D5.2 – Policy and practitioner's brief

WP5 – Synthesis, guidelines and briefs for "smarter" Living Labs

Improving Anticipation and Social Inclusion in Living Labs for Smart City Governance

This project has received funding from the European Union's Urban Europe Joint Programming Initiative under grant agreement no. 854919

Document Description

Project acronym	SmarterLabs
Project title	Improving Anticipation and Social Inclusion in Living Labs for Smart City Governance
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Overall project type	Innovation/implementation, applied and strategic research
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Objective	The SmarterLabs project aims to develop a Smart City Living Lab approach to effectively deal with two major risks to successful, widespread implementation of smart transport technologies. These two risks concern (1) unforeseen barriers to large-scale change in socio-technical systems, and (2) exclusion of social groups not matching the required 'smart citizen' profile. This novel, 'smarter' approach will be developed, tested and refined by retrospective analysis of urban mobility governance and by action research in Living Lab experiments in the cities of Bellinzona, Brussels, Graz and Maastricht.
Website	http://www.smarterlabs.eu

Work Package	WP5 – Synthesis, guidelines and briefs for "smarter" Living Labs
Deliverable	D5.2 – Policy and practitioner's brief
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Authors and involved institutions	Report edited by: Francesca Cellina Authors: Marc Dijk (Maastricht University); Bas van Heur, Kobe Boussauw, Nicola da Schio, (Vrije Universiteit Brussel), Lievin Chemin, Tim Cassiers (BRAL); Mario Diethart, Thomas Hoeflehner, (University of Graz), Francesca Cellina, Roberta Castri (University of Applied Science and Arts of Southern Switzerland)

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1. Introduction

The results of action research in the four "smarter" Living Labs (Deliverables D4.1, D4.2, D4.3, and D4.4) allowed us to identify ten recurrent and critical constraints affecting successful inclusion in and upscaling of living lab experiment, and to identify a number of ways to anticipate such constraints. These elements are presented in Deliverable D5.1.

Based on such a material, guidelines for policy-makers and practitioners were developed as part of WP5. We opted for organizing the policy and practitioner brief guidelines in the following three-fold material:

- a video, mostly targeting policy-makers and potential living lab initiators, focusing on the reasons why "smarter" living labs are needed and how they could be beneficial to urban development processes;
- a "fan-style" document, targeting both living lab initiators and any living lab practitioner, meant as a promotional material to raise the attention on the key constraints affecting living lab processes ("light" version of the guidelines);
- a series of information sheets, focusing on "how to" favour upscaling of inclusive Living Labs, mostly targeting practitioners involved in launching and managing living labs ("extensive" version of the guidelines).

Both the video and the "fan-style" document work as teasers to stimulate interested actors to access the extensive version of the SmarterLabs guidelines document, that describes the constraints and the anticipation strategies in more detail, and presents examples ("stories") from the SmarterLabs experiments.

This document shortly introduces the different formats of the guidelines. These full version of the three documents is available as Annex to this document..

2. The video: why are smarter living labs needed?

The video introducing the need for activating "smarter" living labs aims at intriguing policy-makers and potential living lab initiators and at raising their awareness about potential pitfalls in current approaches to urban development, including those who are already working with the smart city concept and exploiting living lab approaches. For this purpose, we opted for a short animation video (about 2 minutes long, with a 200 words script).

We opted for developing a story and to deal with a character, which nicely fits with the idea of the animation. Also, we carefully aimed at overcoming gender stereotypes, such as male Mayors or civil servants. In total, we developed four alternative proposals for the script, as documented in Table 1. Proposals 1 and 2 were rejected since they focused on too specific examples of urban problems, which could largely restrict the amount of interested people in the target audience. Proposal 3 was assessed as too close to an "academic" point of view, and proposal 5 was assessed as too didactic: in both cases, they would have failed in raising the interest of policy-makers and urban practitioners. Proposal 4, instead, was assessed as sufficiently general, though focused on practical everyday problems by policy-makers and practitioners, and therefore was selected for implementation in the video.

Table 1 *Alternative scripts developed for the SmarterLabs video.*

1	**Story focusing on social exclusion** Laura is a young engineer, who has just been appointed councillor of a medium-sized city. She strives for introducing smart innovations in her city! She has just been contacted by a local company, offering a totally automated, smartphone-based payment system for public transport. They would bear costs of the technological infrastructure, just asking for an annual fee for service exploitation. She is so excited! Why not activating it as soon as possible, once for all forgetting about those old-fashioned paper tickets?

Her civil servant Bob, however, is a bit scared. He is not into mobile technology – what would happen to citizens in his conditions? He suggests to open up a discussion, involving other institutions, practitioners, associations, and –especially– citizens. Together, they would look for a compromise to introduce innovation, while not producing social exclusion.

Laura acknowledges Bob is right. So, the city launches a "living lab" process, inviting a group of well-known local "opinion-leaders" to test and discuss the new ticketing system. After a few lab meetings, they propose to roll-out the new system at the city level, maintaining the traditional one for a one-year long phasing-out period. In the end, the new system is not that complex! People will definitely get used to it.

Therefore, the city deploys the new public transport ticketing and payment system. However, after one year, the large majority of citizens is still relying on the old system. Fearing mass dismissals, the trade unions, who had not been involved in the lab, in fact have widely boycotted the initiative.

Laura and Bob realize activating a living lab does not guarantee successful upscaling of innovation!

If you are planning to activate a living lab process, take a look at the SmarterLabs guidelines. You will get suggestions on how to successfully anticipate possible constraints affecting the upscaling of your innovation.

2 Story focusing on low institutional receptiveness

Jane is the Mayor of a medium-sized city, dealing with the revision of the Masterplan for local public transport services. It is a hot topic, with highly conflictual visions and goals. Will she manage to make it more sustainable?

Her civil servant Mike, definitely an expert in her field, has a clear vision of what needs to be done. However, Jane is aware that top-down solutions risk of being unpopular, nowadays. Therefore, she decides to activate a living lab to co-design future mobility scenarios for the region, and personally invites all the relevant institutions.

The lab is a success! Jane counts more than twenty active participants to lab activities and is happy to see some of her friends of environmental NGOs. On general visions, all lab participants agree; however, when discussion goes into practical measures, differences between them arise.

Since the conflict between a bunch of NGO representatives and other participants seems difficult to be solved, Jane proposes to vote between two alternatives. One is the project that Mike had worked on for the previous months: it is very detailed, realistic, and well-documented. The other one is an idea that had just emerged during lab meetings: it is a bit superficial, and still in its seeds – though particularly innovative and sustainable.

Voting is overwhelmingly in favour of Mike proposal. Mike is very satisfied for the green light for his project! However, his satisfaction does not last for long: a local referendum is launched to oppose the Masterplan, and indeed citizens mostly vote against it. Mike's project failed to consider a number of relevant aspects to them. The project is therefore cancelled from the political agenda, and the whole Masterplan is stuck at the starting blocks.

Jane realizes activating a living lab is not always sufficient for putting sustainable transitions into practice!

If you are planning to activate a living lab process, take a look at the SmarterLabs guidelines. You will get suggestions on how to successfully anticipate possible constraints affecting the upscaling of sustainable transitions.

3 Story addressing upscaling

The 'Smart City Living Lab' is an emerging approach in European cities.

Jane, the Mayor of a medium-sized city, has adopted it too. She tests new ways of addressing urban problems with a diversity of stakeholders. But after enthusiasm around a range of Living Lab experiments that she started, critics are asking her: what is actually the practical impact of them? Jane responds that they have created innovative solutions, but admits that they often remain rather small.

Her city council had suggested to 'roll-out innovations across the city' after successful experiments at the level of a building, street or small district. Jane has experienced, however, that in practice this process of upscaling is rather difficult and often fails. Her council erroneously sees upscaling as just the wider adoption of products over time. Unfortunately, this is what often happens.

	The SmarterLabs project has developed an approach to effectively anticipate two major risks to successful, widespread implementation of smart innovations. These two risks concern (1) unforeseen constraints to large-scale change in socio-technical systems, and (2) exclusion of social groups not matching the required 'smart citizen' profile. The SmarterLabs brochure discusses ten typical constraints on upscaling or inclusion, and also ten strategies to anticipate on these.
4	**Story addressing problems affecting living lab experiments** *(selected script)* Lisa is a civil servant in a medium-sized city, dealing with urban development. She has to re-design a congested avenue to improve the quality of life in the neighbourhood. It is a hot topic, with no straightforward solution and highly conflictual visions! She knows that nowadays a top-down decision risks to be unpopular, however an agreement that makes everybody happy will be difficult to achieve. She then hears about the Living Lab approach, a new way to address urban problems. Living Labs are spaces where multiple actors work towards a shared understanding of a problem and experiment solutions in a real-life context. This approach seems particularly relevant for her case: in a Living Lab she could engage all relevant stakeholders, from public administration and politicians to business, academia, and citizens. Together, they could address the many relations between environmental, social, technical, and economic impacts of the project, and find innovative solutions. She wants to try out this new approach. However, experimenting is risky and Living Labs do not always work out as intended. Fortunately, she learns about the SmarterLabs guidelines, which help her to avoid common pitfalls, such as results not being used outside the Lab or relevant stakeholders being excluded. If, just like Lisa, you are interested in creating a Living Lab to address urban problems, take a look at the SmarterLabs guidelines. They will help you to anticipate pitfalls and set up a successful Living Lab.
5	**Didactic text** Living labs are an emerging approach, bringing together policymakers, businesses, researchers, and citizens to develop and test smart solutions to urban problems, by directly operating in real-life settings. Living labs provide possible solutions to urban problems in a protected environment, where their pros and cons can be better explored from a variety of perspectives and tested in a real-world context, thus enhancing a collective learning process and the emergence of innovative solutions. Innovative solutions emerging from a living lab, however, might fail to produce a relevant impact, when trying to upscale them at city level. A number of barriers can in fact preclude emergence and diffusion of innovative practices (namely new ways of doing something) in a particular urban area, since these would require changes in the larger and institutional context as well. For example, the diffusion of a new app-based peer-to-peer ridesharing service, cannot be taken for granted, even though groups of enthusiast hipsters spent nights in the lab in co-designing and testing the related app features. Upscaling such a new mobility service would require tangible political support, as well as involvement of all the affected actors, particularly those mostly bearing unintended negative effects, such as taxi operators, in a common effort towards developing a suitable set of accompanying measures, such as regulations, incentives, or taxation schemes. By anticipating possible constraints on successful upscaling of innovation at the city level, and addressing them from the start, "smarter" living labs can turn into effective tools to foster sustainability transitions. If you are planning to activate a living lab process, take a look at the SmarterLabs guidelines! You will get suggestions on how to successfully anticipate typical constraints emerged in case studies across Europe.

Besides the script test, the additional material reported in Table 2 was developed, to possibly accompany the video, in the shape of a FAQ (Frequently Asked Questions) information sheet. Currently the video is only available in English, though it can easily be translated in other languages, through the introduction of subtitles.

Table 2 *Additional material developed to accompany the "Why" Smarterlabs video (FAQs to be offered in an information sheet document).*

What is a living lab?	A Living Lab is an open, real-life arena where citizens, academia, business and representatives of the public sector meet to address local challenges and co-create ideas, tools and technologies to solve them together in an iterative way.
Why should a city, developer, practitioner or citizen, activate a lab? What are the benefits?	Embedded in everyday life, multidisciplinary Living Labs make it possible to gain a better insight into the complexity of social, economic and environmental issues that surround society and urban areas in particular. At the same time, they allow to experiment, test and evaluate possible solutions (testbeds), while maintaining a multi-stakeholder perspective and remaining grounded to real-world needs and expectations. This approach ultimately increases chances of public acceptance of the innovation at stake, thus increasing also its social impact, large scale adoption and success.
Become a change-maker/ Be the change Lead innovation/ Creating innovative services	Make the difference! Be prepared to embrace concepts and strategies that are cooperation-oriented and that empower others to drive change. To "become a change-maker"/"Be the change"/"Lead innovation"/"Creating innovative services" requires shared leadership, knowledge, skills and the relationships that will enable you to anticipate societal changes, convey solutions and make informed decisions. The "SmarterLabs" project guidelines in particular, will help you address upscaling barriers of innovation processes lead by Living Lab methodology that may stem from resistance to large-scale change in socio-technical systems or from social exclusion.
The key to success	As social and environmental issues become ever more pressing, we all would like to see our efforts impact and drive positive social change. However, attaining such a goal implies achieving a large-scale adoption of the proposed innovation solution. As such, anticipating possible upscaling barriers becomes ultimately the main key to success. Indeed, as examined more in depth in the "SmarterLab" project, by incorporating groups at risk of exclusion into the Living Lab process and by anticipating possible resistance to change by specific stakeholders, the chances of a successful uptake of the end result are enhanced, better scalable and more robust in terms of value creation for the wider society.

The graphical part of the "why" video was developed by the Belgian Pixileon video-makers (www.pixileon.com). The full video storyboard is reported in Annex 1.

The final video has been published on Youtube (https://www.youtube.com/watch?time_continue=1&v=XkDRgQf5QVo), it is available on the SmarterLabs project website (https://smarterlabs.uni-graz.at/en/publications-results/smarterlabs-guidelines-video/) and it is now being disseminated through the communication channels of the project partners. The original version is in English, though subtitles are being included in Italian and German (possibly also in French and Dutch).

3. The fan: the 'light' version of the SmarterLabs guidelines

This document aims at raising the interest of policy-makers and possible living lab initiators, such as NGOs, groups of citizens, universities, private actors, or a combination of them. For this purpose, it was organized as a very compact document, with limited use of texts. Instead, we opted for presenting the constraints to

"smart" living lab processes through thought provoking cartoons, developed on purpose. The document is organized as a fan, with 10 A6 cards, each of whom is dedicated to a single constraint, plus an additional cover. The front of each card shows the name of constraint and the cartoon depicting it. The back of the card, instead, shows the suggested ways to anticipate those constraints. Cards related to "social inclusion" constraints are coloured in yellow, while those related to "upscaling" are coloured in blue. Texts in both the front and the back are organized as bullet items, with short and direct sentences, to keep the document compact and make it more appealing for the reader. Figure 1 provides an example of such cards, for constraint number 10 "The Living Lab meets low institutional receptiveness".

The cartoons were developed by the Austrian artist and illustrator Jörg Vogeltanz (www.vogeltanz.at), while the graphical layout was developed by the Swiss Laboratory for Visual Culture (www.supsi.ch/lcv) at SUPSI.

Such a document was printed and distributed at the final SmarterLabs conference in Utrecht and will be available for further distribution in other local events. It is also available on the SmarterLabs project website (https://smarterlabs.uni-graz.at/en/publications-results/smarterlabs-guidelines-video/) and entirely reported in Annex 2. The document will be translated into German, French, Italian Dutch, and Spanish.

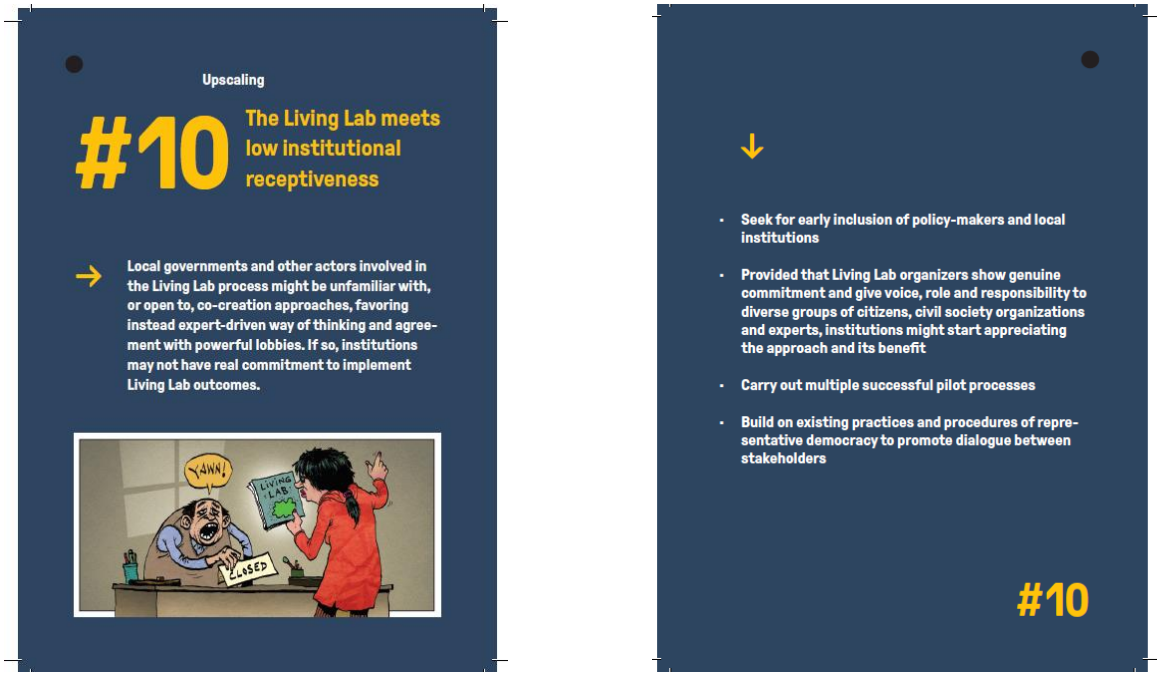


Figure 1 *Excerpt from the fan – light version of the guidelines – Constraint number 10 "The Living Lab meets low institutional receptiveness".*

4. The information sheets: the full SmarterLabs guidelines

The information sheets are the most detailed output of the SmarterLabs project: they present constraints to development of inclusive living labs, suggest ways to anticipate them and present stories from the SmarterLabs cities, to provide practitioners with practical examples and suggestions for "smarter" living lab processes (stories from "Smarter Labs"). Such examples are all taken from the experience within the SmarterLabs living labs; as such, instead of limiting to present examples of success, in some cases such stories

also present failures, in the belief that, properly commented and put into perspective, failure can teach as much as success.

Since practitioners launching and managing living labs are the target of such a document, the full SmarterLabs guidelines are designed to be compact and easy to read, as well as graphically appealing:

- one sheet briefly introduces key concepts regarding living labs, smart cities, and related risks;
- one sheet summarizes the identified constraints and ways to anticipate them, through a table;
- two sheets introduces the "smarter" living labs in our four cities;
- ten sheets each discuss the identified constraints and anticipation strategies;
- one sheet provides a glossary.

Overall, it is a thirty-page document, although each page can be read independently: interested practitioners can either read the full document from the beginning to the end, or they can just browse through it and identify the information sheets that are most relevant to their own context, problem, or experience. Texts are simple and concise. The cartoons already introduced for the light version of the guidelines are used as well, to help the readers focus on the topic of the sheet, and invite them to read through. As shown in Figure 2, the front of each of the ten constraint sheets shows the problem and general suggestions to overcome it (through a cartoon and texts), and the back shows stories from smarter labs. The cartoons were developed by the Austrian artist and illustrator Jörg Vogeltanz (www.vogeltanz.at), while the graphical layout was developed by the Swiss Laboratory for Visual Culture (www.supsi.ch/lcv) at SUPSI. The document was printed and distributed at the final SmarterLabs conference in Utrecht and will be available for further distribution in other local events. It is also available on the SmarterLabs project website (https://smarterlabs.uni-graz.at/en/publications-results/smarterlabs-guidelines-video/) and entirely reported in Annex 3.

#10

Upscaling

The Living Lab meets low institutional receptiveness

- Seek for early inclusion of policy-makers and local institutions
- Provided that Living Lab organizers show genuine commitment and give voice, role and responsibility to diverse groups of citizens, civil society organizations and experts, institutions might start appreciating the approach and its benefit
- Carry out multiple successful pilot processes
- Build on existing practices and procedures of representative democracy to promote dialogue between stakeholders

THE CONSTRAINT

Institutions may not show (or indeed not have) real commitment for a Living Lab approach.

Sometimes barriers might be due to the lack of open-mindedness and receptiveness by institutions involved in Living Lab activities. Local governments, as well as other actors involved in the process, including Non Governmental Organisations (NGOs), universities and companies, might in fact be unfamiliar with, or open to, co-creation approaches, believing that interaction with other stakeholders adds unneeded complexity to policy development.
Low receptive institutional contexts tend to favor expert-driven ways of thinking and agreement with powerful lobbies, in traditional Decide-Announce-Defend (DAD) approaches.

In such contexts, even if Living Labs are activated and developed, they might lack full support of key institutions, who might support them as a façade tactic, indeed being unwilling to implement their outcomes.

WAYS TO ANTICIPATE

To cope with such constraints on the process institutional context, early inclusion of policy-makers and local institutions should be sought for. Provided that activities in the Living Lab are adequately designed, namely that Living Lab organizers show genuine commitment and give voice, role and responsibility to diverse groups of citizens, civil society organizations and experts, policy-makers and institutions might start appreciating the approach and its benefits.

Then, it would be a matter of repetition. Once multiple successful pilot processes are carried out, institutions and policy-makers would embrace approaches and processes, supporting their outcome.

If instead policy-makers and institutions do not accept invitations to engage in Living Lab practices, try to bring Living Lab outcomes into traditional channels of democratic representation, fostering a public discussion with and within elected political representatives.

STORIES FROM "SMARTER LABS"

Bellinzona

The City of Bellinzona was formally owning the Living Lab process; however, due to the lack of familiarity with participatory approaches, they were not fully aware of the potential of participatory Living Lab projects in supporting policy development. Therefore, they lacked leadership and predominantly relied on advice and superintendence by the local university. They mainly perceived the Living Lab as a technology innovation testing ground: a single, small-scale, closed and controlled process, aimed at developing and evaluating the mobile app prior to its rollout at city-level.

In particular, local decision-makers tended to cling to authoritative governance styles, rather than opening up to more consultative, cooperative or even facilitative approaches, mainly due to the fear of losing formal power and responsibility on the decision. Their main concern was to avoid possible financial and personal drawbacks and, inadvertently or not, the tendency was to keep the Living Lab in the policy periphery. However, leadership can only be learnt through experience: providing first-hand opportunities of experiencing public participation processes is a first start. Thus, researchers involved in Living Lab organization tried to promote a new political culture by ensuring the presence and active participation of representatives of the Municipality (civil servants, politicians) in Living Lab meetings. This helped getting local authorities and decision-makers gradually acquainted with the concept that Living Labs may represent a valuable learning-by-doing tool and a constructive and enriching means for reflection on practices or policy.

Also, to favor Living Lab acceptance by decision-makers, the strategy was to focus at first on an app development: practical and technologically oriented, this was perceived as a low-conflict topic and therefore easily supported. Later on, capitalizing on the actor- and context-dependent knowledge created while Living Lab participants were testing the app and concretely experiencing new mobility behaviors, discussion in the Living Lab was upscaled to policy-related topics regarding future mobility scenarios ("What would we need to make mobility more sustainable in Bellinzona?"). This way, also potentially scaring and far-reaching discussions were spontaneously introduced in the Living Lab with the support of the institutions.

Maastricht

In Maastricht, although found cumbersome, there is already experience and (at least among part of the civil servants) appreciation for more Living Lab-type of approaches. The tool of visioning and participatory visioning is also applied in Maastricht, although not very often. One constraint for further use is that not the municipality, but stakeholders like the national railways and local businesses, prefer to exclude citizen groups (see constraint #8 "Stakeholders and institutions are highly fragmented").

