smooth and efficient mobility of people and goods.

Jätkäsaari (West Harbour) is a growing passenger and transport harbour and a new residential district construction site, right adjacent to the centre of Helsinki. It is currently the world's largest passenger port. The harbour is the main connection between Helsinki and Tallinn, with growing mobility and a new terminal built in 2017. Annually 1 million private cars travel on the connection.

Jätkäsaari is also a new development site for 18.000 new residents and 6.000 new jobs. Truck freight traffic from and to ferries provide economic feasibility of the ferry routes. A single main road lead in and out of Jätkäsaari. This road feeds directly to the largest car commuting junction (70.000 cars daily) from the city centre to the western suburbs of Helsinki, creating interference.

The scope of URBANITE’s Jätkäsaari pilot in Helsinki is to help traffic planners to control congestion and provide them with a better understanding of the big picture of mobility in the area. In addition, the aim is to test what is possible to do with the existing data, adopt new tools (e.g. AI and big data technologies) and then replicate the lessons learned in the other districts of the city.

The City of Helsinki's traffic planning and traffic management needs up-to-date and high-quality traffic information to support data-driven decision making. In addition, a proactive and forward-looking approach is needed as the population of the metropolitan area grows and traffic situation changes. By identifying “LIDO” project composition with the focus on traffic data Helsinki aims to identify users’ service needs with a data-driven approach, lead the city on the basis of up-to-date information, optimize the city's operations and resources with the help of data, and stimulate business opportunities by sharing data. The goal is also to enable the reserve of the rights of data it produces and utilize it openly across different industries and players.

These are just a few examples which show the data collection and processing needs. Moreover, user-centric policy-making happens provided that relevant and knowledge-driven analyzing tools and methodologies are implemented.

3.3.2 SoPoLab First Session

The session was held on the 28th of January 2021 at 09.00 a.m (EEST) and it lasted for almost three hours. It was a virtual meeting carried out through Microsoft Teams videoconference service and 18 people attended. Miro virtual board was used as a supporting tool.

3.3.2.1 Purpose, goals and themes

For the purpose of defining plans, data is vital; plenty of which is currently existing but is located in different (virtual) places. The themes for the workshop were designed to:

- Firstly, define the data needs considering both current data resources and possible requirements for further collection of data.
- Secondly, to map the strategic capacity, effectiveness and availability of resources, including tools and cooperation opportunities.

The third theme, which also reflects the aim of the workshop, was to better concretize what should be done to develop the mobility system platform taking into account the needs, the expectations and the goals -how to get "real-time picture of traffic situation".

The purpose is to intensify cooperation between key actors, unify information on existing and new traffic data and make it available through a unique access point, and to accelerate the process of data strategy definition by a roadmap for the implementation of the data platform. Series of SoPoLab sessions will help with modifying and refining the roadmap in accordance with the lessons learned during the project. Meanwhile, URBANITE will support LIDO's long-term goal

as a learning agile project composition in order to create an ecosystem that benefits companies and other actors in addition to the City of Helsinki.

3.3.2.2 Participants

The participants included a fairly good number of the traffic planners, traffic researchers and traffic operators from the City’s Urban Environment Division (KYMP) and also few people from Forum Virium Helsinki who proactively deal with mobility projects and pilots.

Two people from “Ramboll”, a well-known consultancy company in Finland which is hired by the city itself for determining the best off-the-shelf traffic situational picture also participated in the session.