A further constraint on upscaling of Living Lab approaches was anticipated by refining specific details in the experiment in Maastricht, most notably:

- separate stakeholder groups to first work with people with similar perspective, before a larger discussion with a mix of stakeholders, helping to better structure the arguments;
- build further on output of the first session in the second one, whilst receiving reflections;
- include the municipality as one of the participants since the very beginning.

These characteristics were indeed new and appreciated by civil servants, because they helped them to participate in an equal, more fruitful way. Normally, when the municipality facilitates participatory sessions, they either tend to be under pressure and criticism due to policies in the past (raising frustration at the side of citizens and others), or they risk (at least the impression of) "reproducing existing power structures" (see constraint #4). Therefore, civil servants are now open for wider application in other policy fields.

Brussels

During the first year of the Brussels Living Lab, different attempts were made by Cosmopolis and BRAL (respectively, the local university and a city movement) to engage with regional governmental institutions responsible for mobility, environment and smart city. These included various meetings with staff of the cabinet's and of the administration, and official letters with different proposals for cooperation and joint activities within the Living Lab. The institutions did not answer to any of the proposals, for reasons that, at this point, we could only speculate on. On this basis, it was decided to approach institutions through a different channel: via the political production of the Brussels movement for cleaner air. Rather than approaching directly the regional institutions, BRAL and Cosmopolis contributed to facilitate a dialogue between citizen groups and political parties in the context of the local and regional elections, thereby scaling up the Living Lab via the consolidated practices of democratic representation. This was done, for instance, through, a process of citizen lobby in view of the regional election (series of facilitated dialogues between citizens groups and parties' representatives), and of a large event on the topic of citizen, science, and air pollution.

The Living Lab meets low institutional receptiveness

#10

Figure 2 *Excerpt from the full SmarterLabs guidelines – Constraint number 10 "The Living Lab meets low institutional receptiveness".*

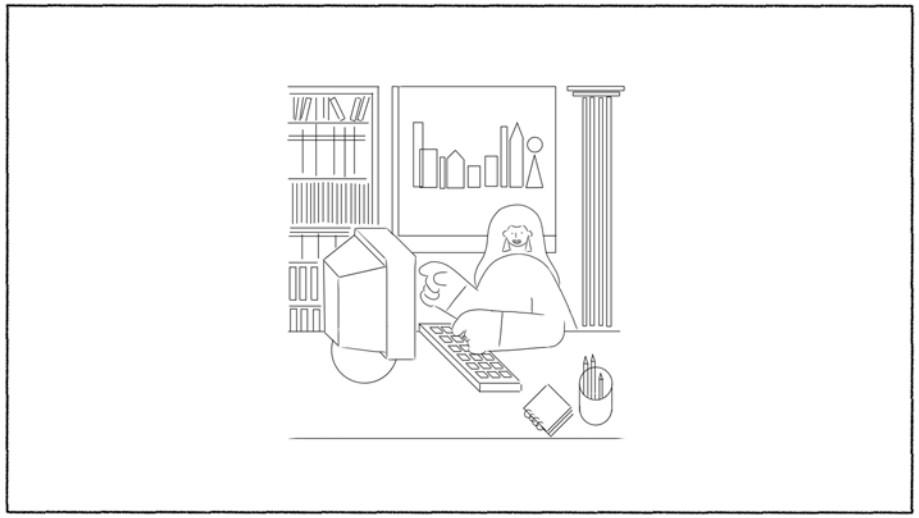
Annexes

Annex 1

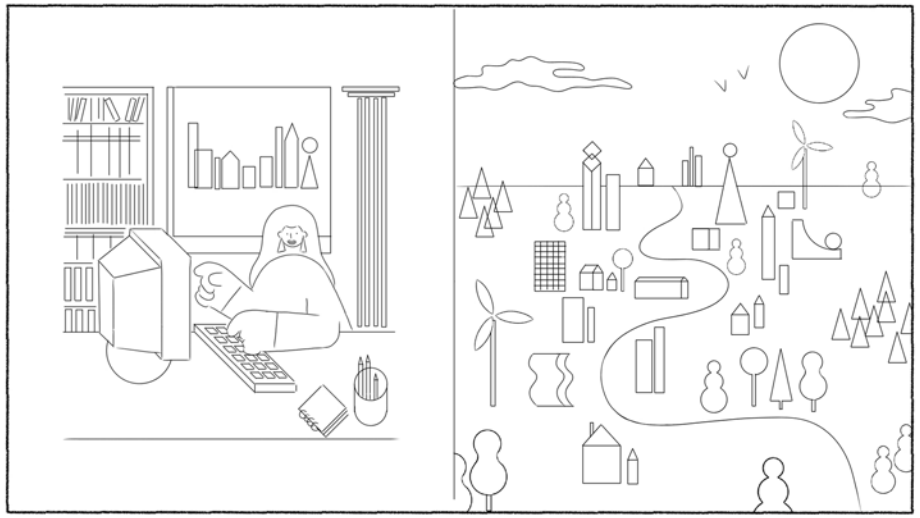
"Why are smarter living labs needed?"– Video storyboard

The SmarterLabs video is available at

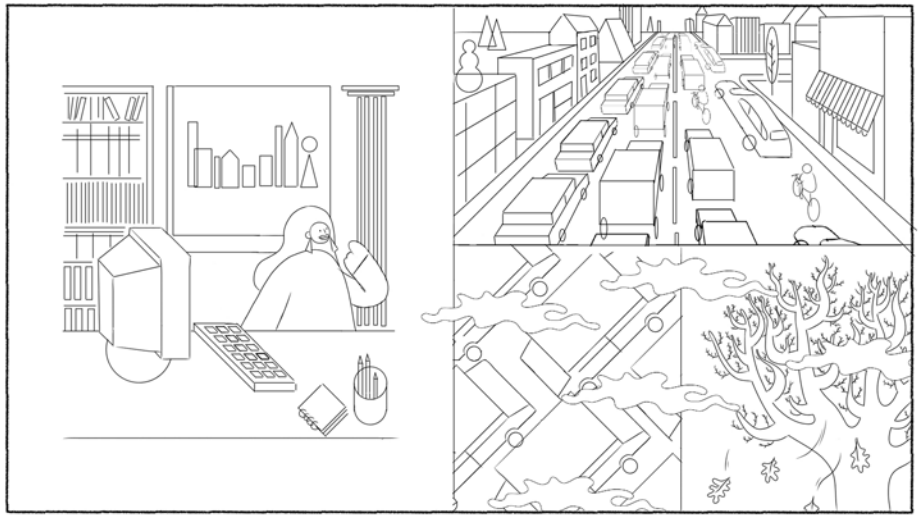
https://smarterlabs.uni-graz.at/en/publications-results/smarterlabs-guidelines-video/



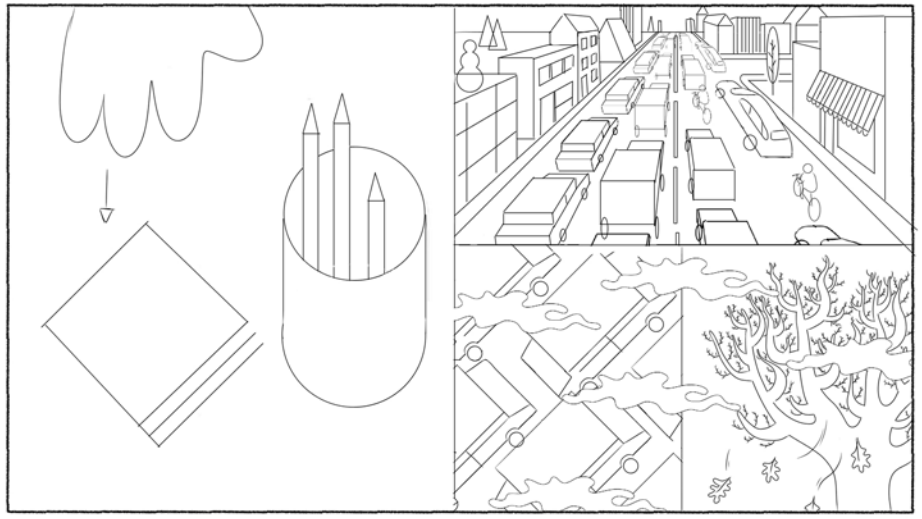
V.O : Lisa is a civil servant

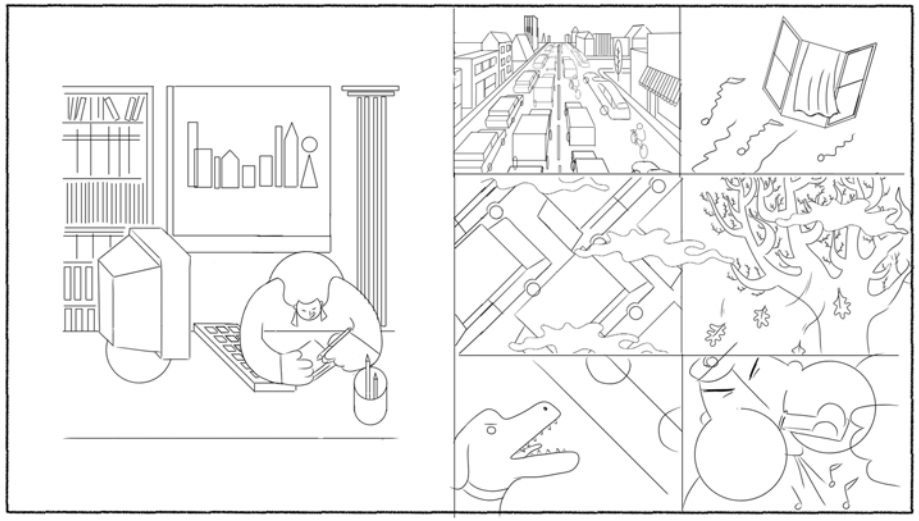


V.O : in a medium-sized city dealing with urban development.

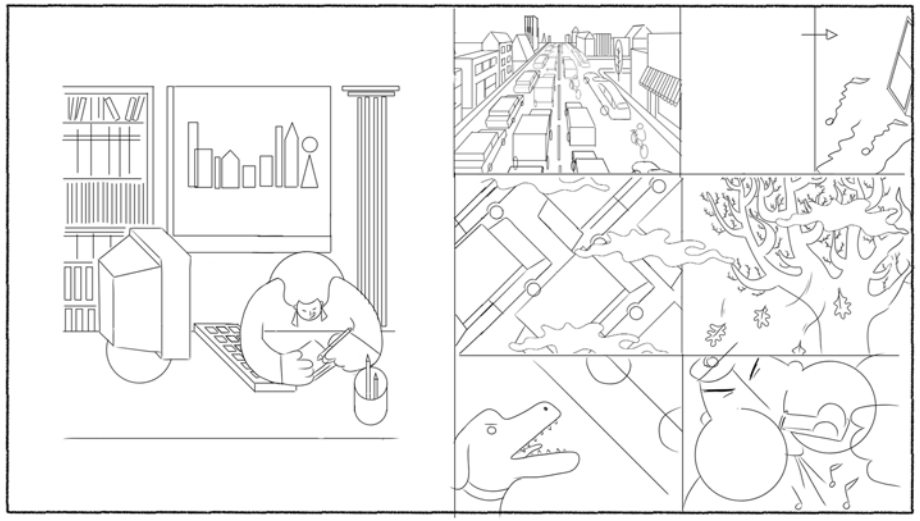


V.O : She has to re-design a congested avenue to improve the quality of life in the neighbourhood.

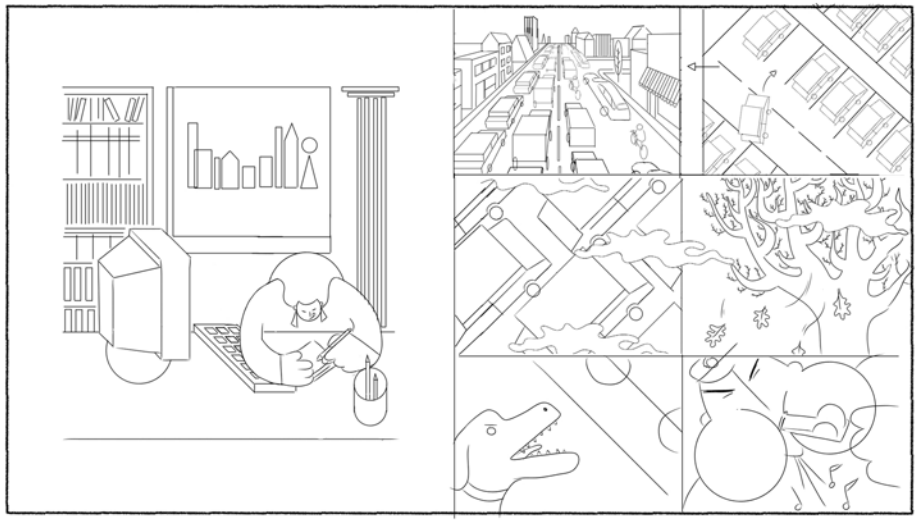




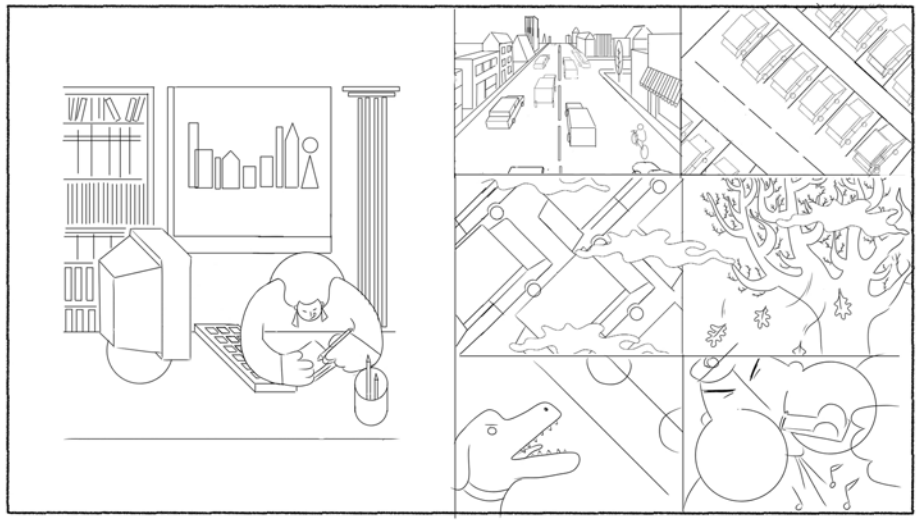
V.O : It is a hot topic, with no straightforward solution

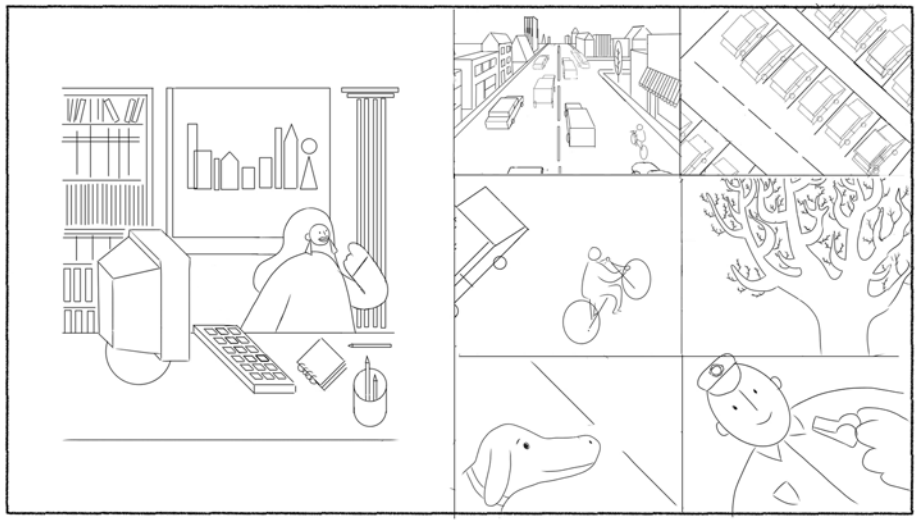


V.O : and highly conflictual visions!

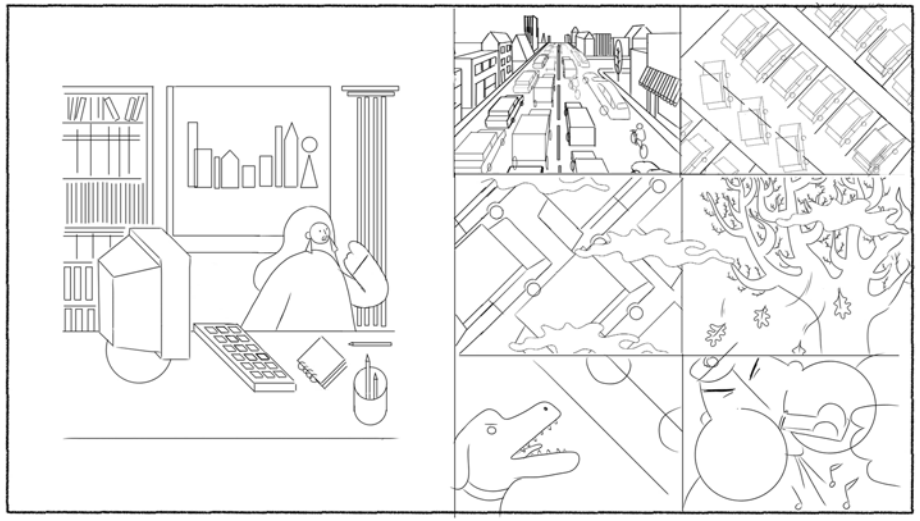


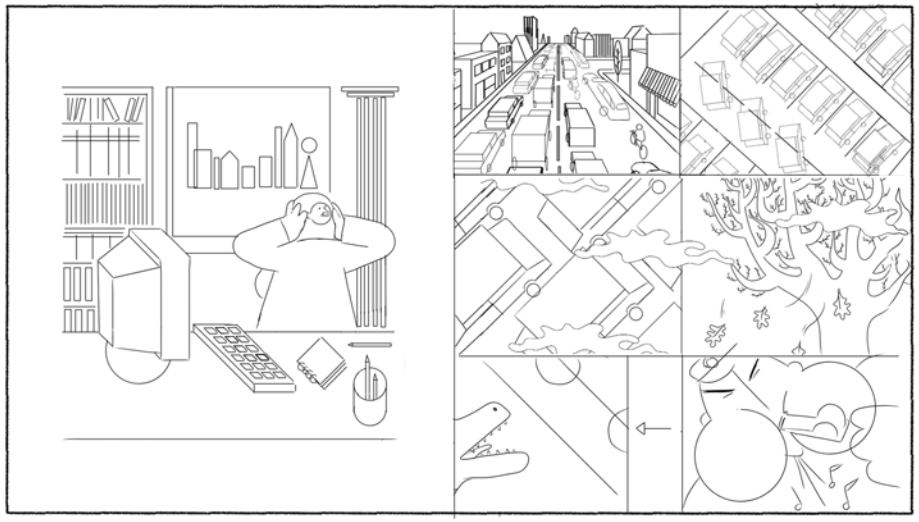
V.O : She knows that nowadays a top-down decision risks to be unpopular

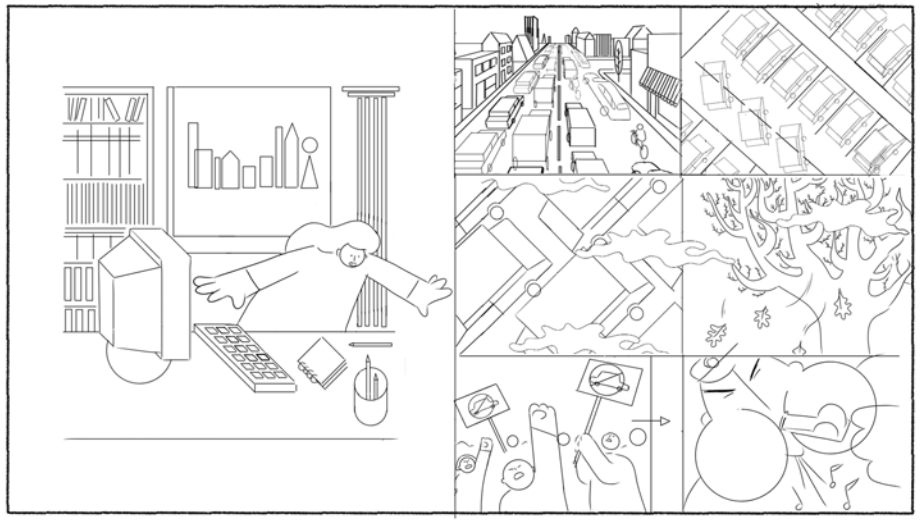


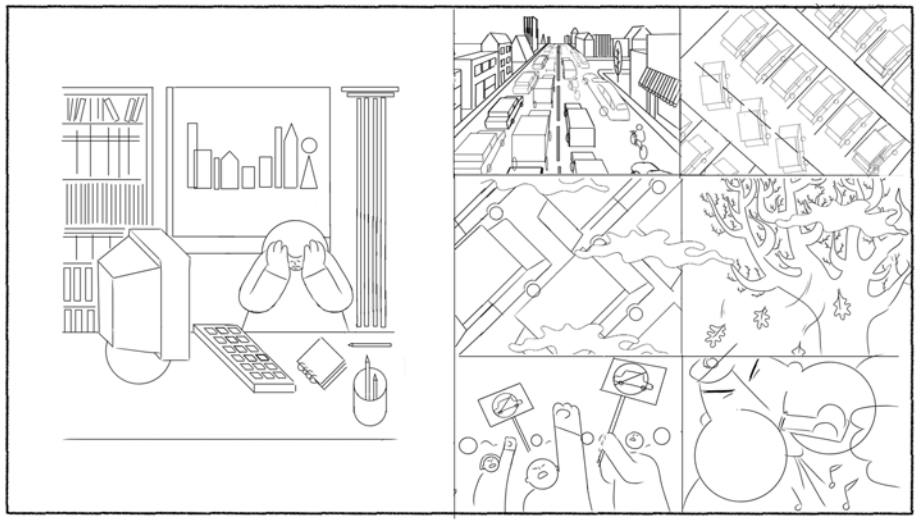


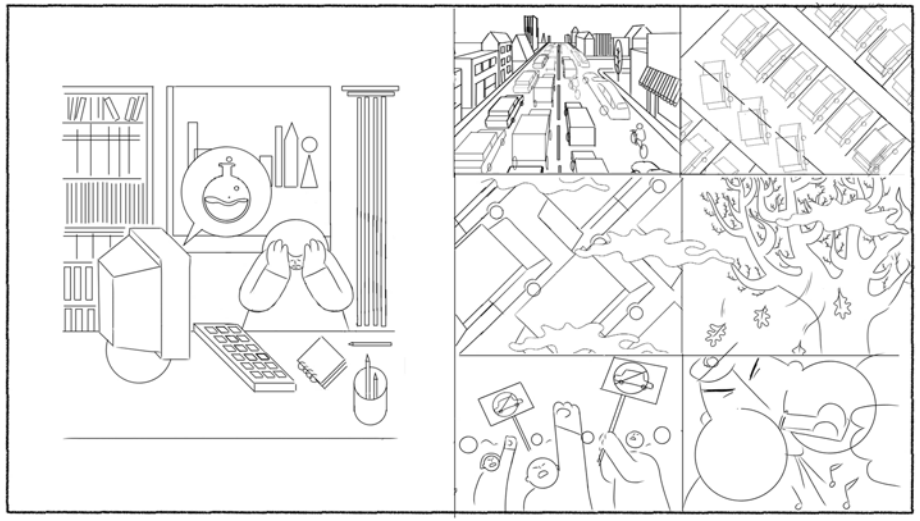
V.O : however an agreement that makes everybody happy will be difficult to achieve.



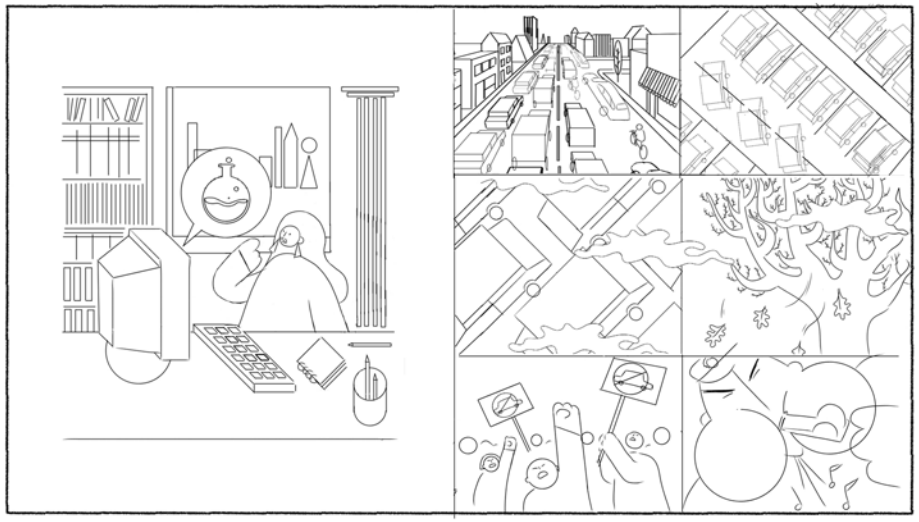




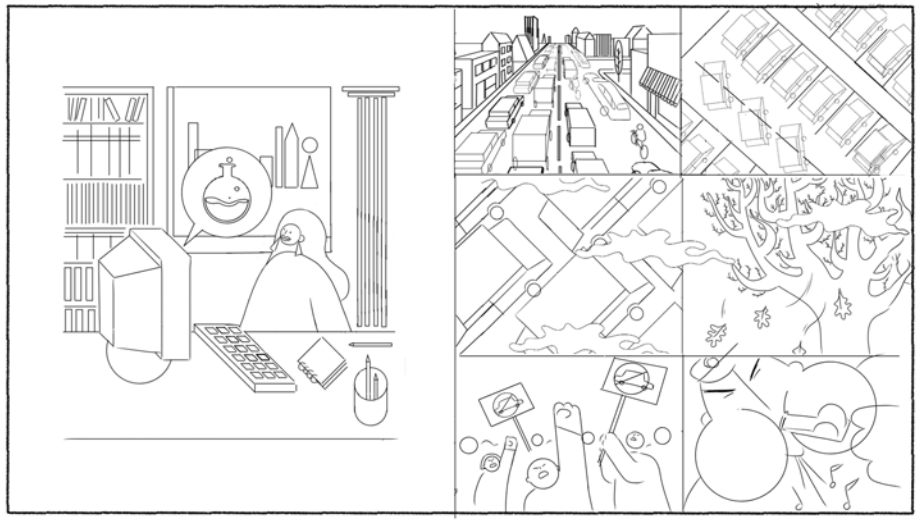


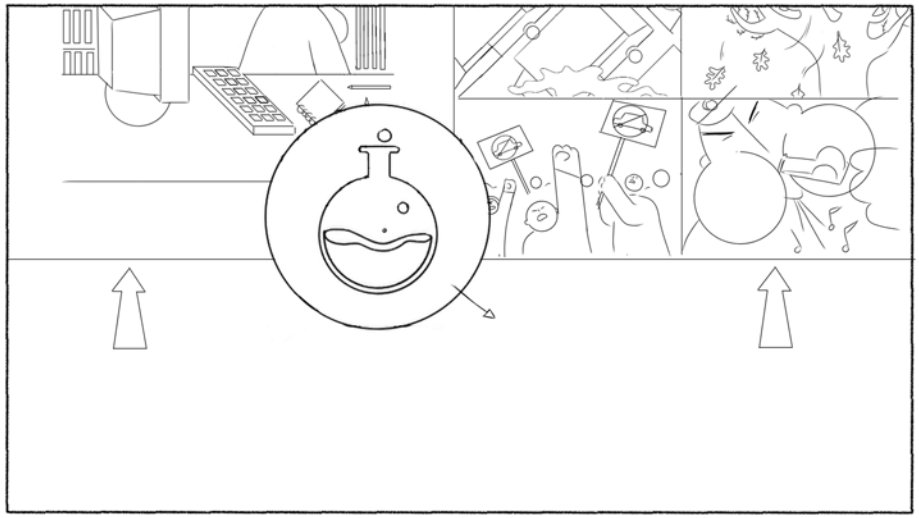


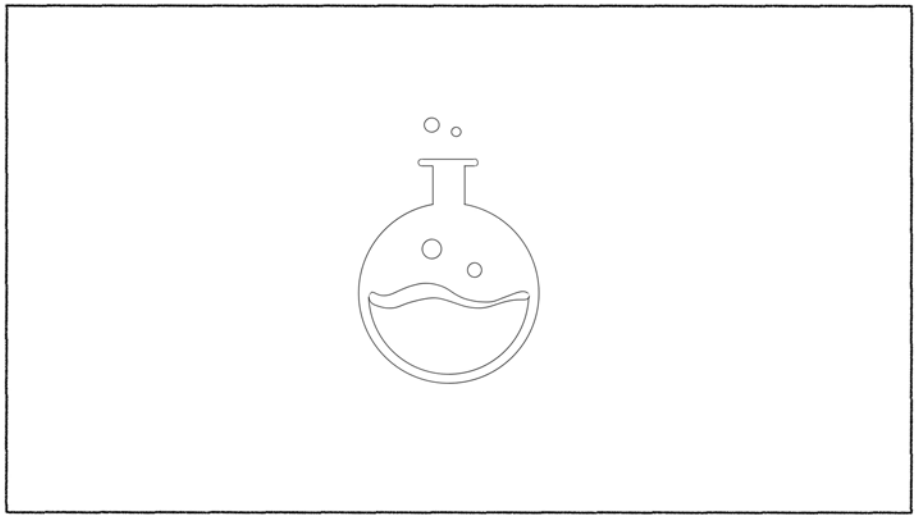
V.O : She then hears about the Living Lab approach,

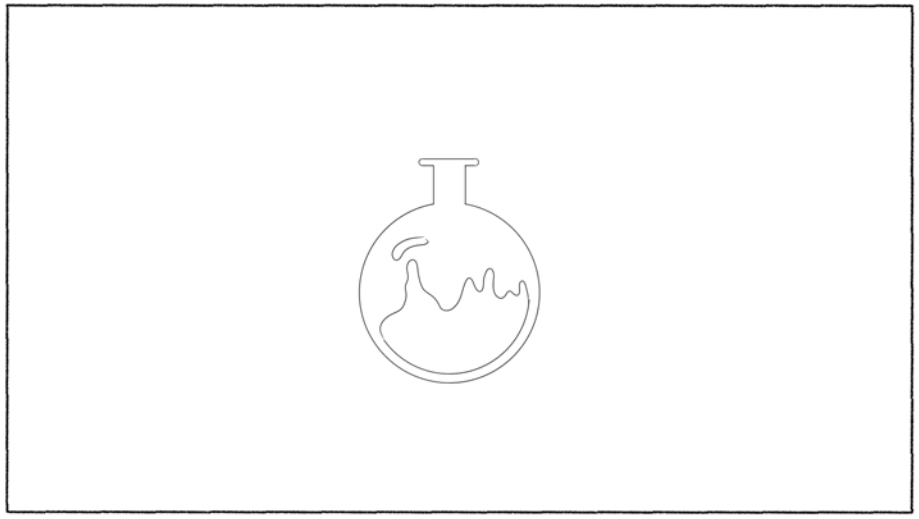


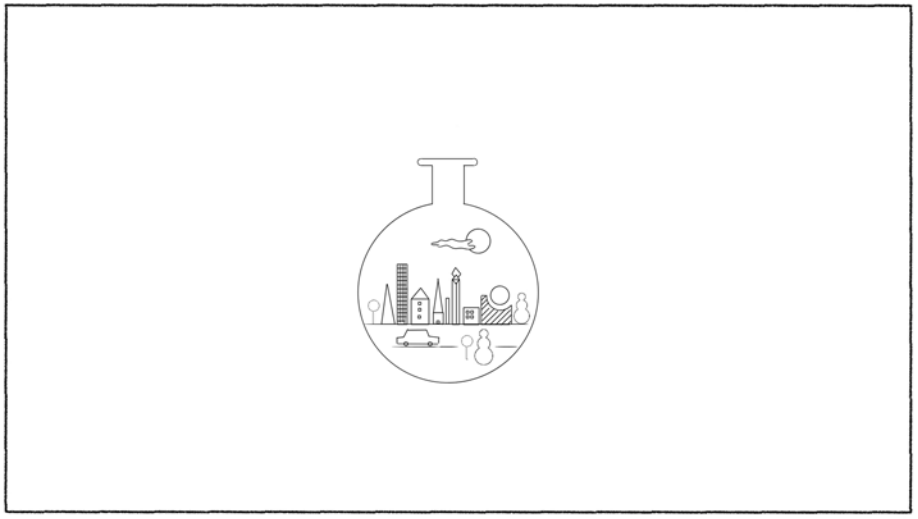
V.O : a new way to address urban problems.

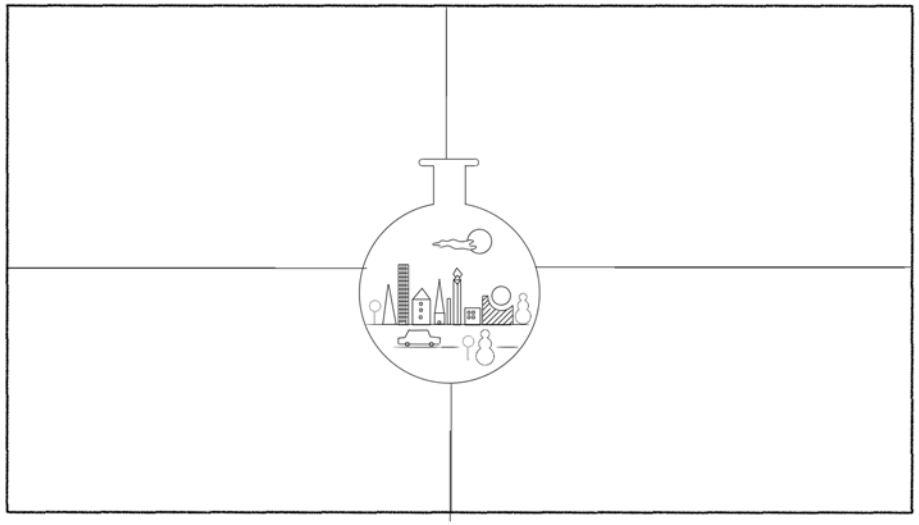




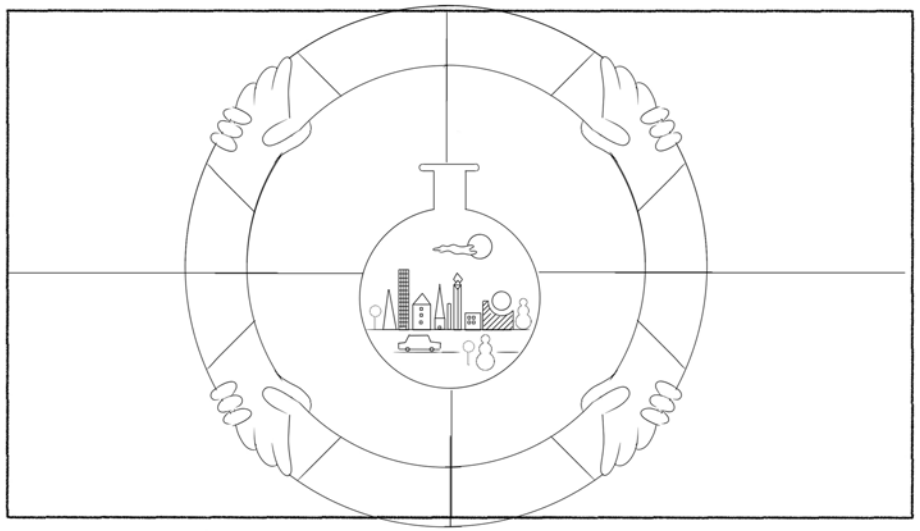




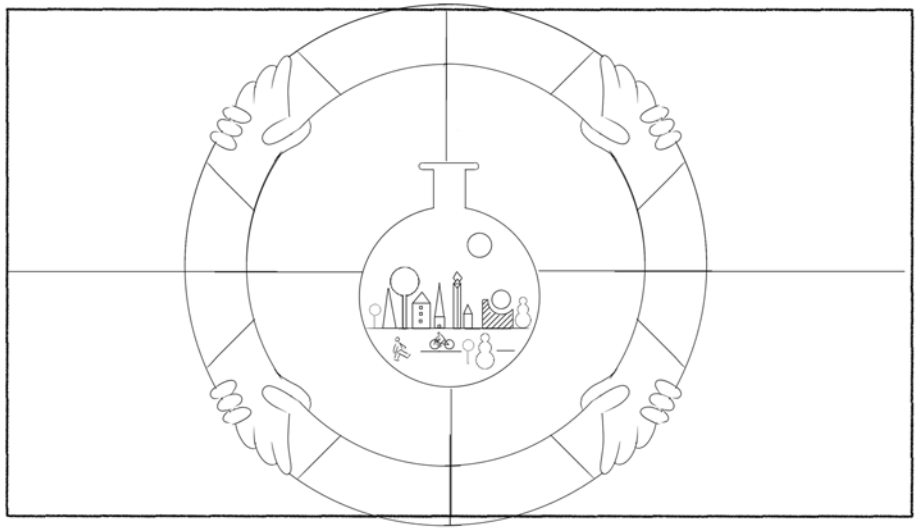




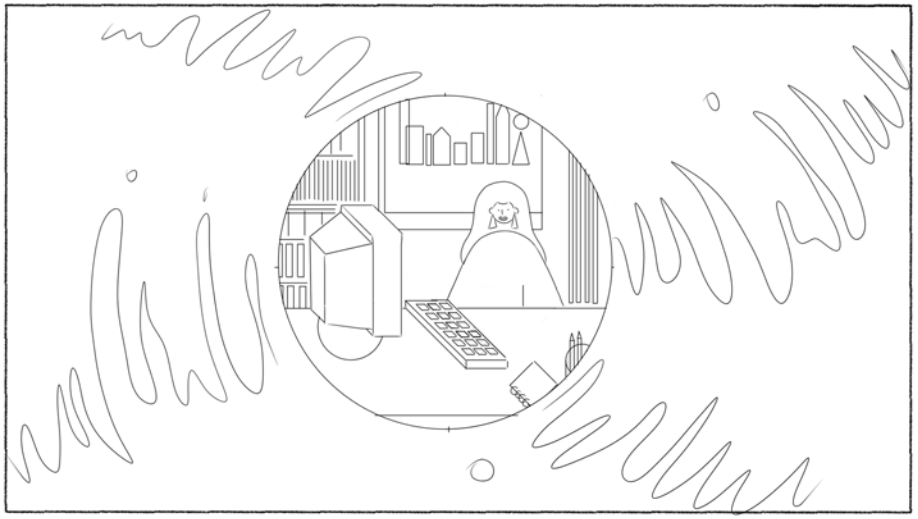
V.O : Living Labs are spaces



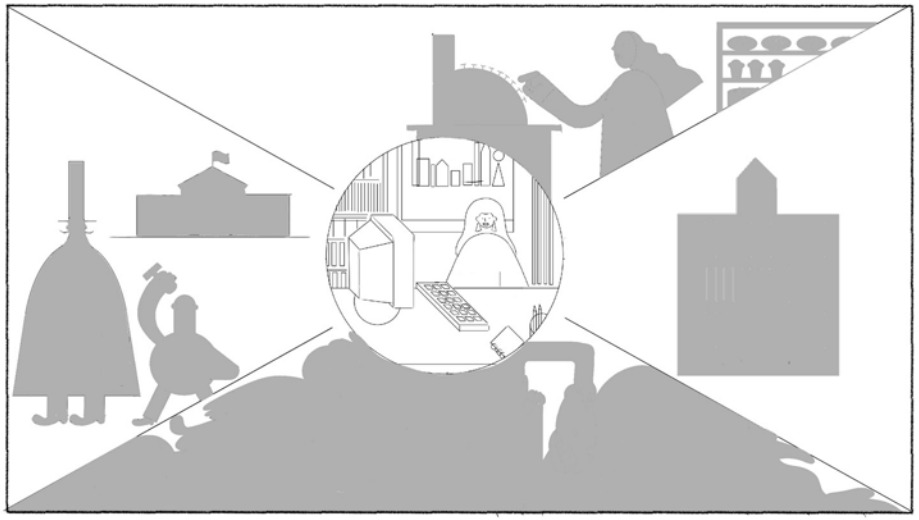
V.O : where multiple actors work towards a shared understanding of a problem



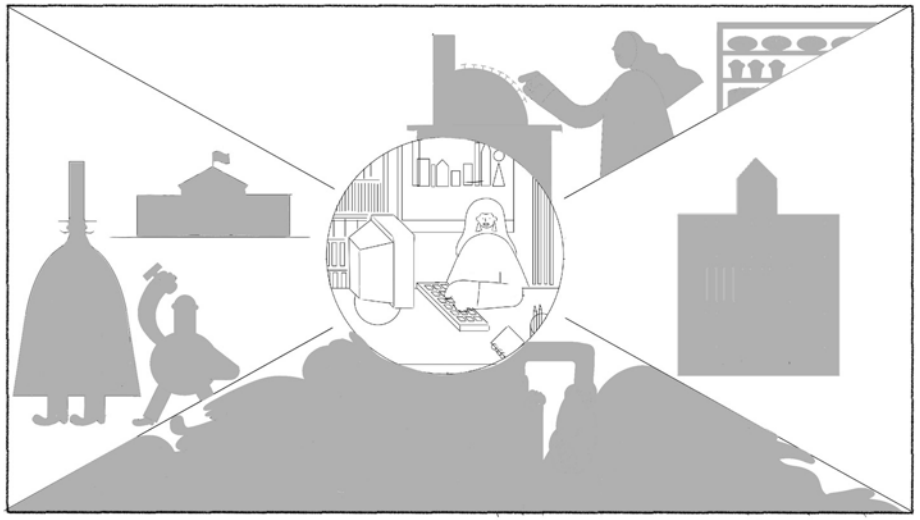
V.O : and experiment solutions in a real-life context.



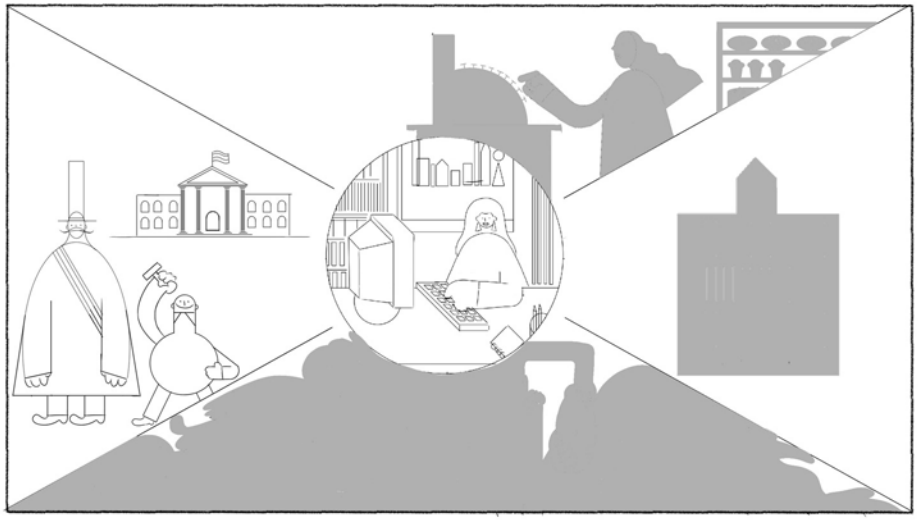
V.O : This approach seems particularly relevant for her case:



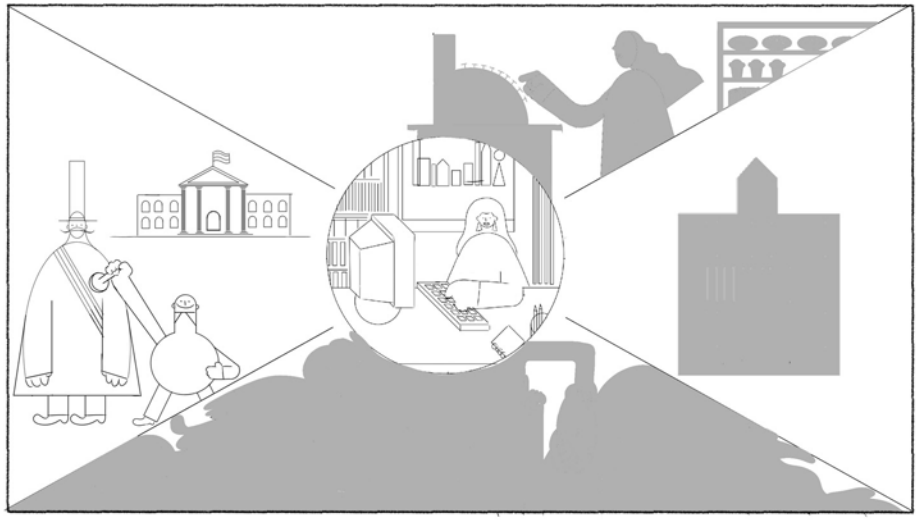
V.O : in a Living Lab she could engage



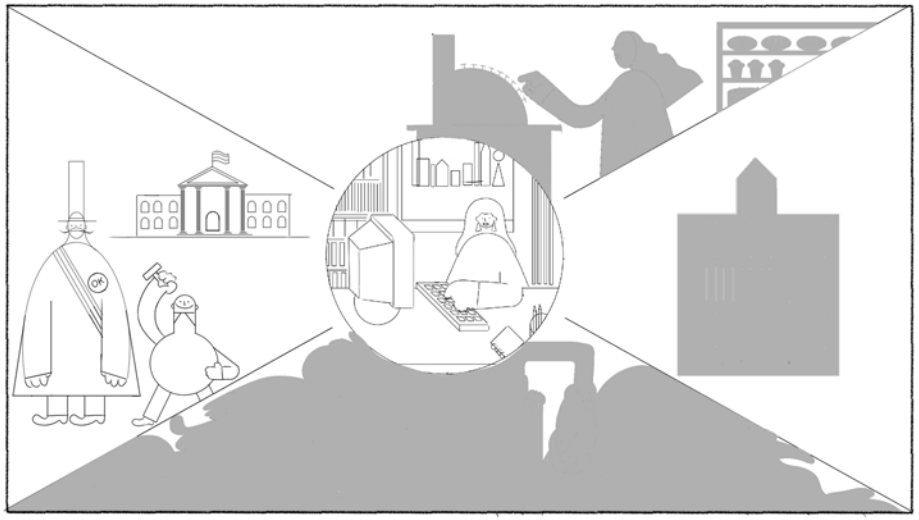
V.O : all relevant stakeholders,

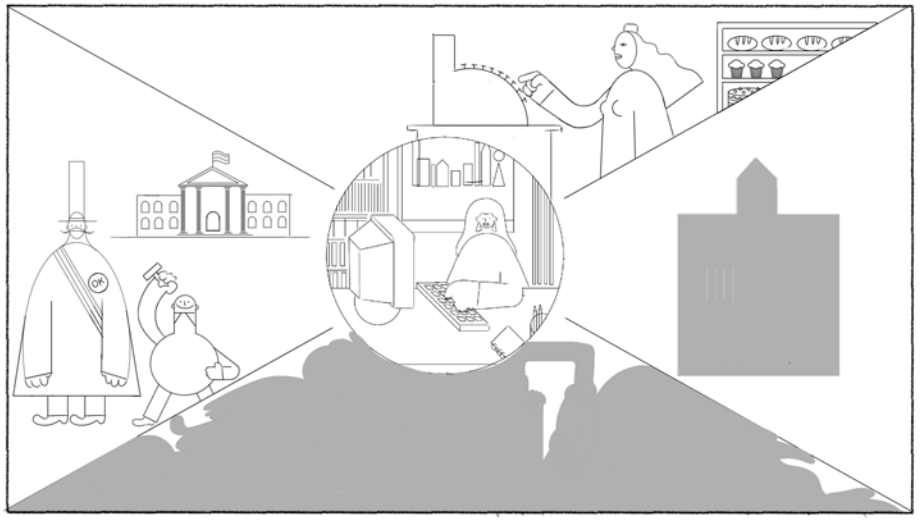


V.O : from public administration

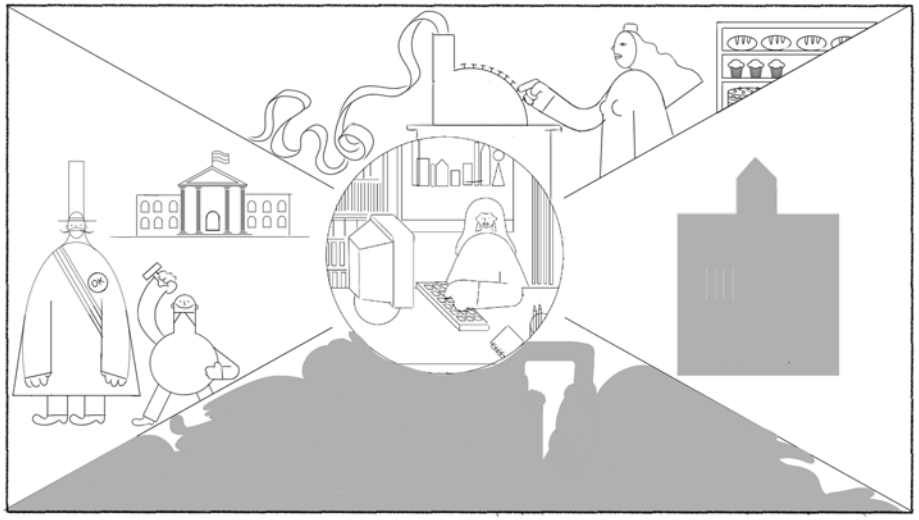


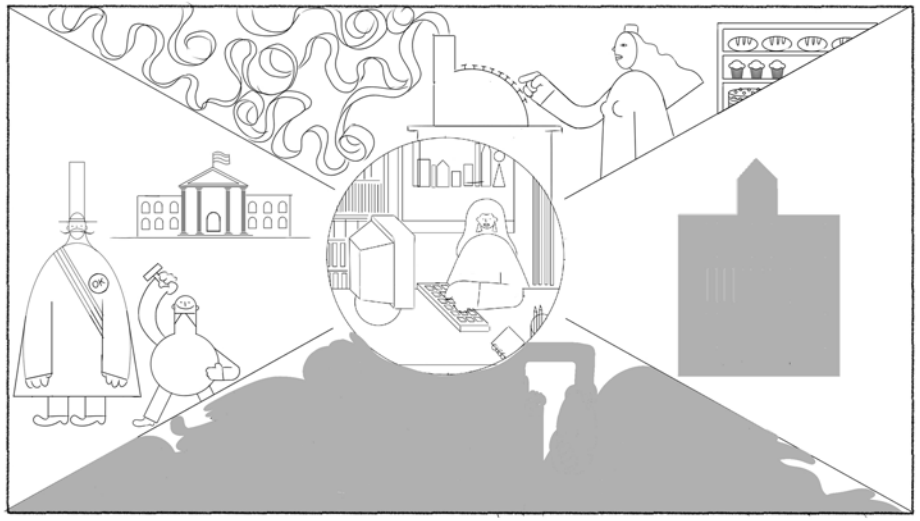
V.O : and politicians

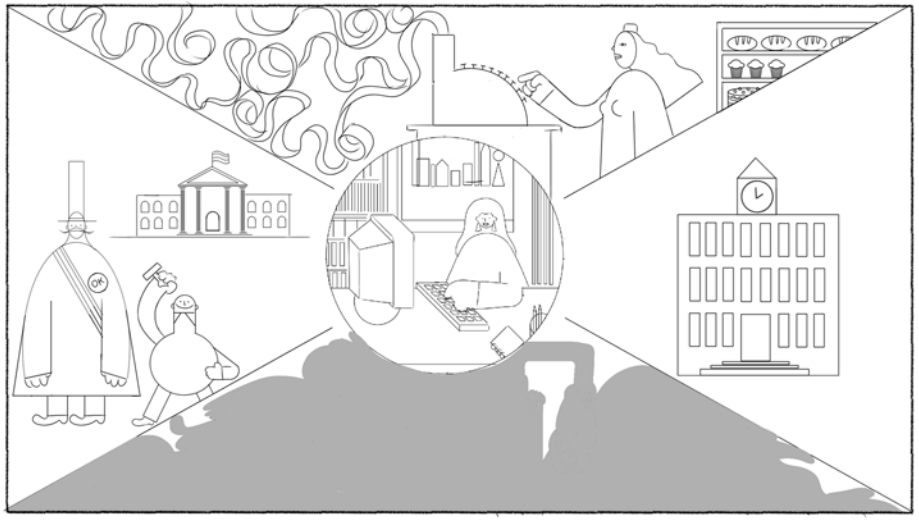




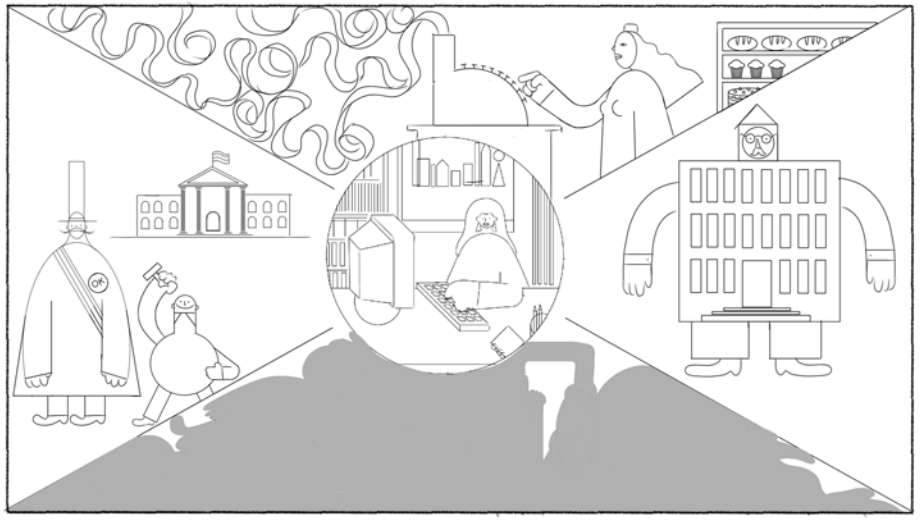
V.O : to business,

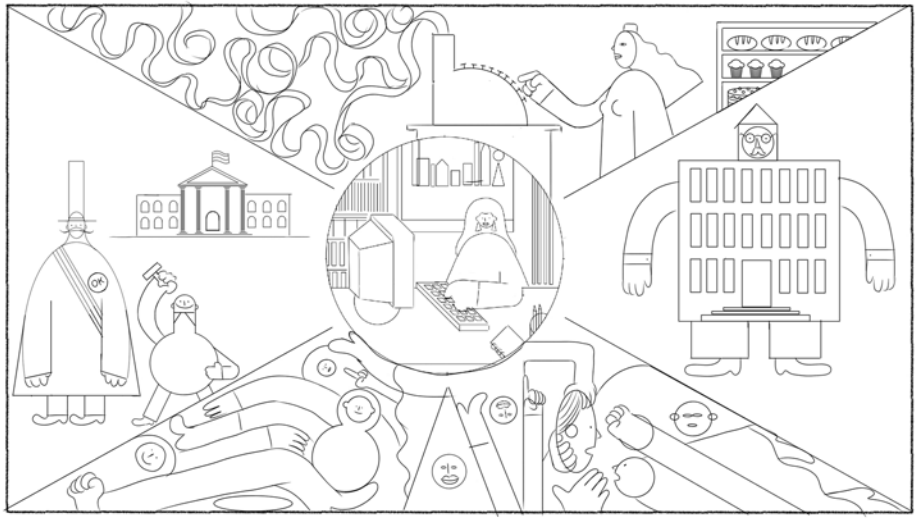




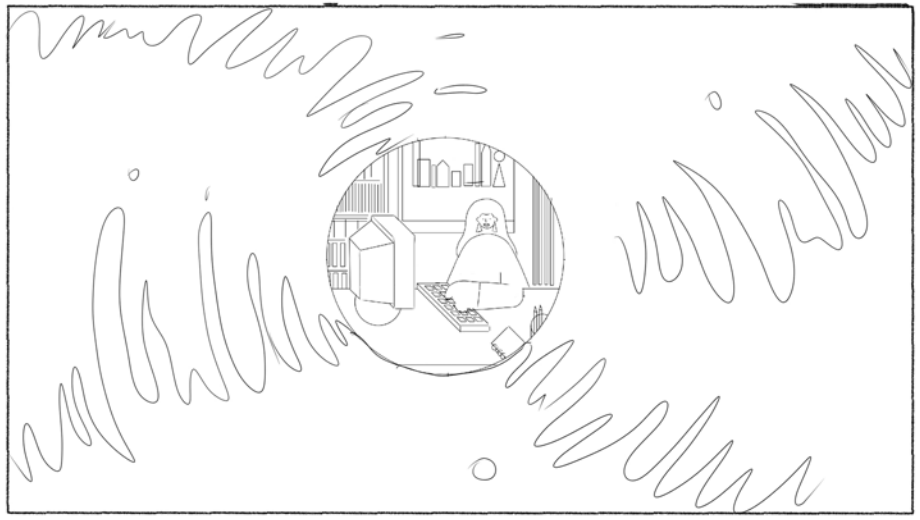


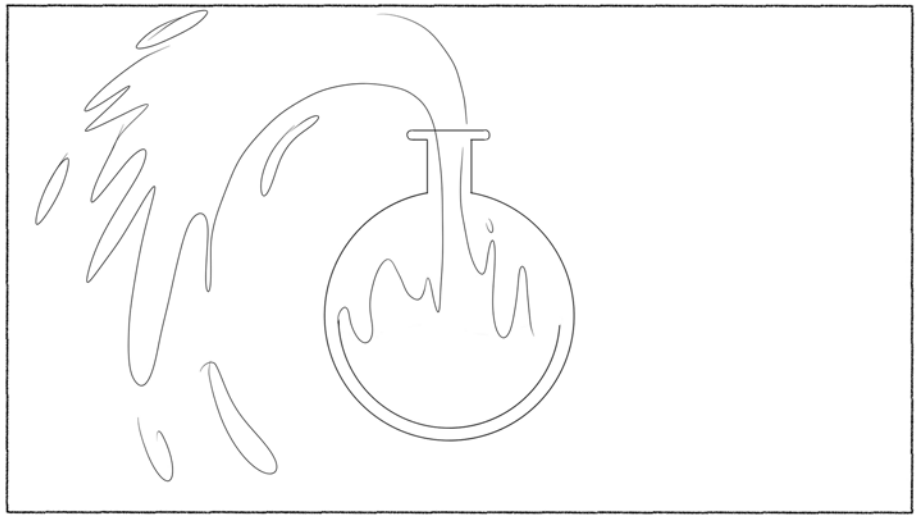
V.O : academia,



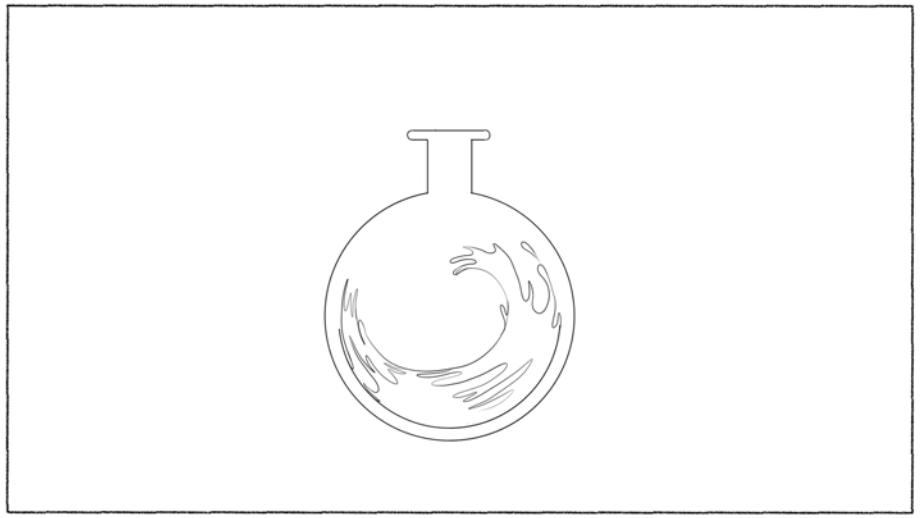


V.O : and citizens.