3.3.2.3 Activities

The session started by introducing LIDO project composition, which addresses the ground policies for URBANITE as well. In other words, there was a brief look to Helsinki’s mobility strategy 2030 by the introduction of LIDO project composition by the city itself. Such a contribution from the City boosted impact of the SoPoLab session and the importance of the project was highlighted. The presentation continued with a general introduction of URBANITE and reviewing the observations made via previous interviews. The rest of the session proceeded as follows:

- Introduction of Miro-board as workshop’s brainstorming platform
- Asking for expectations of participants from the session for warm-up
Brainstorming in small groups of participants around three themes (each group spent at least 15 min for every theme)
 - Ask ‘What data sources do you need or do you think will support you with what you are doing?’
 - Ask ‘What sort of tools and technologies are you dealing with and what do you expect from them in enabling cooperation as part of the organizational culture and facilitating seamless information sharing?’
 - Ask ‘What are the characteristics of upcoming traffic data management platform in your opinion?’
- Joint discussion for summarizing results previous sessions from each group and mapping of the overall needs
- Summarizing workshop results and demo of session’s highlights by Ramboll
- Wrap-up; questions and feedback from participants

3.3.2.4 Outcomes

All the discussions and points made by participants were grouped into different categories according to the challenges they were addressing. A mind-map was then designed to answer the questions of “what”, “how”, and “why” based on both SoPoLab session results and analysis of interviews. By merging and unifying all the information gained so far, a deeper understanding of needs, expectations and questions was conceived.

The knowledge gained points out mostly the following arguments:

- Questions, answering to which will reveal and leverage benefits of data e.g.
 - The possibility of processing data and enriching it with other data sources to meet versatile needs of different users.

- The need to know where a specific data source is placed and what kind of information it contains. Basically, the need for metadata as well as the lessons and learnings obtained throughout research and pilots
- Issues and challenges regarding data quality e.g.
 - Data portability and availability
 - Compatibility of data with different tools and research areas
 - Data confidentiality and handling personal information
- Co-operations and development of the data ecosystem e.g.
 - Information sharing and cooperation inside organization, among industries, amongst citizens and citizen servants, and so on.
 - Negotiations to take advantage of the data provided by the big players such as Google.
- Systematic requirements from data platforms e.g.
 - Automation to minimize the errors caused by manual work and automation in sharing info.
 - Aggregation and visualisation of data
 - Supporting decision making and impact analysis of previous projects and pilots
- Needs regarding data sources and their extension e.g.
 - The need for an evasive knowledge base in three different spectrums:
 - a. Timeline-approach: historical data, real-time and current situation data, and forecasts
 - b. Mobility mode-approach: pedestrian data, cyclists’ data, public transportation data, and private vehicles (plus their mobility characteristics, travelling time, destinations, stops and so on)
 - c. Map-based approach: the availability of data in different layers of the map i.e., street-wise data vs. zone-specific or district-wise data.

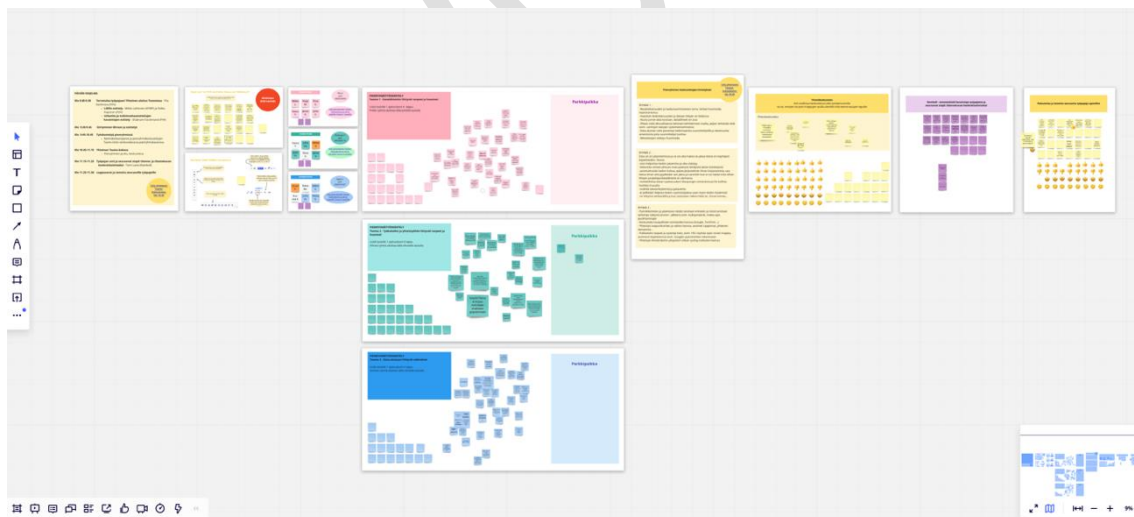


Figure 4. A Miro board reflecting the main results of the first SoPoLab session in Helsinki, 2020