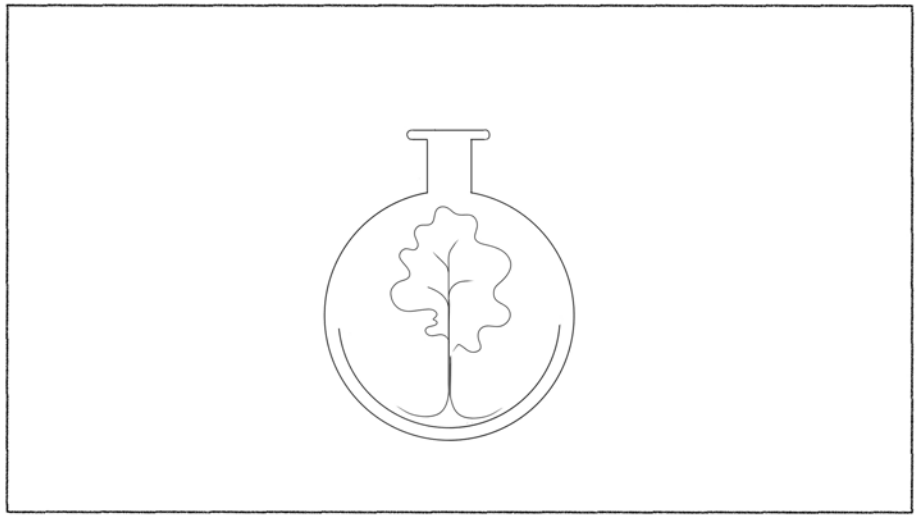




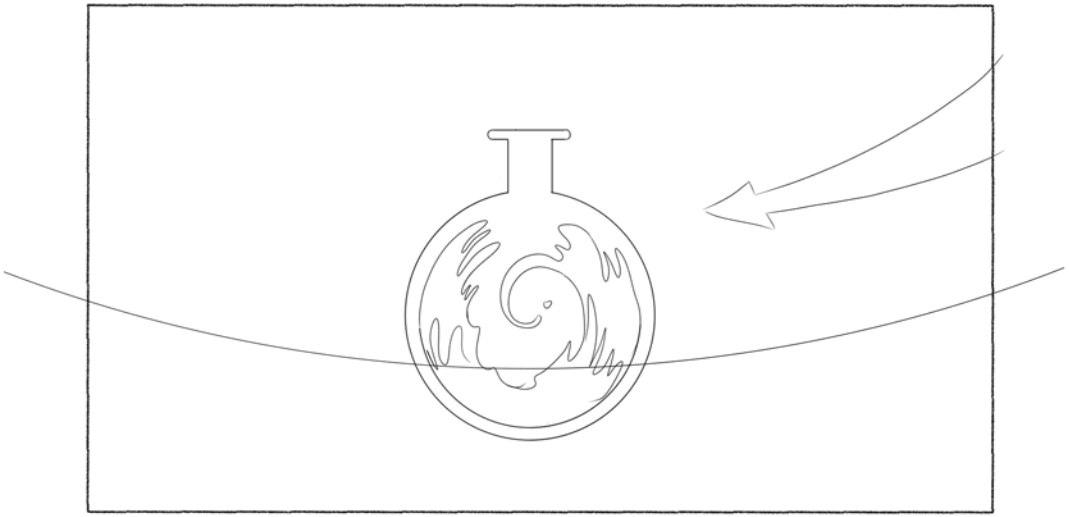
V.O : Together, they could address

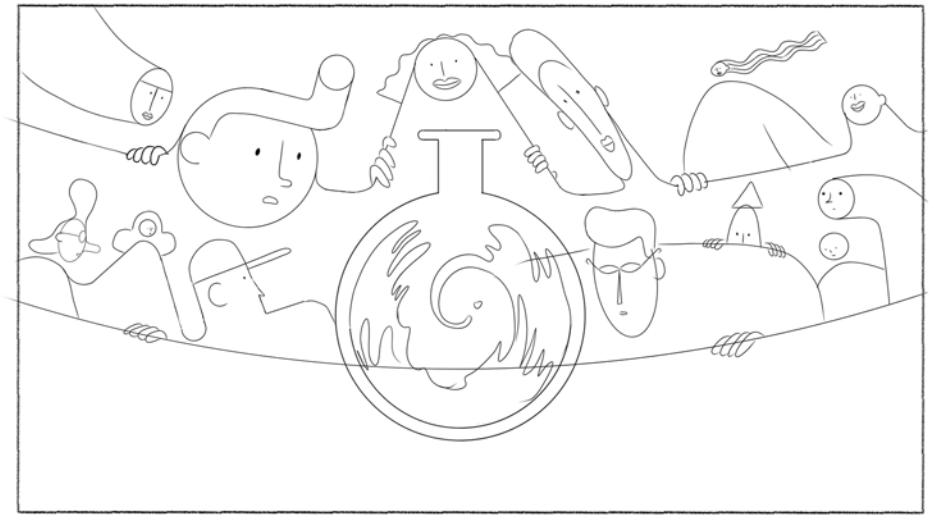


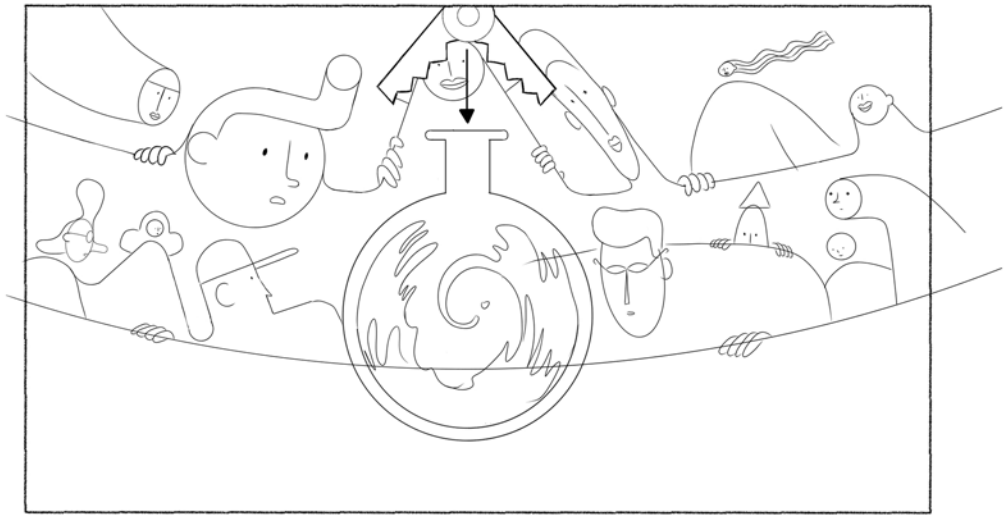
V.O : the many relations between



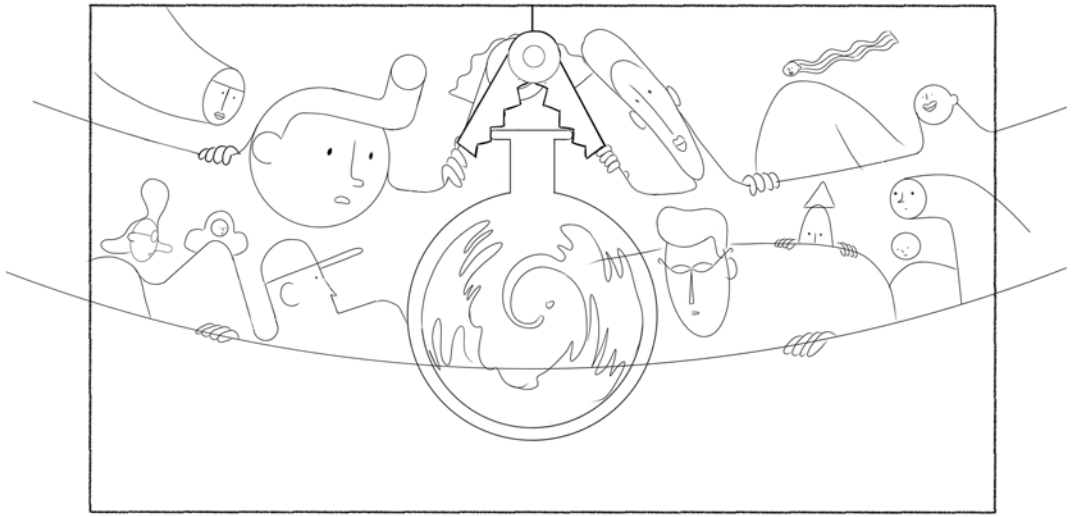
V.O : environmental,

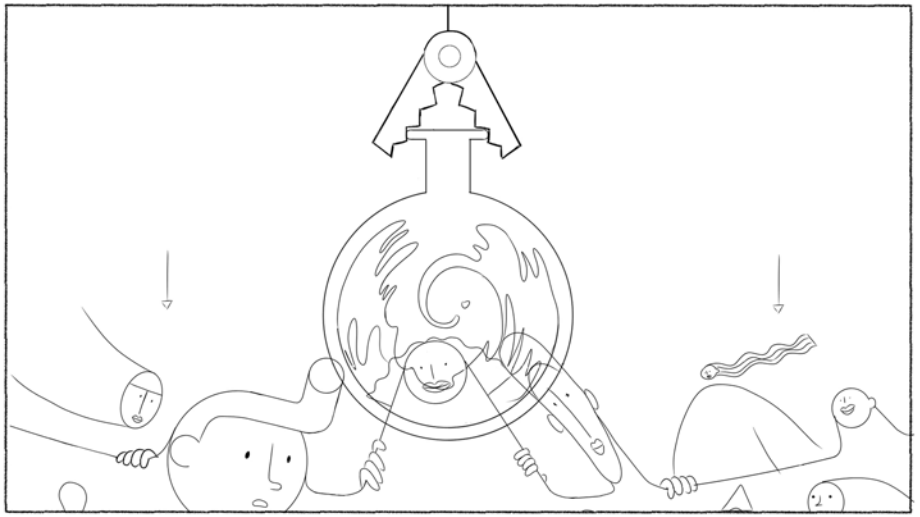


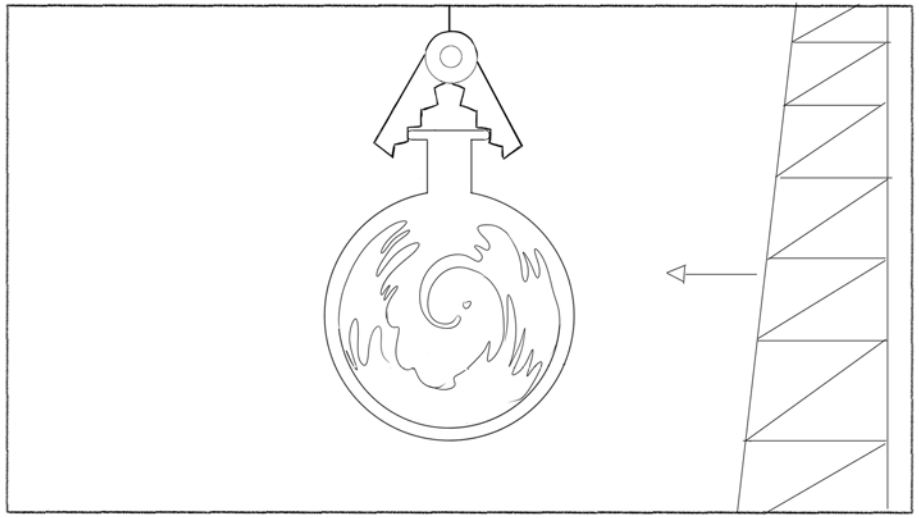


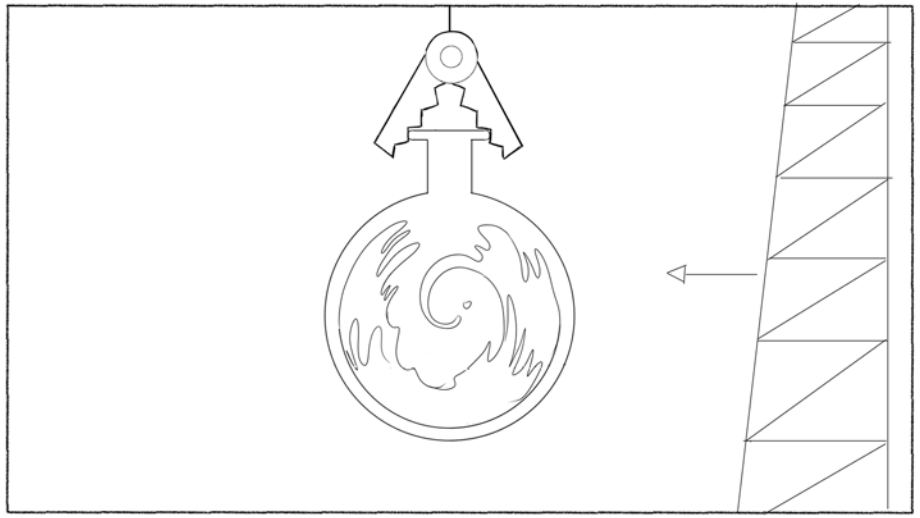


V.O : social,

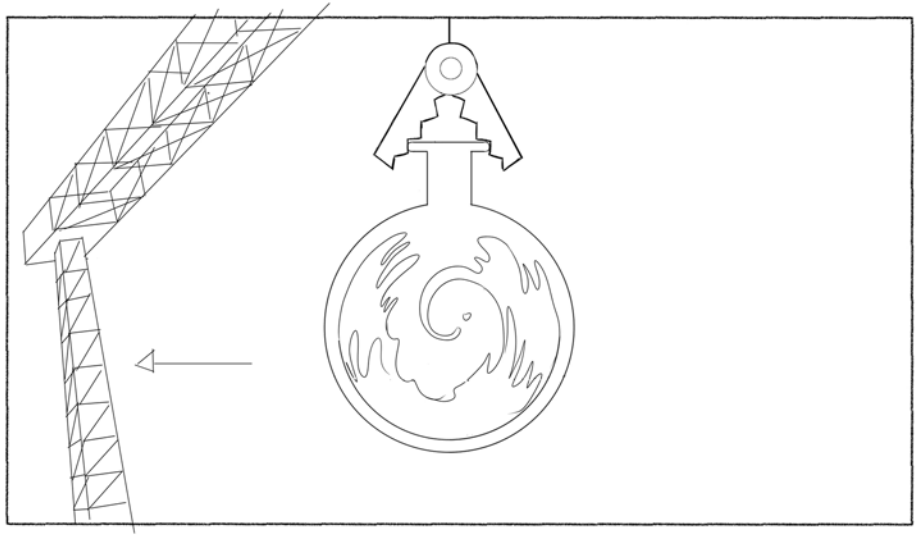


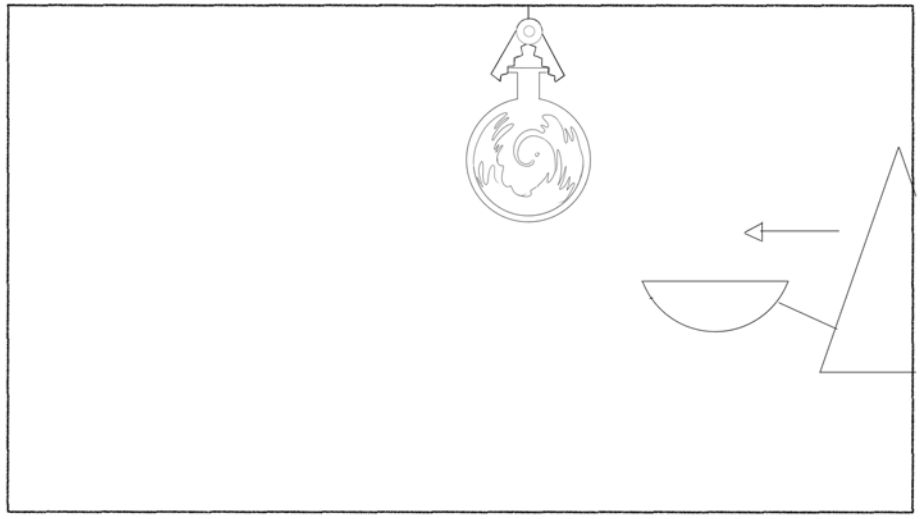


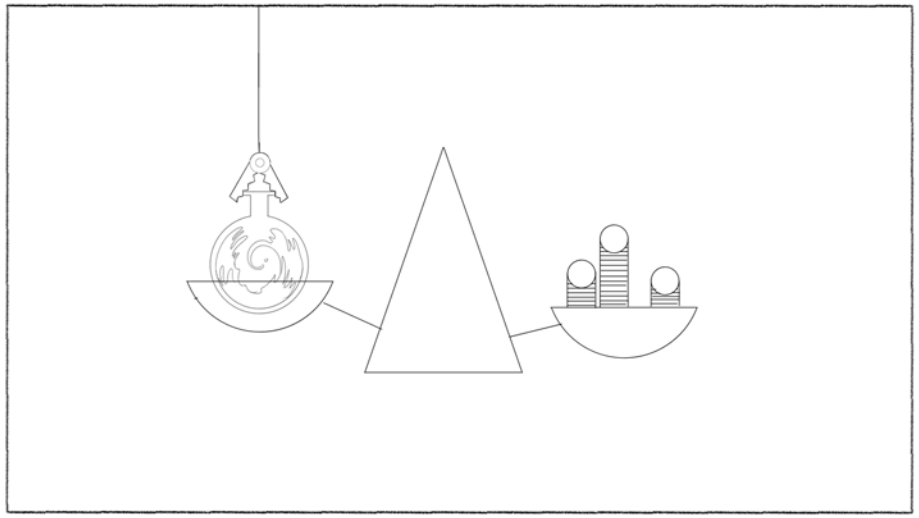


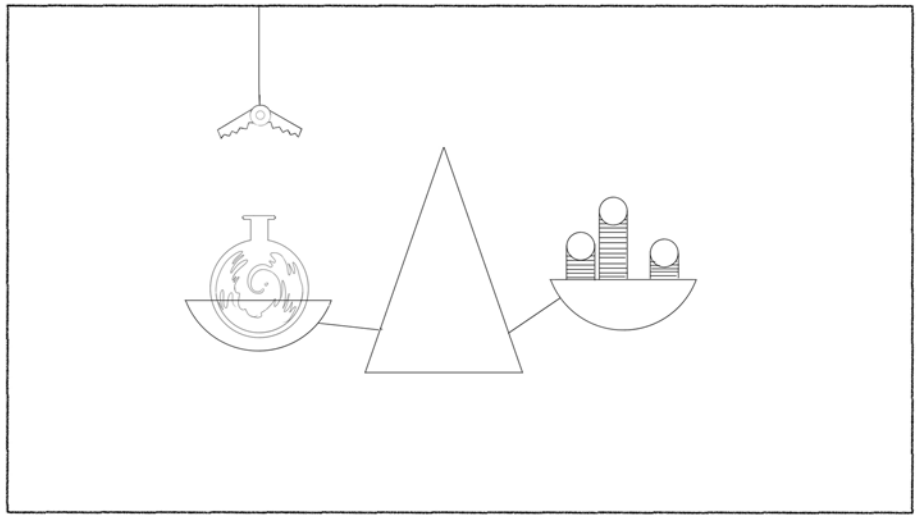


V.O : technical,

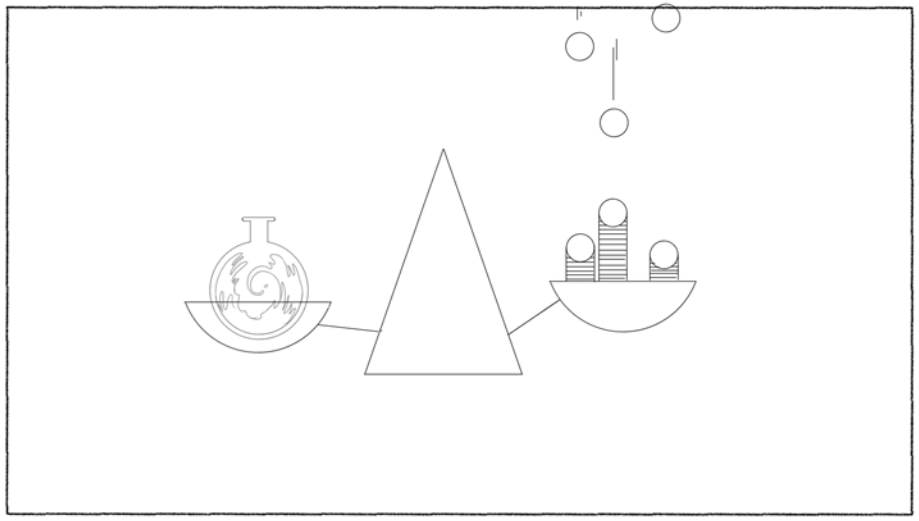


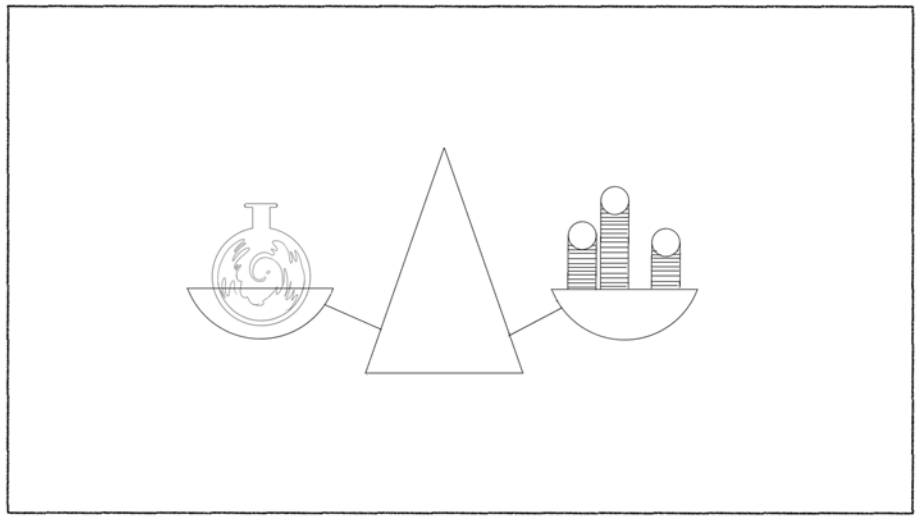


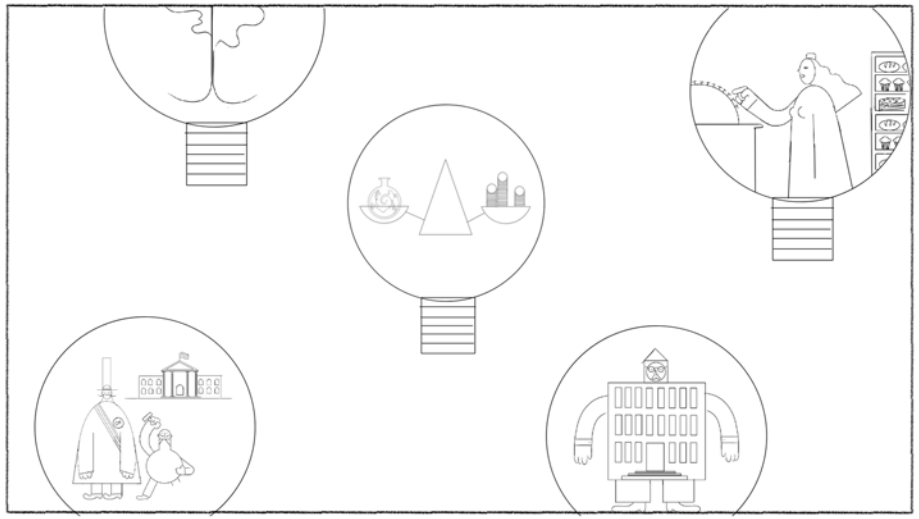




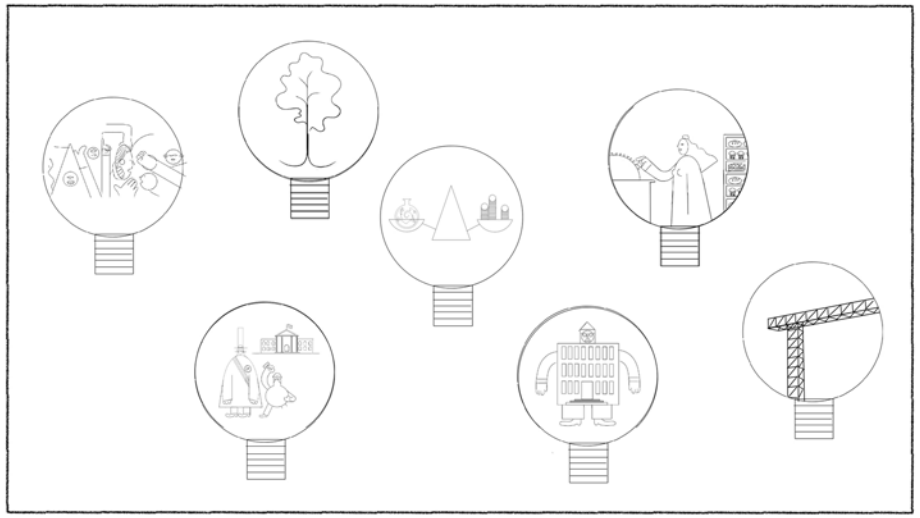
V.O : and economic impacts of the project,

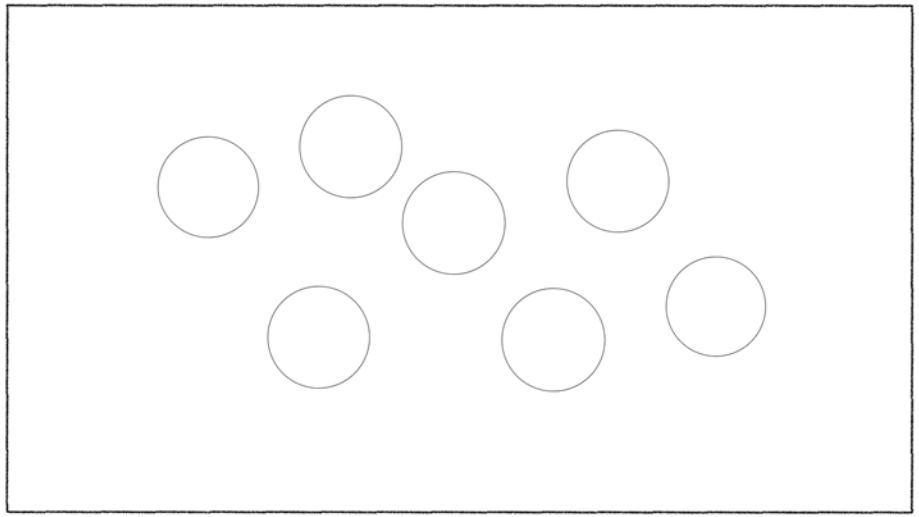


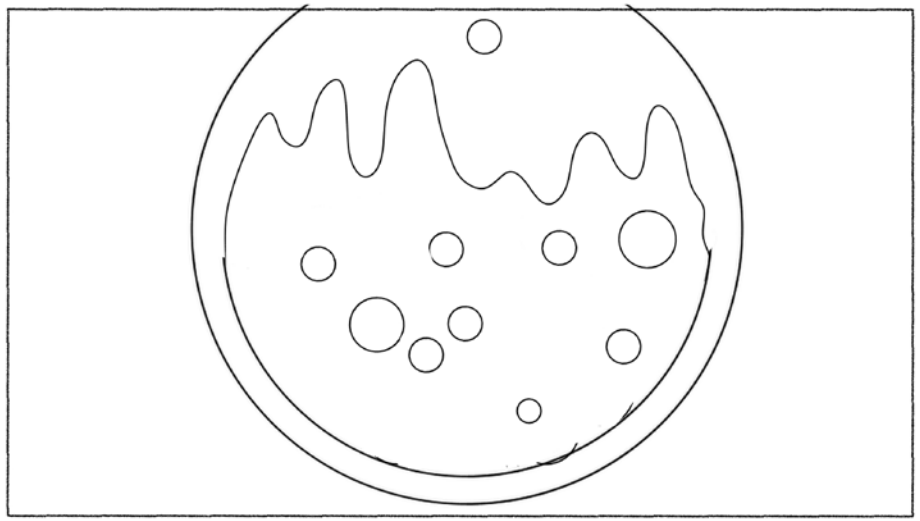




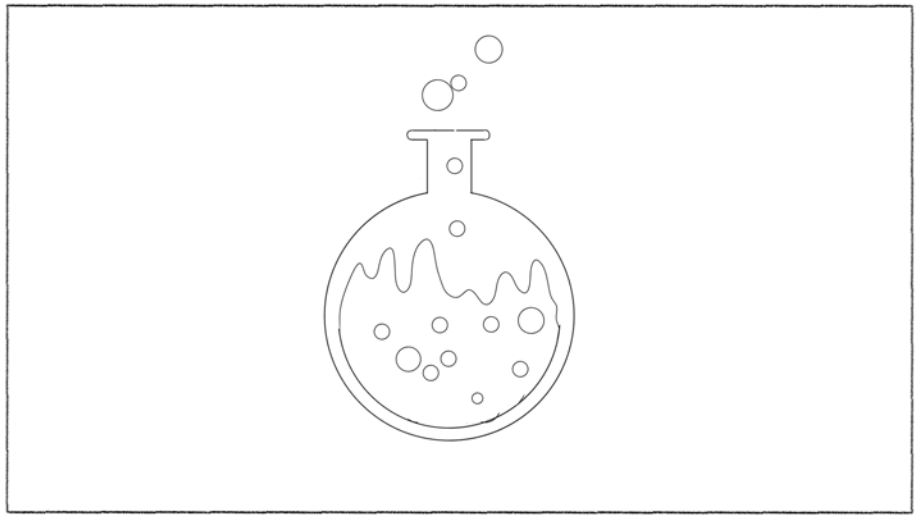
V.O : and find innovative solutions.

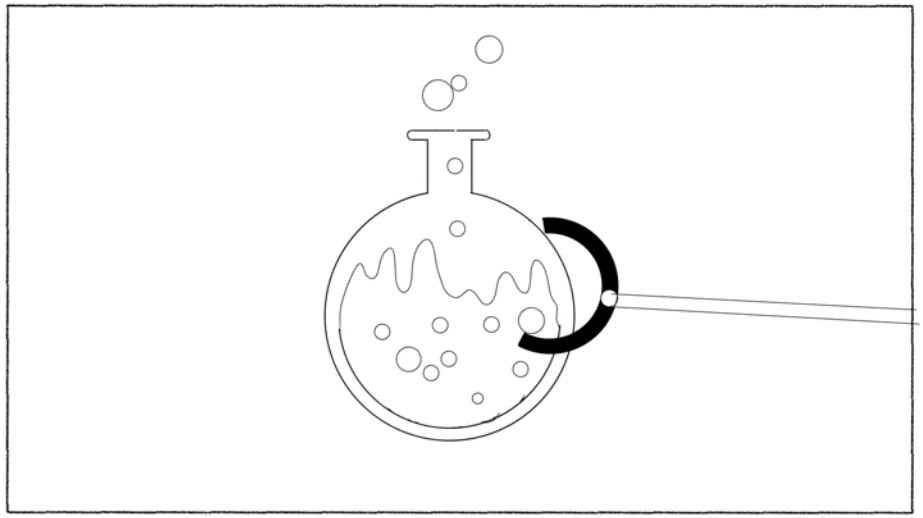




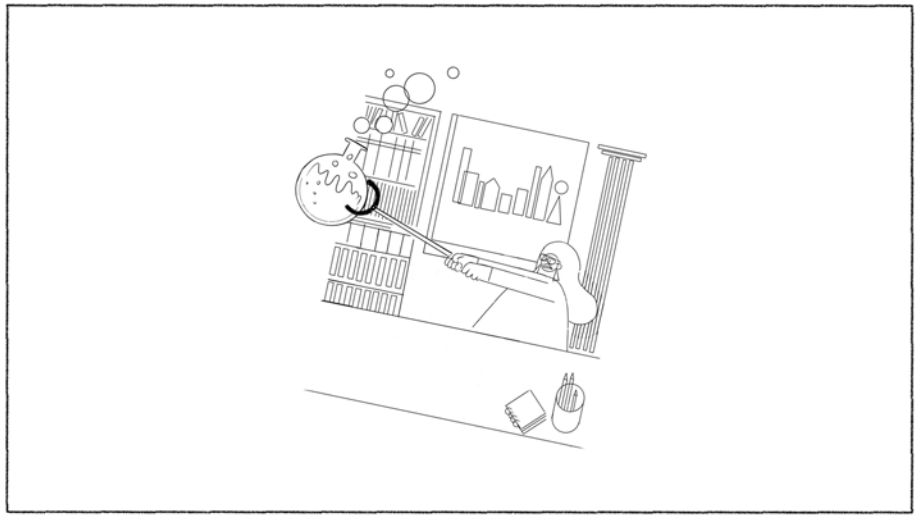


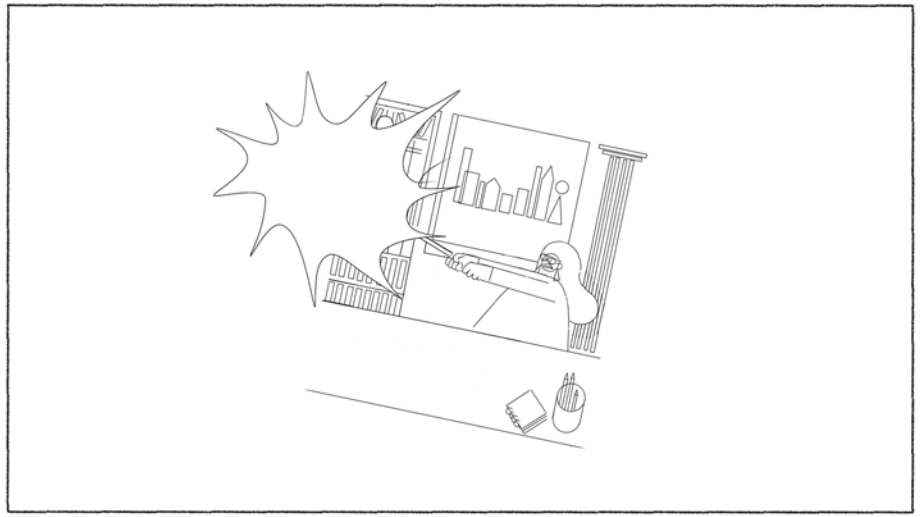
V.O : She wants to try out this new approach.