3.4 Messina first SoPoLab Session

3.4.1 Context and background

The city of Messina is the third largest city in Sicily, with a population of around 250,000. The area is a vital service centre not only for the surrounding municipalities of the province but also for the Calabria and Straits area. Its particular geographical position makes Messina the gateway

to Sicily from the mainland. As a matter of fact, it has always served as a crossroads for Sicily. Messina is the first stop for those who come from the strait. Therefore, the flow of commuters comes from the surrounding area municipalities and from the sea.

Messina presents a linear city style (seafront) that spans over 25 km in length with less than 5 km in width. It owns the port in a unique strategic position in the centre of the city as a multimodal hub for the metropolitan/regional network for handling freight, transport passengers from and to the rest of Italy and welcomes nearly half a million vacation visitors a year (cruise ship passengers). The port of Messina is one of the first Italian port that appears in the top ten of European ports for passenger, according to the recently published Eurostat survey. The port area is a centre for logistics and contains both civil and military shipyards. Peculiar to the city of Messina is also the local public transport consisting mainly of buses, tramway and rail transports network and of hydrofoil and ferry boat fleets.

The city of Messina has already run the PON METRO 2014-2020 project (European Structural and investment funds), which is focused on sustainable mobility policies by creating an efficient and interconnected network of alternative ways to the private means of transport, introducing pedestrian services and enhancing the local public transport fleets with electric vehicles with low CO2 emission.

The municipality of Messina is also investing a lot in infrastructure and smart services for the city and citizens. It is proved by the several activities it is carrying on, such as vehicular access detection in LTZ (Limited Traffic Zone) and pedestrian areas, centralized traffic management based on smart lights, micro and macro simulation of traffic flows and analysis, incentives to use public transportation, video surveillance.

The co-creation sessions in Messina represents an opportunity to strengthen the links and relations among the urban mobility actors in the city and the URBACT⁹ ecosystem partners.

3.4.2 SoPoLab First Session

The session in Messina was held on the 29th of January 2021 at 10.00 a.m (EEST) and it lasted three hours. It was a virtual meeting carried out through Microsoft Teams videoconference service and 33 people attended.