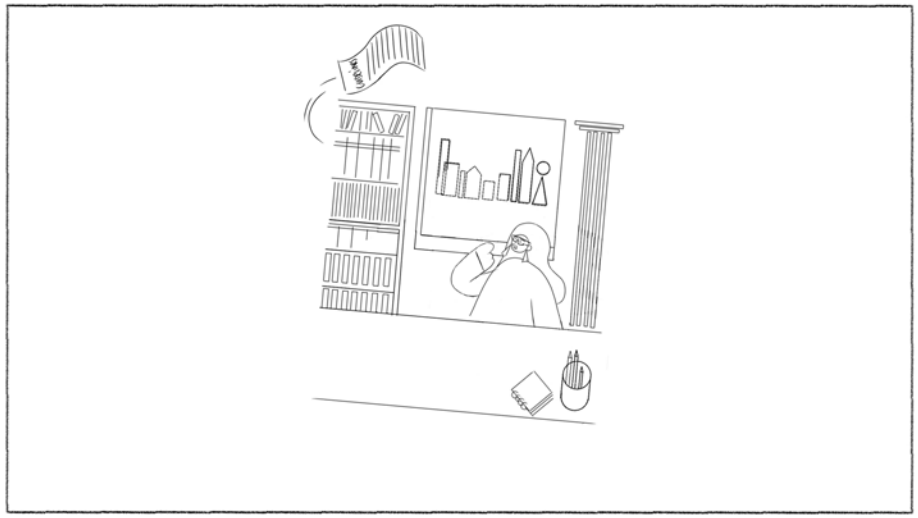


V.O : However, experimenting is risky

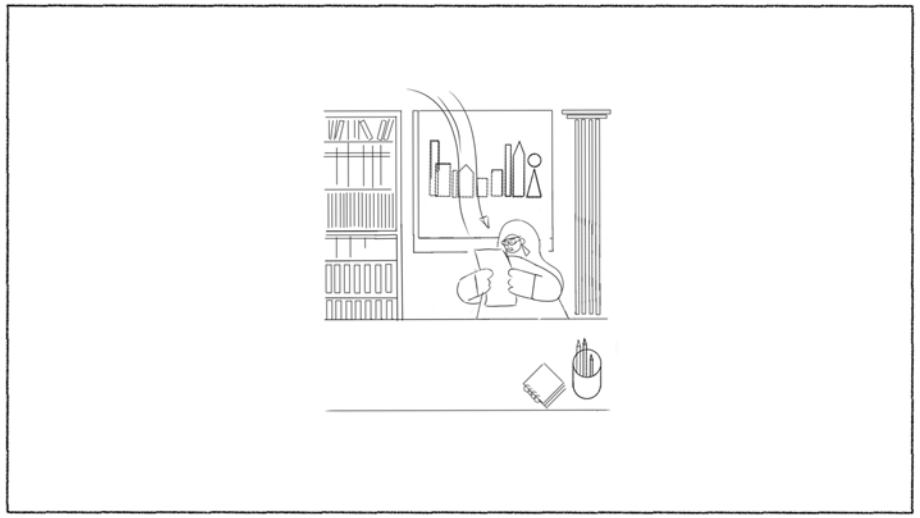




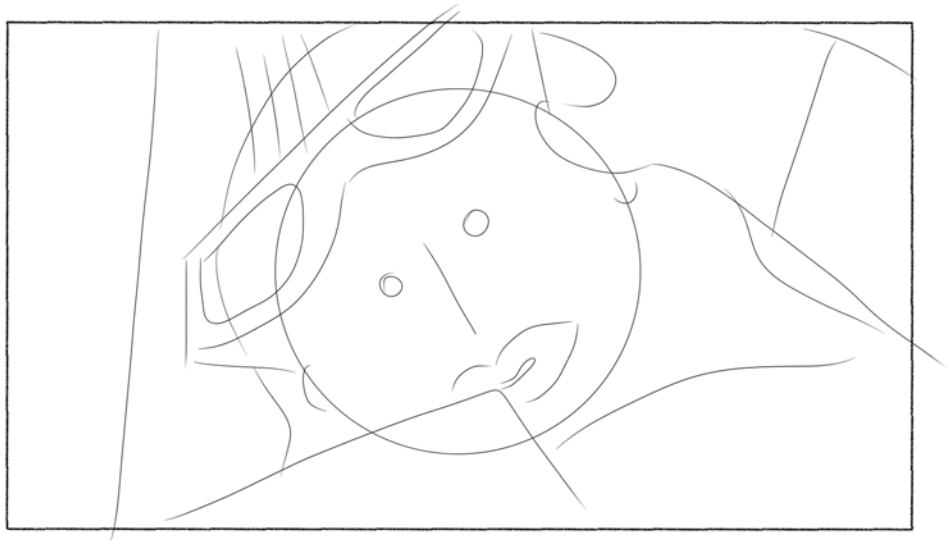
V.O : and Living Labs do not always work out as intended.



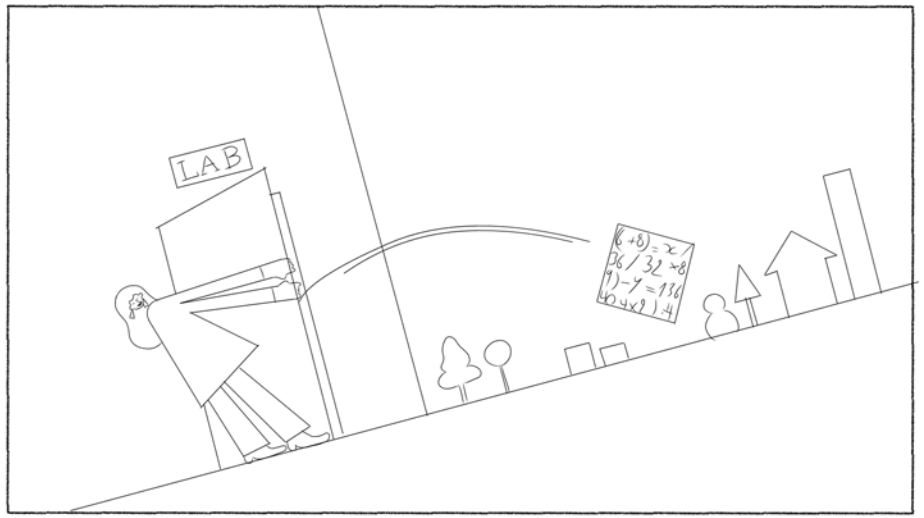
V.O : Fortunately, she learns about the SmarterLabs guidelines



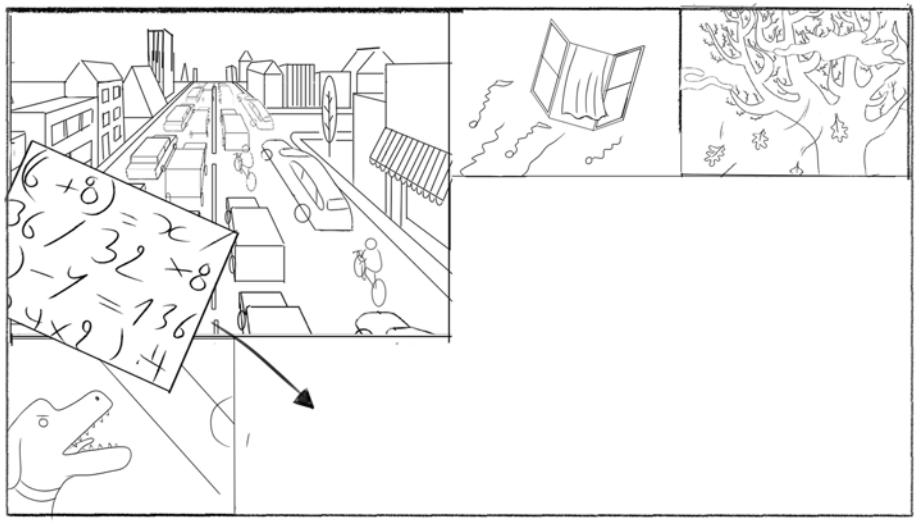
V.O : which help her to avoid common pitfalls,

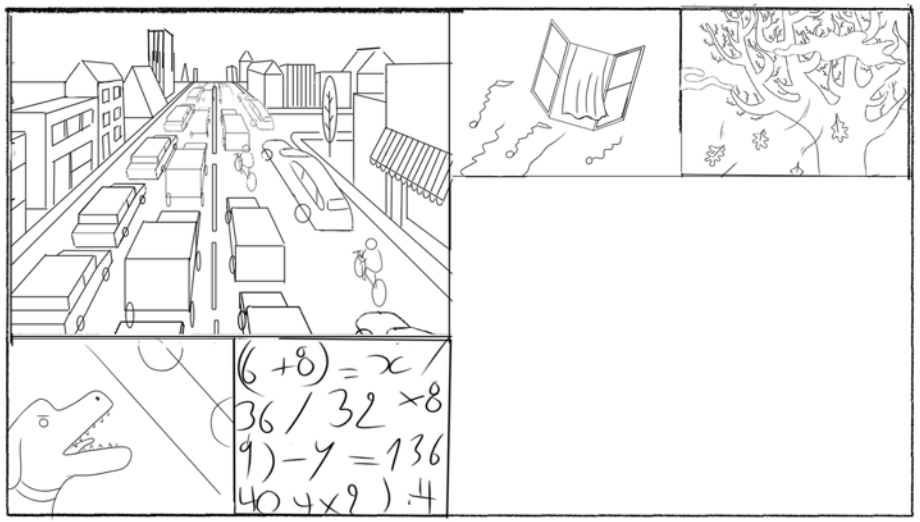


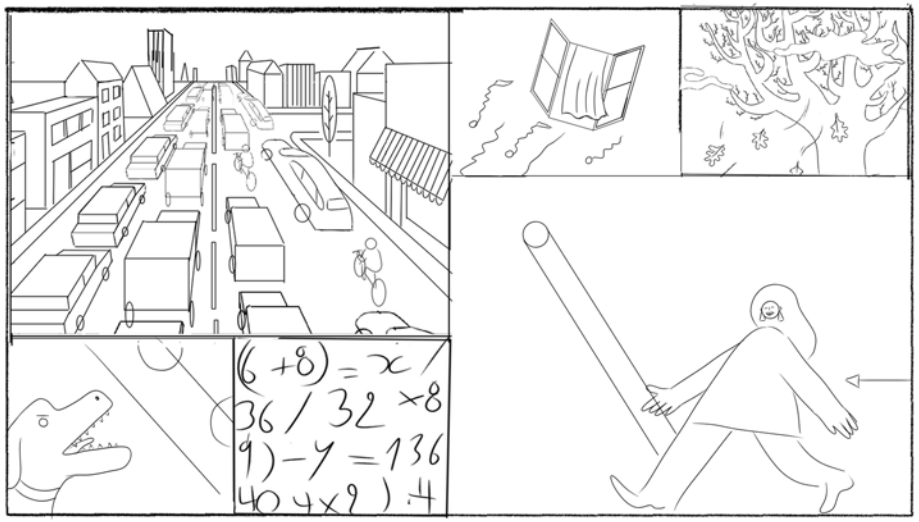
V.O : such as

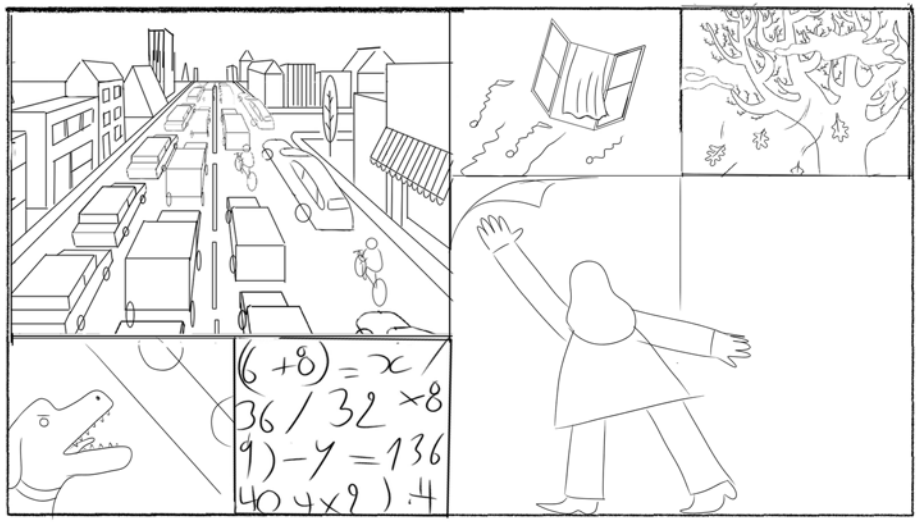


V.O : results not being used outside the Lab

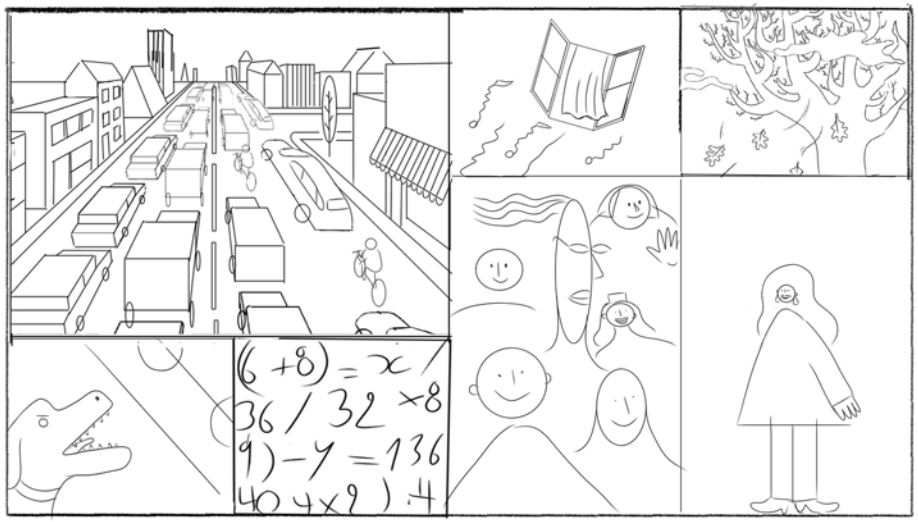


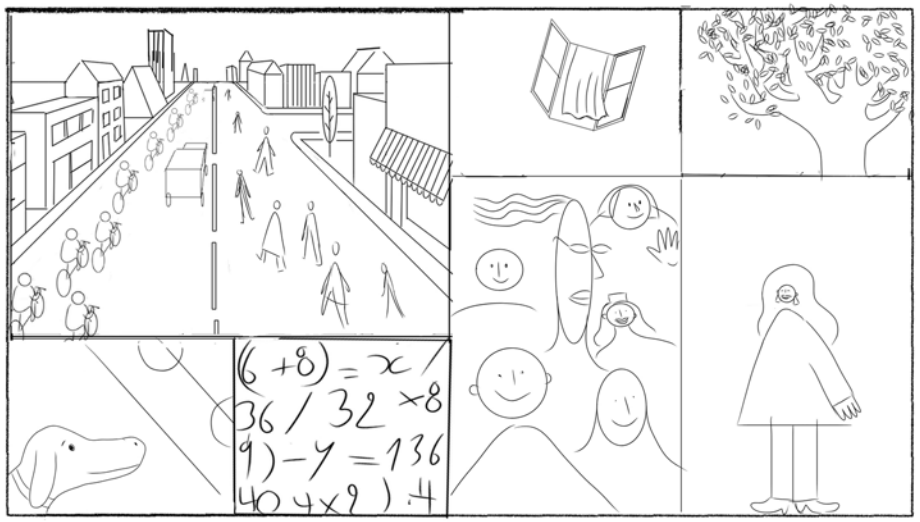


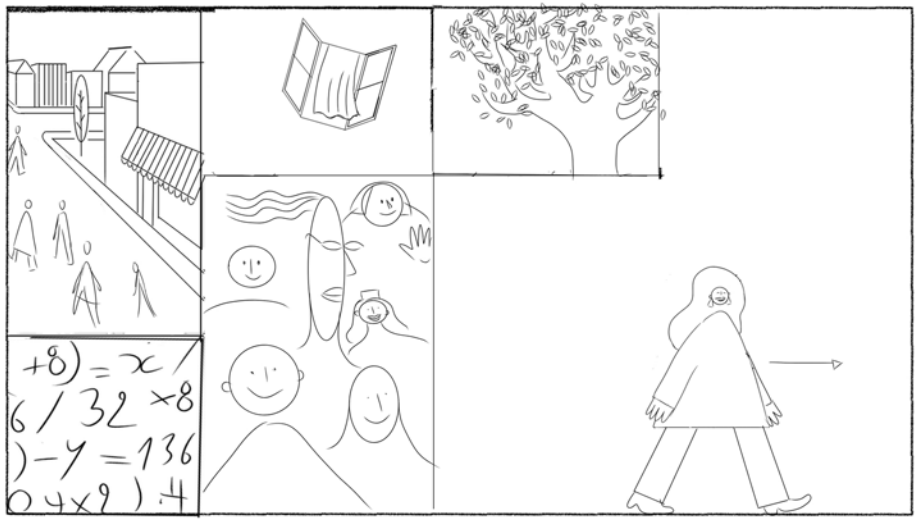


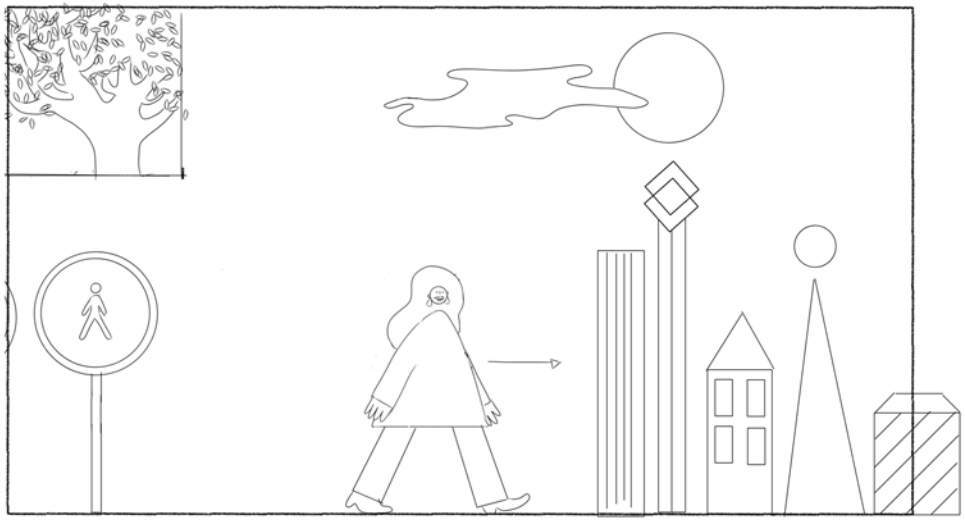


V.O : or relevant stakeholders being excluded.

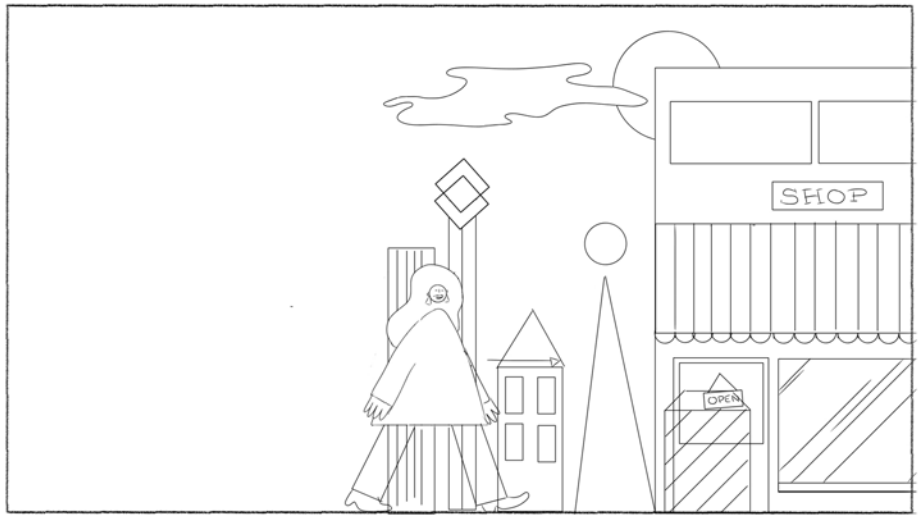




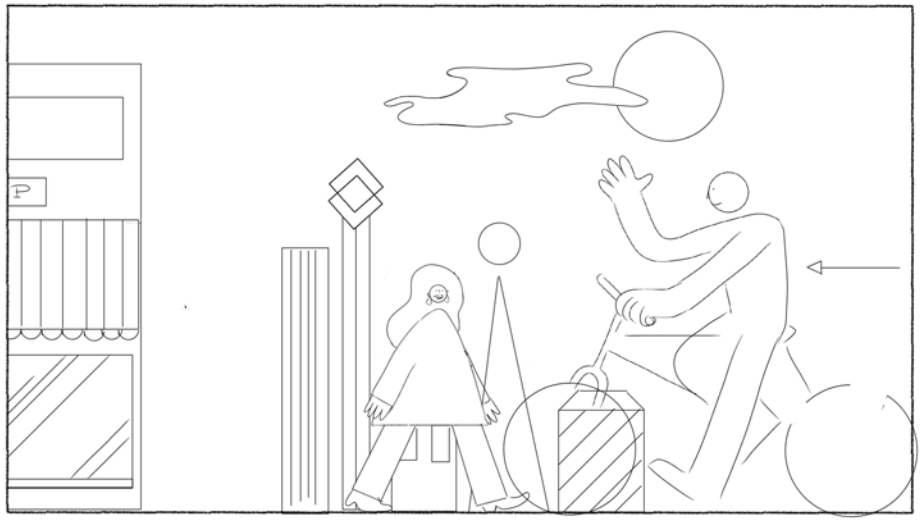


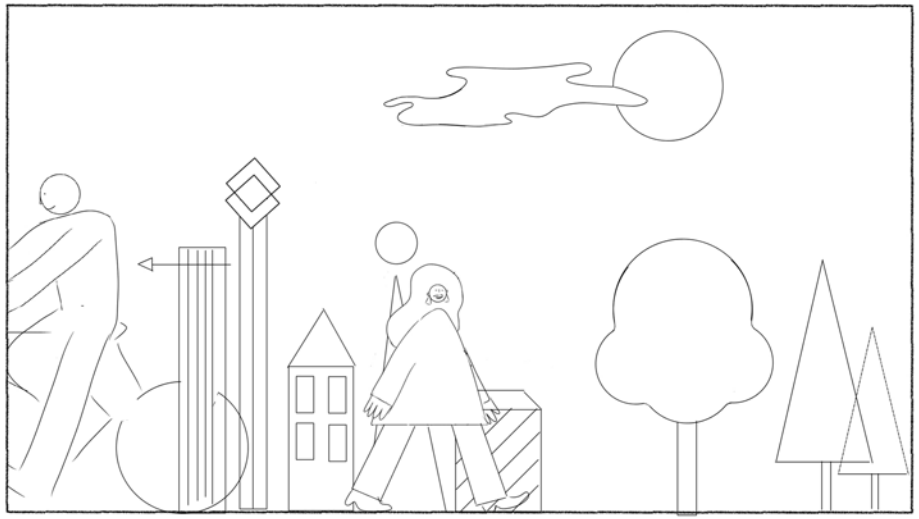


V.O : If, just like Lisa, you are interested in creating a Living Lab,

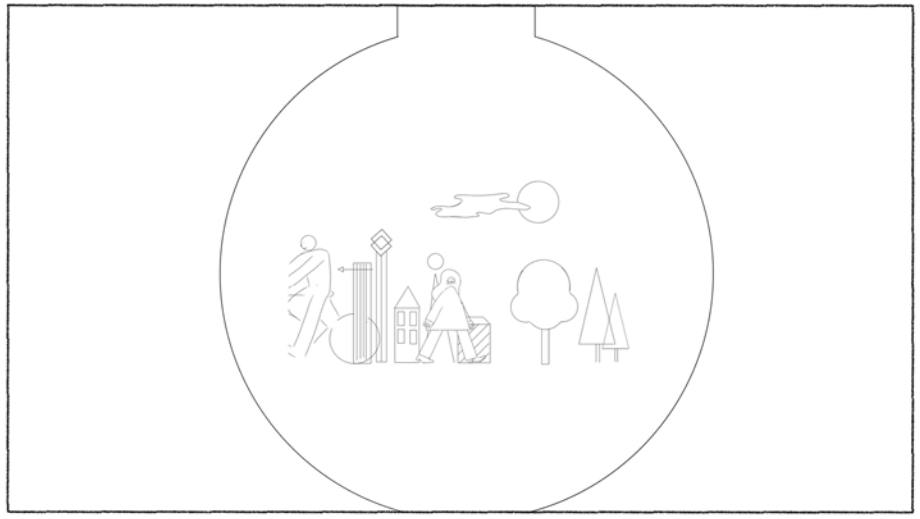


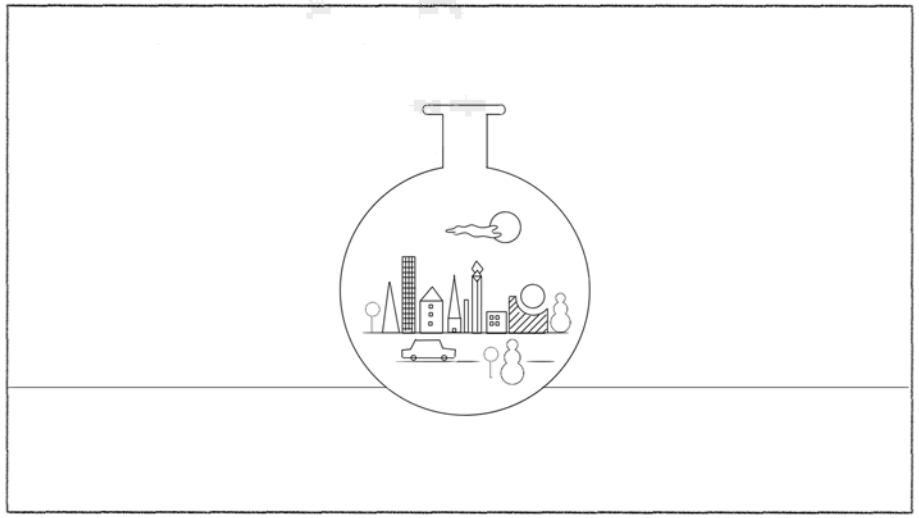
V.O : take a look at the SmarterLabs guidelines.

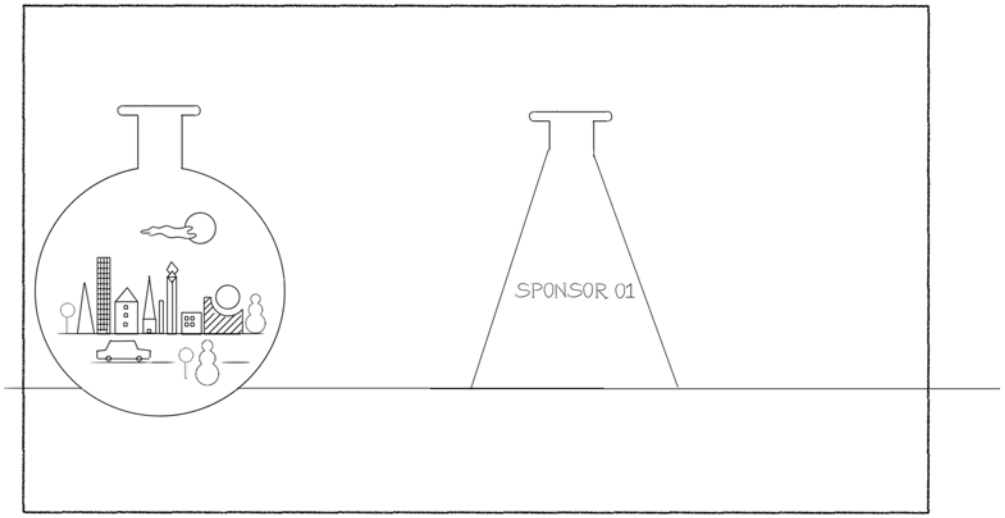




V.O : They will help to set up a successful Living Lab.



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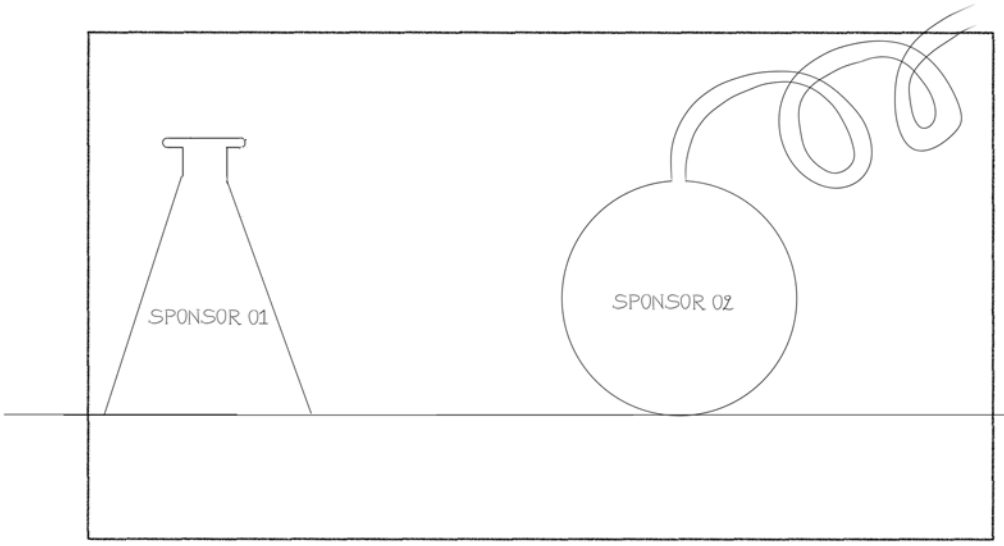
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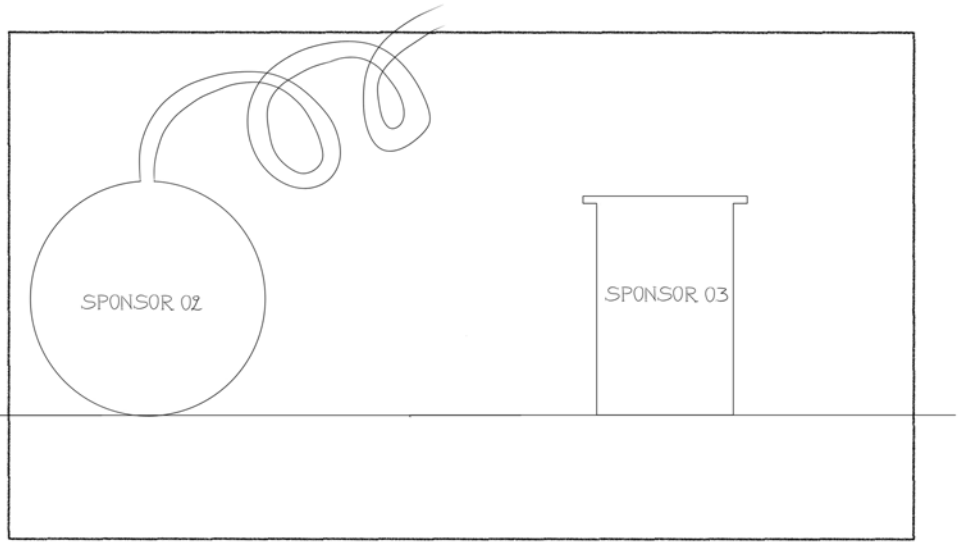
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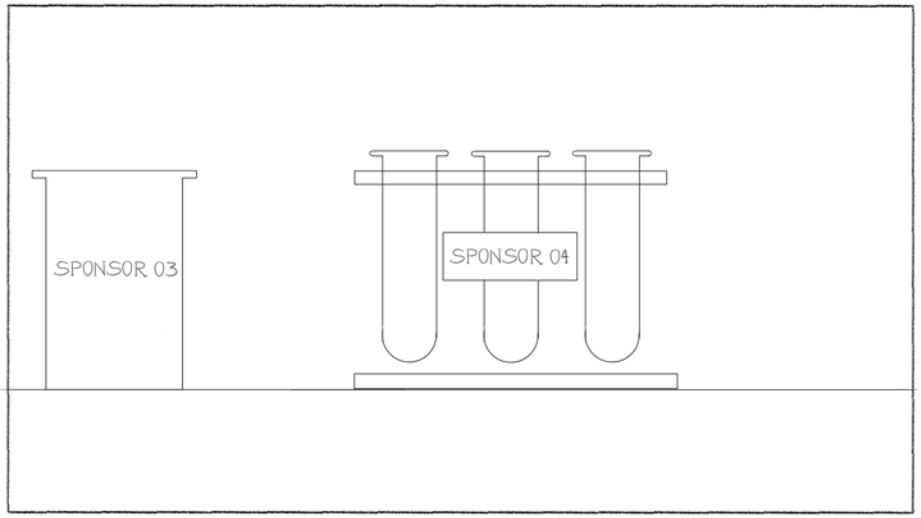
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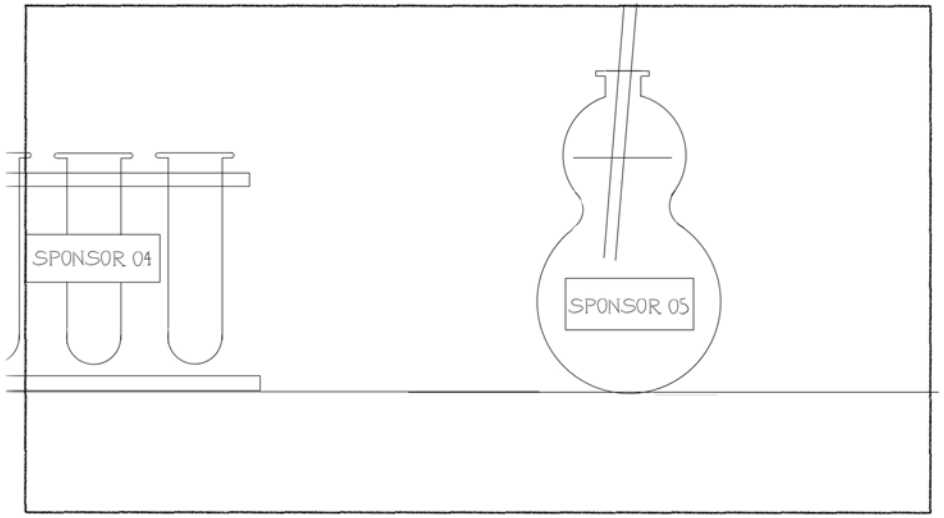
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Annex 2

The fan – Light version of the SmarterLabs guidelines

How to anticipate constraints on upscaling inclusive Living Lab experiments

URBAN EUROPE

smarter labs

Ten constraints on upscaling and social inclusion in urban Living Lab experiments and ways to anticipate them

Download the detailed version of these guidelines at: **smarterlabs.eu**

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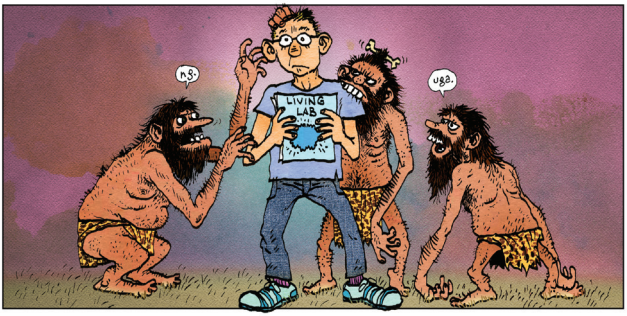
Social inclusion

#1 Citizens lack financial, intellectual and time resources to participate in the Living Lab

To participate meaningfully, citizens need time, energy and commitment, a certain level of understanding of the issue at stake or of the technology in use, and sometimes also specific economic and intellectual resources or skills. Certain social groups may therefore tend not to participate in Living Lab initiatives.



- **Apply stakeholder and requirement analysis tools (in relation to desired outcomes of the Living Lab) to identify types of exclusion, their motivations and coping strategies**

- **Include all Living Lab participants in such a reflection (not only the "institutional" initiators), across the Living Lab stages**

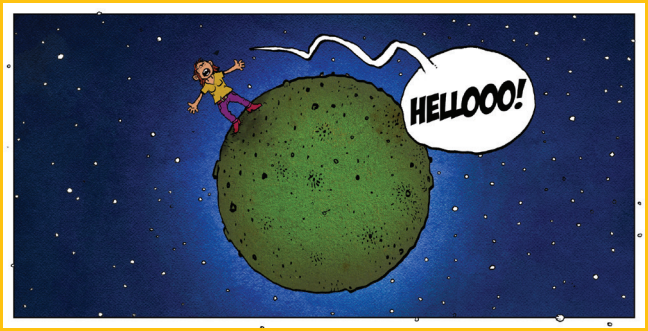
- **Strategically design Living Lab micro-practices, such as informative and educational material, choice of venue and schedule of meetings, language, provision of technological support to reduce digital divide**

#1

Social inclusion

#2 Relevant stakeholders remain out of the Living Lab

→ Certain groups might not be interested in joining Living Lab activities, since they do not share the urgency to discuss the issues at stake and take action, or even have conflicting attitudes or goals. The Living Lab may thus become a low conflict circle of people sharing priorities, attitudes and goals, while the large majority of citizens would ignore it.



- **Stakeholder analysis allows to identify the relevant target groups and the reasons why they might/might not be interested to join Living Lab activities**

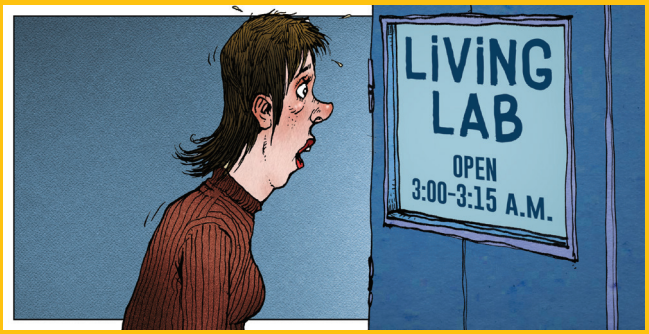
- **This suggests how to frame Living Lab activities in public communication campaigns aimed at recruiting participants and to identify the specific actions needed to also raise the interest of less intrinsically motivated target groups**

#2

Social inclusion

#3 Groups and impacts outside the Living Lab context are overlooked

→ **The Living Lab project may lack or be poor of representatives from the larger urban context, though they might be impacted by the project. Likewise, effects beyond the Living Lab boundaries may be neglected (e.g. decrease of cars in one district shifts traffic to another).**



- **Explicitly consider the project's indirect and cross-scale effects in the broader urban context, by reflecting on the multiple scales relevant to the Living Lab and on the actors that might be included/excluded at each scale**

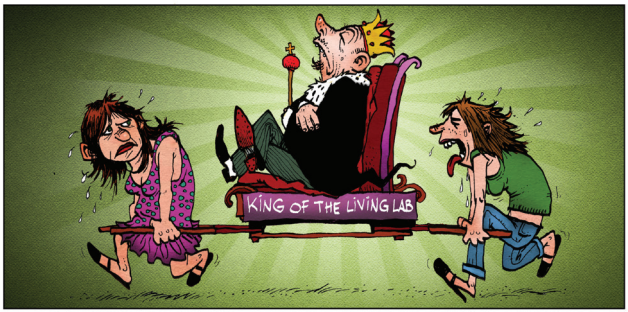
- **Adopt adequate logistic arrangements and outreach strategies to help minimize exclusion, such as convening Living Lab meetings at different locations and being open to reframe meetings to achieve a shared vision and increase motivation**

#3

Social inclusion

#4 Existing power structures are reproduced inside the Living Lab

→ The Living Lab setup and applied methods may not guarantee that any group or participant has equal opportunities for participating in the discussion, so that every voice is heard and seriously taken into account. For example, the Mayor, technical experts, or simply male Living Lab participants, may be given more weight than other participants.



- Regularly perform a stakeholder group dynamics analysis, in order to understand group structure and leadership relations among group members

- Particularly, identify any dominant position among Living Lab participants, due to already existing institutional roles outside the Living Lab (political responsibility, lobbying activity)

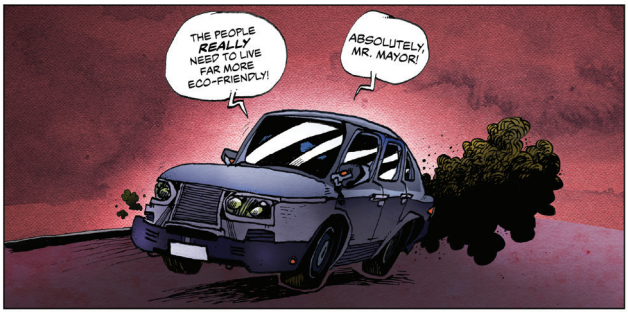
- Design a communication and management strategy to address all identified target groups, keep flexibility, favor development of activities along different tracks, allowing each group to adapt to their speed of progress

#4

Upscaling

#5 The Living Lab's potential for learning is underexploited

→ **If the lessons offered by Living Lab activities are not explicitly monitored, understanding of the innovation process, its implications and consequences, may be low. In this case, only limited transfer of learning is possible, thus precluding the diffusion of innovation across spatial scales.**



- **Develop a comprehensive learning strategy aimed at capturing and monitoring knowledge creation in the Living Lab (collective knowledge co-production) and transferring it to all relevant actors outside the Living Lab**

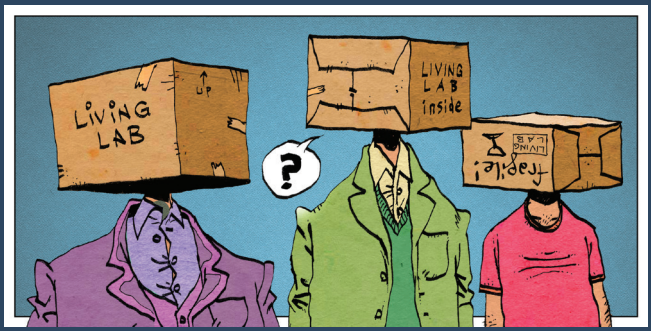
- **Knowledge exchange can be favored by people-to-people real-life interactions (i.e. physical meetings), which make learning more rewarding and comprehensive to all and also ensure tacit knowledge to emerge**

#5

Upscaling

#6 The Living Lab is disconnected from broader societal debate

→ The Living Lab experiment may lack coordination with the social, economic, cultural and political conjuncture. In such a case, the policy climate may not support the adoption of the innovation pursued in the Living Lab. The broader public may either not share the Living Lab's goals and outcomes or find them irrelevant.



- Design and manage Living Lab activities with great care for the local conjuncture: consider broader socio-economic, cultural and political aspects, ensure links with the existing public debate, with what a community considers to be its priorities, and what stakeholders consider to be feasible

- Maintain a certain flexibility throughout the Living Lab, be ready to adapt to changing conditions in the outside social and political agenda. Ensure that both Living Lab objectives and its framing can be adjusted and continuously re-defined by all actors

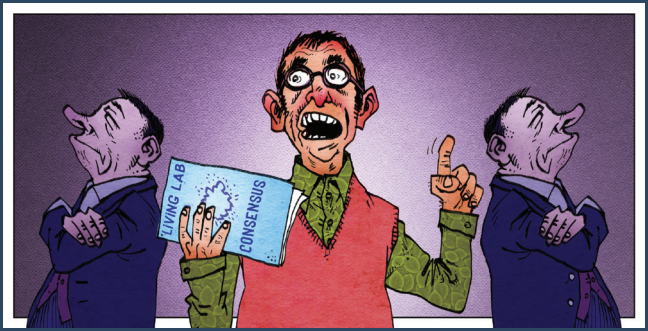
- Place citizens at the core of the process and actively coordinate with other societal developments and initiatives related to the content of the Living Lab

#6

Upscaling

#7 The Living Lab consensus is not reflected in policy and society

→ Even if the topic addressed by the Living lab is a priority of the social and political agenda, persistence of conflicts on specific topics may preclude reaching agreements, either inside or outside the Living Lab. The outcomes of the Living Lab may therefore lack wide consensus, support and political majority.