⁹ <https://urbact.eu/messina>

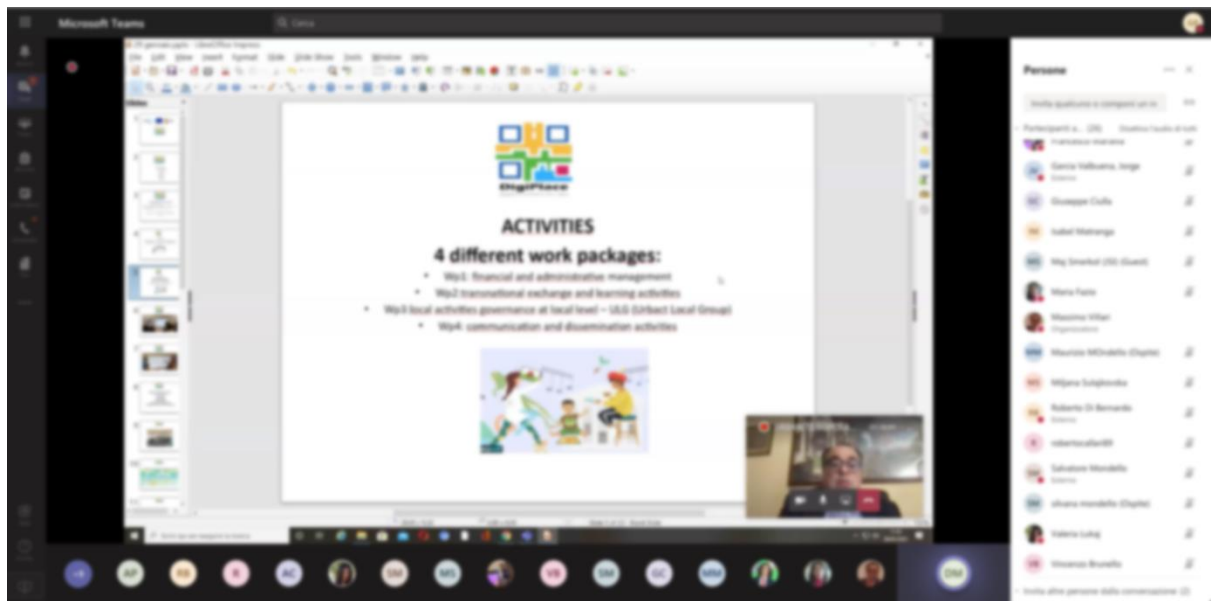


Figure 5. The session in Messina was carried out through Microsoft Teams

3.4.2.1 Purpose, goals and themes

Apart to address the main objective of the initiative that is trying to answer what the trust and attitude of public services in the use of disruptive technologies is, the key objectives in Messina are 1) fostering the use of ICT technologies in the Municipality Departments and 2) Creating a Forum of stakeholders experts at local (Municipality) and international (URBACT) level around urban mobility topics and URBANITE.

The idea is to incrementally involve more stakeholders and experts within the URBANITE SoPoLabs, that would serve as a meeting point and networking space for the Sustainable Urban Mobility Forum (both the physical sessions and the online platform¹⁰).

3.4.2.2 Participants

The participants included all the different actors of the urban mobility value chain in Messina, plus stakeholders involved in urban services and some representatives from URBANITE project. The list of participating organisations is as follows:

- ATM spa (Municipal Transport Company)
- Municipality of Messina - Mobility Department
- Municipality of Messina- Major delegate
- Euromobility
- University of Messina
- Tecnalia Research & Innovation
- Waag
- Alma Digit
- Engineering
- Fraunhofer Fokus

¹⁰ <https://forum.urbanite-project.eu/>

3.4.2.3 Activities

The session started with some presentations on the URBANITE Project: Disruptive Technologies in Municipality of Messina and an introduction and showcase to URBANITE Forum, the SoPoLab supporting tool based on Decidim.

There was also a presentation of the URBACT Project: joint directions by a representative of the Municipality of Messina and later a presentation on Simulations for Messina: urban traffic tool description.

Then it was the turn for the Open Round Table (in Italian), where the following issues were discussed:

- Fostering the adoption of ICT technologies in the Municipality Departments and creating a Forum of stakeholders which are local (Municipality) and international (URBACT) experts on urban mobility and URBANITE.
- How to improve the trust in ICT tools
- How the URBANITE FORUM Platform can help in this perspective
- How can projects such as those presented (or even URBANITE) represent an improvement, or a risk, in the democratic governance of mobility policies, in particular in relation to citizen participation, transparency or openness?
- Involving citizens in urban mobility actions, the Messina Muovime¹¹ experience:
 - To what extent are we concerned about the transfer of data on the location or usage of vehicles/devices?
 - Do we know the legal framework that protects the user in the transfer of such data?
 - Is it enough to participate in dynamics that guarantee the correct usage and management of user data to improve the trust and subsequent employment of public mobility services based on such data?
 - We have seen examples of projects that range from ensuring compliance with users' rights to avoiding aggression. What would motivate you to use a service or platform like URBANITE, or one that improves urban mobility?

3.4.2.4 Outcomes

The key outcomes of the meeting are mainly related to the participatory involvement of stakeholders in the SoPoLab activities related to the URBANITE project. People have shown interest and explicitly availability to actively collaborate.

The stakeholders identified some of their activities and project that could be supported by the tools developed in URBANITE, such as the definition of PUMS, in particular for improving the planning actions and for the participation of citizens in the decision activities, and for the management of the parking areas.

The PUMS drafting expires in April, and the Municipality officers asked to make the Decidim platform available as soon as possible for sharing, discussing and finalizing proposals for the city mobility plan.

Agreed collaboration with the stakeholders involved in the URBACT project that has common goals of URBANITE in promoting technologies for urban mobility. Such stakeholders will be contacted to participate in the next SoPoLab meeting.

¹¹ <http://www.muovime.it/>

Provisional

4 Next Steps

The next steps in the implementation of the co-creation process through the Social Policy Labs are articulated in three main aspects.

First, the content. It becomes evident that the particularities of each pilot city lead to a number of divergences in the four pilot cities that make the debate and co-creation in each of these cities different; In this sense, there are cities such as Helsinki, for example, where the debate, due to the role of the attendees, has had a more technical focus, while in Bilbao or Amsterdam, the debate has been able to focus more on aspects and challenges. But there are also convergences, and all of them, in the framework of URBANITE, work on improving the use of disruptive technologies by public services. So, for the next session, the particular issues of each pilot city will be extracted to continue working on them (and that have already been identified in the previous section of this document), but also pilots will work on the common aspects related to the use of disruptive technologies by public services. Among others, these common aspects already identified range from the value that the user finds in such services to the awareness of ethical and privacy issues.

Regarding the challenges identified, although still defined at a very primitive level, It has been possible to verify that they could be addressed through the URBANITE platform itself and/or through the initiatives that are framed within the URBANITE project, such as the SoPoLab itself.

In any case, it will be in future SoPoLab sessions where the platform and the options it offers (functionalities) will be analysed in more detail and how they can help to solve the challenges in terms of trust, attitude and social aspects that will be detailed.

Secondly, the next aspect we will work on for the next co-creation session is the process.

We need to articulate more agile dynamics and activities, more provocative discussions and more fluid communication.

All of this is related to improving the transition from a methodology initially designed to be face-to-face and physical to a methodology that is currently implemented virtually, online. Therefore we must recognise that being this first session of the first experience in this sense, we believe that there is room for improvement in 1) the design of the sessions themselves to make them more participatory and attractive, using more collaborative tools such as Mural or Miro, 2) maintaining a more dynamic and fluid communication through asynchronous and instantaneous channels and 3) improving the identification of challenges and barriers by working previously with the community on the specific content of the following sessions.

Finally, and as a third aspect to continue working on, there is the infrastructure that will support the whole process—specifically, the URBANITE Forum.

We are at a point in the project where this infrastructure is key for the correct deployment of the Social Policy Lab. As we have previously mentioned, nowadays, due to the global pandemic situation, the technological infrastructure that we can provide to the Social Policy Lab is even more relevant in order to support 1) the networking and community building of the different communities that are being generated in each city, 2) to help improve debate and discussion through functionalities that enable open discussion on the different topics that have been identified in the cities, and 3) to improve awareness in society on the use of disruptive technologies by making available to the project information and communication channels through which cities can report on the progress made in URBANITE in each city.

This infrastructure, an IT Platform based on Decidim, is in its final testing phase and will be publicly available soon. It will be articulated through the generation of four specific assemblies (one for each participating pilot city), managed by the city representatives themselves. Additionally, another generic assembly, managed by the leaders, with a European approach in which the participants of each of the pilot city assemblies will be able to participate by contributing their vision/challenges/proposals/criticisms from a common European perspective.

Provisional

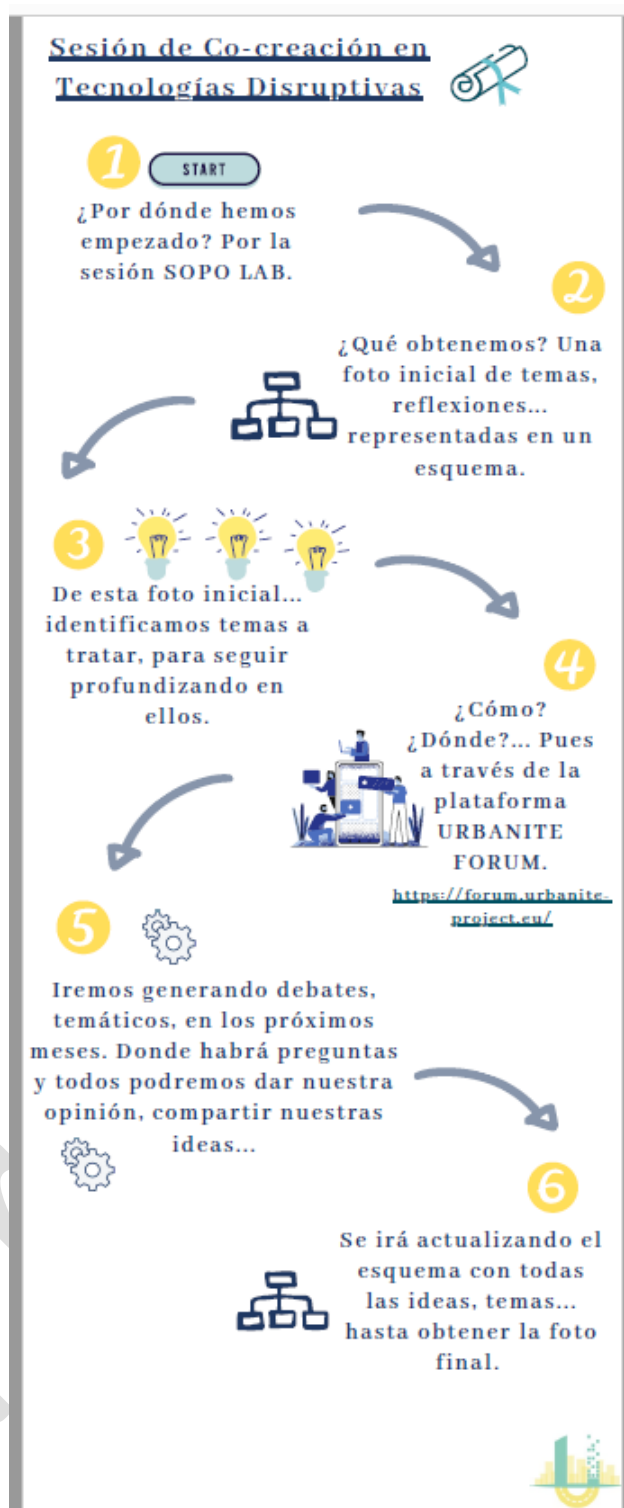


Figure 6. Info leaflet for the Bilbao SoPoLab community on next steps

5 References

- [1] S. Magala, *The Management of Meaning in Organizations*, no. February 2009. 2009.
- [2] F. Strategy, “Co-Creation’S 5 Guiding Principles,” *Front. Strateg.*, pp. 1–9, 2009, [Online]. Available:
http://www.fronteerstrategy.com/uploads/files/whitepaper/FS_Whitepaper1-Co-creation_5_Guiding_Principles-April_2009.pdf.
- [3] L. Sanders and G. Simons, “A Social Vision for Value Co-creation in Design,” *Open Source Bus. Resour.*, vol. 2009, no. December, pp. 1–5, 2009, [Online]. Available:
http://www.maketools.com/articles-papers/Social_Vision_for_Value_CoCreation_in_Design.pdf%5Cnhttp://www.osbr.ca/ojs/index.php/osbr/article/view/1012/973.