- Open to participation as much and as early as possible and regularly update the stakeholder analysis whenever external conditions change, in order to avoid the exclusion of any relevant stakeholder group

- Favor emergence of any conflicting goals within Living Lab participants and between Living Lab participants and possible external stakeholder groups not actively engaged, and manage conflicting goals by multi-criteria decision-making techniques

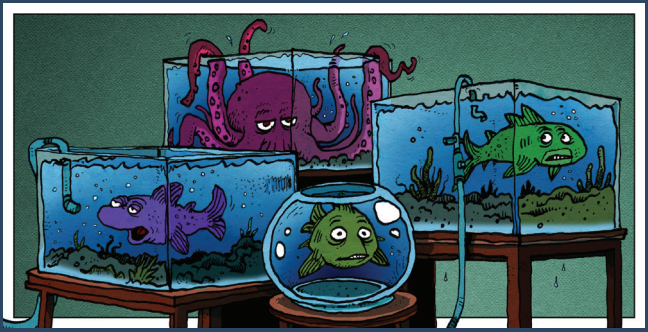
- Always emphasize and give weight to potential community-level benefits of the options under discussion, against personal or partisan benefits. To this purpose, exploit already existing networks and coalitions and seek for new and unexpected alliances between groups of stakeholders, trying to build relationships with successful initiatives already developed by other actors

#7

Upscaling

#8 Stakeholders and institutions are highly fragmented

→ **Fragmented institutional arrangements between and within institutions ("silo compartments") may preclude clear distribution of responsibilities among the actors involved in Living Lab activities, and effective cooperation between them.**



- **Foster transparency and collaboration between administrative units, organizations and stakeholders, right from the beginning of the Living Lab process**

- **Create occasions for them to interact and become familiar with the process, discussion topics and proposals emerging within the Living Lab**

#8

Upscaling

#9 The urban assemblage is sticky and locked-in

→ **Technical, infrastructural, legal or financial aspects, such as long-term contracts or legal lock-ins, may cause obduracy of the urban assemblage, thus precluding possibilities for practical implementation of the outcomes of the Living Lab.**

- Activate a dialogue with relevant actors as soon as possible: by developing future visions with stakeholders and crucial decision-makers, the potential of more structural changes can be highlighted

- Local actors might be empowered by teaming up with supra-urban actors, such as municipalities with provinces or local NGOs with their national counterpart (scale jumping)

#9

Upscaling

#10 The Living Lab meets low institutional receptiveness

→ Local governments and other actors involved in the Living Lab process might be unfamiliar with, or open to, co-creation approaches, favoring instead expert-driven way of thinking and agreement with powerful lobbies. If so, institutions may not have real commitment to implement Living Lab outcomes.

- Seek for early inclusion of policy-makers and local institutions
- Provided that Living Lab organizers show genuine commitment and give voice, role and responsibility to diverse groups of citizens, civil society organizations and experts, institutions might start appreciating the approach and its benefit
- Carry out multiple successful pilot processes
- Build on existing practices and procedures of representative democracy to promote dialogue between stakeholders

#10

Annex 3

The information sheets – Full version of the SmarterLabs guidelines

How to anticipate constraints on upscaling inclusive Living Lab experiments

URBAN EUROPE

smarter labs

Ten constraints on upscaling and social inclusion in urban Living Lab experiments and ways to anticipate them

The "Urban Living Lab" is an emerging approach in European cities. Urban Living Lab projects or experiments are devised to design, test and learn from an innovative socio-technical practice (i.e. "a new way of doing something") in real-time and in urban contexts with a diversity of stakeholders. *Living Lab* refers to the institutional environment for open innovation that supports these projects. It may be organized in a variety of ways (long-term or short-term, independent from or embedded in the municipal organization, provider-driven or user-driven).

The current approach of Living Labs focuses on small-scale performance tests and technology-user interactions, mostly neglecting the larger social-institutional context. Therefore, successful implementation of new practices in the reality of a Living Lab does not warrant broader adoption outside the Lab (i.e. "upscaling"), required to reach their full innovative effect.

Another limitation is its focus on "smart citizens" as users and partners, namely citizens with both the cognitive and material resources to consume and co-produce the smart services. Citizens lacking these resources will normally not be included as co-creators in Living Labs, nor are they likely to be able to make use of the smart services once these are implemented on a largerscale. The consequences may not only be poorer design of smart technologies or their limited adoption and use, but also social exclusion, i.e. deprivation of part of the population from new services.

The SmarterLabs project has developed practical ways to effectively anticipate these two limitations in the Living lab approach. The next pages each discuss a typical constraint on upscaling or social inclusion and offer ways to anticipate them.

Note that social exclusion is a key constraint affecting upscaling itself. For the sake of simplicity, we keep them separate here. However, please keep in mind that addressing constraints on social inclusion is a pre-condition to effective upscaling.

Social inclusion

Typical constraints in Living Lab experiments	Ways to anticipate these constraints
#1 **Citizens lack financial, intellectual and time resources to participate in the Living Lab** To participate meaningfully, citizens need time, energy and commitment, a certain level of understanding of the issue at stake or of the technology in use, and sometimes also specific economic and intellectual resources or skills. Certain social groups may therefore tend not to participate in Living Lab initiatives.	▪ Apply stakeholder and requirement analysis tools (in relation to desired outcomes of the Living Lab) to identify types of exclusion, their motivations and coping strategies ▪ Include all Living Lab participants in such a reflection (not only the "institutional" initiators), across the Living Lab stages ▪ Strategically design Living Lab micro-practices, such as informative and educational material, choice of venue and schedule of meetings, language, provision of technological support to reduce digital divide
#2 **Relevant stakeholders remain out of the Living Lab** Certain groups might not be interested in joining Living Lab activities, since they do not share the urgency to discuss the issues at stake and take action, or even have conflicting attitudes or goals. The Living Lab may thus become a low conflict circle of people sharing priorities, attitudes and goals, while the large majority of citizens would ignore it.	▪ Stakeholder analysis allows to identify the relevant target groups and the reasons why they might/might not be interested to join Living Lab activities ▪ This suggests how to frame Living Lab activities in public communication campaigns aimed at recruiting participants and to identify the specific actions needed to also raise the interest of less intrinsically motivated target groups
#3 **Groups and impacts outside the Living Lab context are overlooked** The Living Lab project may lack or be poor of representatives from the larger urban context, though might they be impacted by the project. Likewise, effects beyond the Living Lab boundaries may be neglected (e.g. decrease of cars in one district shifts traffic to another).	▪ Explicitly consider the project's indirect and cross-scale effects in the broader urban context, by reflecting on the multiple scales relevant to the Living Lab and on the actors that might be included/excluded at each scale ▪ Adopt adequate logistic arrangements and outreach strategies to help minimize exclusion, such as convening Living Lab meetings at different locations and being open to reframe meetings to achieve a shared vision and increase motivation
#4 **Existing power structures are reproduced inside the Living Lab** The Living Lab setup and applied methods may not guarantee that any group or participant has equal opportunities for participating in the discussion, so that every voice is heard and seriously taken into account. For example, the Mayor, technical experts, or simply male Living Lab participants, may be given more weight than other participants.	▪ Regularly perform a stakeholder group dynamics analysis, in order to understand group structure and leadership relations among group members ▪ Particularly, identify any dominant position among Living Lab participants, due to already existing institutional roles outside the Living Lab (political responsibility, lobbying activity) ▪ Design a communication and management strategy to address all identified target groups, keep flexibility, favor development of activities along different tracks, allowing each group to adapt to their speed of progress

Upscaling

Typical constraints in Living Lab experiments	Ways to anticipate these constraints
#5 **The Living Lab's potential for learning is underexploited** If the lessons offered by Living Lab activities are not explicitly monitored, understanding of the innovation process, of its implications and its consequences, may be low. In this case, only limited transfer of learning is possible, thus precluding the diffusion of innovation across spatial scales.	▪ Develop a comprehensive learning strategy aimed at capturing and monitoring knowledge creation in the Living Lab (collective knowledge co-production) and transferring it to all relevant actors outside the Living Lab ▪ Knowledge exchange can be favored by people-to-people real-life interactions (i.e. physical meetings), which make learning more rewarding and comprehensive to all and also ensure tacit knowledge to emerge
#6 **The Living Lab is disconnected from broader societal debate** The Living Lab experiment may lack coordination with the social, economic, cultural and political conjuncture. In such a case, the policy climate may not support the adoption of the innovation pursued in the Living Lab. The broader public may either not share the Living Lab's goals and outcomes or find them irrelevant.	▪ Design and manage Living Lab activities with great care for the local conjuncture: consider broader socio-economic, cultural and political aspects, ensure links with the existing public debate, with what a community considers to be its priorities, and what stakeholders consider to be feasible ▪ Maintain a certain flexibility throughout the Living Lab, be ready to adapt to changing conditions in the outside social and political agenda. Ensure that both Living Lab objectives and its framing can be adjusted and continuously re-defined by all actors ▪ Place citizens at the core of the process and actively coordinate with other societal developments and initiatives related to the content of the Living Lab
#7 **The Living Lab consensus is not reflected in policy and society** Even if the topic addressed by the Living lab is a proiority of the social and political agenda, persistence of conflicts on specific topics may preclude reaching agreements, either inside or outside the Living Lab. The outcomes of the Living Lab may therefore lack wide consensus, support and political majority.	▪ Open to participation as much and as early as possible and regularly update the stakeholder analysis whenever external conditions change, in order to avoid the exclusion of any relevant stakeholder group ▪ Favor emergence of any conflicting goals within Living Lab participants and between Living Lab participants and possible external stakeholder groups not actively engaged, and manage conflicting goals by multi-criteria decision-making techniques ▪ Always emphasize and give weight to potential community-level benefits of the options under discussion, against personal or partisan benefits. To this purpose, exploit already existing networks and coalitions and seek for new and unexpected alliances between groups of stakeholders, trying to build relationships with successful initiatives already developed by other actors
#8 **Stakeholders and institutions are highly fragmented** Fragmented institutional arrangements between and within institutions ("silo compartments") may preclude clear distribution of responsibilities among the actors involved in Living Lab activities and effective cooperation between them.	▪ Foster transparency and collaboration between administrative units, organizations and stakeholders, right from the beginning of the Living Lab process ▪ Create occasions for them to interact and become familiar with the process, discussion topics and proposals emerging within the Living Lab
#9 **The urban assemblage is sticky and locked-in** Technical, infrastructural, legal or financial aspects, such as long-term contracts or legal lock-ins, may cause obduracy of the urban assemblage, thus precluding possibilities for practical implementation of the outcomes of the Living Lab.	▪ Activate a dialogue with relevant actors as soon as possible: by developing future visions with stakeholders and crucial decision-makers, the potential of more structural changes can be highlighted ▪ Local actors might be empowered by teaming up with supra-urban actors, such as municipalities with provinces or local NGOs with their national counterpart (scale jumping)
#10 **The Living Lab meets low institutional receptiveness** Local governments and other actors involved in the Living Lab process might be unfamiliar with, or open to, co-creation approaches, favoring instead expert-driven way of thinking and agreement with powerful lobbies. If so, institutions may not have real commitment to implement Living Lab outcomes.	▪ Seek for early inclusion of policy-makers and local institutions ▪ Provided that Living Lab organizers show genuine commitment and give voice, role and responsibility to diverse groups of citizens, civil society organizations and experts, institutions might start appreciating the approach and its benefit ▪ Carry out multiple successful pilot processes ▪ Build on existing practices and procedures of representative democracy to promote dialogue between stakeholders

Bellinzona: Bellidea

A Living Lab to co-design a smartphone app promoting sustainable individual mobility patterns

GOALS

For the past years, the City of Bellinzona (Southern Switzerland) has been devoting considerable efforts to reduce individual car use, especially by creating new cycling infrastructures and improving bus/train inter-changes. Although necessary to promote a change in the dominant mobility patterns, such interventions were not sufficient to make a relevant change. Therefore, city managers were interested in also exploring the effectiveness of cognitive-motivational tools, in particular by relying on smartphone-based approaches. Smartphone apps are in fact ideal devices for a city to deliver persuasive messages supporting the transition from car-dependency: while providing citizens with persuasive feedback, they also allow city managers to get real life data on the citizens' mobility patterns, to inform scenario building and future policy-making. The City of Bellinzona therefore opted for developing a mobile app. To favor its large diffusion and sustain its use over time, they teamed up with the local University of Applied Sciences (SUPSI) and a Non Governmental Organisations advocating bicycle use (Provelo Ticino) and launched a Living Lab to co-design app features with any interested citizens.

ACTIVITIES

Citizens of Bellinzona were invited to join the *Bellidea* Living Lab, to co-design a mobile app to promote sustainable mobility patterns among their peers. One year later, the resulting app was launched to the whole population. Overall, forty-six citizens answered the public invitation to join the Living Lab, and fifteen of them were regularly active in the seven monthly meetings performed. Activities in the *Bellidea* Living Lab were organized in three phases:

- in *Phase 1 - App co-design*, Living Lab participants co-designed the *Bellidea* app; once available, the app was launched to the whole population;
- in *Phase 2 - Scenario building*, Living Lab participants were invited to reflect on the specific barriers and opportunities towards sustainable mobility they experienced while testing the *Bellidea* app. As an outcome of such a collective brainstorming, a "Charter of principles for sustainable mobility in Bellinzona" was developed, as a reference for future policy-making and land and mobility planning activities;
- *in Phase 3 - Evaluation*, a comprehensive assessment of *Bellidea* and its outcome was performed.

UPSCALING

Three types of upscaling were identified for the *Bellidea* Living Lab:

1. in the short-term, the *Bellidea* app is launched to the population, and a large number of citizens started interacting with it, for a sufficiently long period of time;
2. in the short-term, scope and complexity of the issues under discussion in the Living Lab are broadened to address future mobility scenarios and include the relevant stakeholders;
3. in the medium-term, the set of participatory governance practices and tools experimented in the Living Lab are institutionalized and replicated in other local decision-making processes.

OUTCOMES

Thanks to the communication efforts and the specific activities aimed at favoring large diffusion of the app among the wider population, once the *Bellidea* app was launched to the population, it became pretty popular, with an average of 180 regular app users per week. Also, the "Charter of principles for sustainable mobility" will likely be taken into account in the future revision of the land planning Masterplan of the Bellinzona area. Finally, seeds for a virtuous circle promoting local economy were planted as well, with the idea of using the *Bellidea* points and prizes as a virtual currency for local shops and services.

Brussels: AirCasting Brussels

→ A Living Lab against air pollution

GOALS

The Brussels Living Lab aimed to raise and support citizen empowerment and mobilization for a cleaner air through a citizen science approach. On the one hand this allowed the participation of citizens to urban democracy to be backed by a process of collective learning; and on the other hand, it strengthened the quality and the relevance of air pollution research and its relevance through the collaboration between researchers and citizens in the definitions of the objectives and in the co-creation of knowledge.

ACTIVITIES

The Brussels Living Lab took the form of a platform of cooperation between the university (the Cosmopolis Centre for Urban Studies - VUB), the local civil society (BRAL), and various groups of citizens using a citizen science methodology. Activities included:

- *To get to know:* a series of workshops for 4 to 5 months to let participants get a better understanding of the issues related to pollution. During the workshops, participants shared their experiences and interests, ask questions and try to respond jointly. They were also provided with portable measuring devices, linked to an online crowd map (**www.aircasting.org**);
- *To let others know:* as part of the Living Lab, participants organized a series of a follow-up activities, on the basis of their finding and of their context. Examples include public events, (creative) mediatisation of the results, discussion with policy makers, pedagogical activities;
- *Collective reflection:* all groups were also invited to combine this action research exercise with a reflection on the potential and the limits of this methodology, and participated in a number of of focus groups and in-depth interviews.

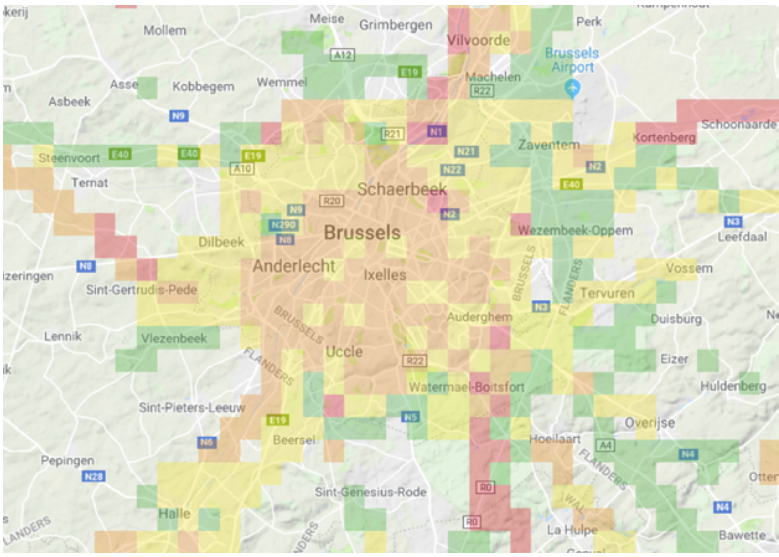
UPSCALING

The Living Lab scaled up in different ways and different directions, summarized as follows:

1. *Replication*: the interest for the topic and for the citizens science approach drove a multiplication of groups replicating (part of) the Living Lab methodology;
2. *Scientific production*: the learning process carried out through the Living Lab scaled up to become a recognised form of knowledge , through the collective preparation of a scientific paper;
3. *Replication of citizen science approach on other domains:* a group started to engage in other forms of activism-backing knowledge production, including a survey on mobility;
4. *Use of Living Lab findings results in policy:* a group was asked to be partner of the local government in pilot testing a "School street" in their municipality, and to use the Living Lab's methods to measure the impact of the policy on air pollution;
5. *Scaling out:* the Living Lab was one of different initiatives focused on citizen engagement and air pollution. Together with the other activities, the Living Lab contributed to make a fertile ground for a broad citizens mobilisation for better air;
6. *Use of Living Lab lessons in scientific and political engagement:* BRAL and Cosmopolis took the lead in the organisation of a national network of scientists on air pollution and citizens science, a process of citizen lobby, and a large event on the topic of citizen, science and air pollution.

OUTCOMES

Considering the decision taken to blur the boundary between the Living Lab and the broader movement for cleaner air, isolating the outcomes of the Living Lab alone is a complex and potentially irrelevant exercise. *Inter alia*, the Living Lab activities contributed towards the organization of a conference with presentations by professionals and citizen scientists; a citizens science scientific paper; a documentary screening and a debate with elected officials; different awareness raising and information activities in schools; several hundreds of PM2.5 measuring sessions for a total of more than 1 mio data points in a map of Brussels AirPollution.



Graz: Living Lab Griesplatz

→ **Redesign of a square through a Living Lab**

GOALS

The Living Lab experiment in Graz aimed to improve quality of life in the district of Gries including a redesign of the Griesplatz. The Griesplatz is a highly frequented traffic hub in the urban area of Graz, which serves various purposes: private vehicle mobility, public transportation, pedestrian and cyclist zones, local goods supply, housing and many services and institutions of all sorts. The district is characterized by social, economic and structural deficits, with educational and income levels below average and a high percentage of migrants.

The Living Lab Griesplatz tested a new approach to urban development projects in Graz by focusing on a broader involvement of key stakeholders into a long-term co-design process. The participatory approach was to reduce the risk of a socio-technical "misfit" as well as the risk of excluding certain social groups (especially marginalized groups), and to also increase the legitimacy of the final design.

ACTIVITIES

Initiated by the city government, the team of Living Lab Griesplatz consisted of three external participation experts and one employee of the Executive Directorate for Urban Planning. Researchers from the RCE Graz-Styria supported the team and strengthened the scientific (transdisciplinary) backbone of the Living Lab. A temporarily installed "city district office" located next to the Griesplatz was the starting point for manifold activities. These aimed to reach as many people as possible but above all to involve diverse stakeholders (social inclusion). Over an extended period of time the Living Lab team facilitated workshops, mental maps, social safaris, city walks, pop-up markets and an online survey. The activities were partly open to the general public and in other cases stakeholders (e.g. Non Governmental Organisations, citizen groups, local businesses) were directly approached. Taking into account the multicultural character of the district, also informal events including non-verbal elements were included. All these activities helped to shape what the organizers called the "Gries DNA". Always keeping that in mind, short- and middle-term measures were developed and partly quickly implemented (e.g. new benches), while a complete redesign of the Griesplatz was envisaged for a later stage after the end of the Living Lab process.

UPSCALING

The Living Lab Griesplatz was strongly connected to the "guidelines for citizen participation" – a set of voluntary measures the city government applies to foster involvement of citizens in decision-making. In the context of the Living Lab these guidelines were analyzed especially in terms of institutional upscaling (i.e. how the city government could improve their use in future projects).

OUTCOMES

Considering the heterogenic socio-technical structure, various activities were aimed to create a common vision among the stakeholders in the district of Gries. The pro-active approach of the Living Lab and the variety of applied tools contributed to achieve this goal. The Living Lab helped to collect numerous ideas for the redesign of the Griesplatz and contributed to a more positive attitude about the future in Gries in general. Local residents became more sensitive to participatory processes and engaged themselves together with other people thus fostering integration among the residents in Gries.

From an institutional point of view, the application of the guidelines for citizen participation delivered valuable experiences which future projects can benefit from.

Maastricht: new City and Railway plan

→ **Participatory visioning exploiting a visualization tool**

GOALS

The goal of Maastricht's Living Lab experiment related to one of the key aims of the recent City and Railway plan of the City of Maastricht. In summary it implied constraining "car only" trips and upscaling inter-modality, cycling and walking in the larger station area over the next two decades. Our analysis showed how the plan tended to neglect a number of "Maastricht-specific" factors that might constrain the upscaling of inter-modal mobility, cycling and walking. Therefore, the University of Maastricht applied a new Living Lab approach to test how to anticipate these constraints.

ACTIVITIES

The Living Lab experiment in Maastricht consisted of a series of activities:

1. Co-developing the experiment by university (Living Lab expertise) and municipality (policy makers and mobility experts), including a smart visualization tool (by engineers);
2. Pre-interviews with stakeholders, to activate knowledge and experiences with participatory visioning for policy making;
3. A two-staged participatory visioning exercise;
4. Post-interviews with stakeholders, to evaluate their experiences with SmarterLabs' participatory visioning approach;
5. Session with municipality to discuss relevance of SmarterLabs' lessons learned for the *City and Railway plan*.

UPSCALING

Before activating the Maastricht Living Lab experiment, one street and square facing the station were renovated with an underground bicycle garage, removed parking spots, and more space for walking. This small intervention could be seen as a first (pilot) phase for the City and Railway plan. Our attention focused on upscaling inter-modality, cycling and walking from the street level to the much larger station area over the next two decades.

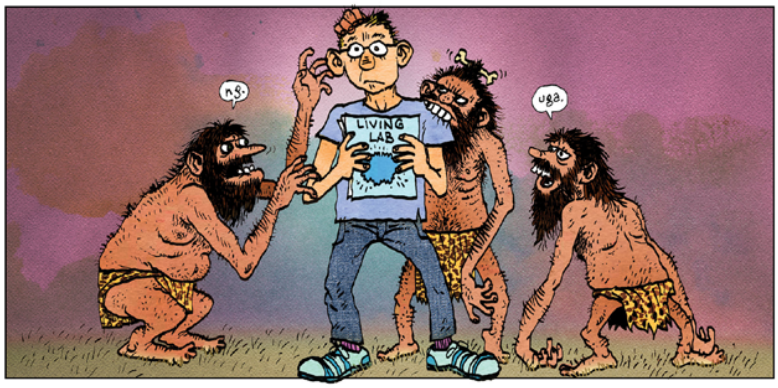
OUTCOMES

The "smarter" participatory visioning exercise clearly highlighted non-consensus around the role of the car in the future and therefore brought in the hidden conflict of aims in the current City and Railway plan (i.e. upscaling inter-modality, cycling and walking versus keeping car accessibility high) into the planning debate. One can't have it all. All in all, the experiment (making integrated visions for mobility explicit, including the assessment and reflections provided on this) was successful in highlighting to all stakeholders the pros and cons of basically two types of visions, but it didn't bring the two types closer to each other. There was some evidence that the municipality learned more arguments for a larger car-free area in the city center.

#1

Social inclusion

Citizens lack financial, intellectual and time resources to participate in the Living Lab



- Apply stakeholder and requirement analysis tools (in relation to desired outcomes of the Living Lab) to identify types of exclusion, their motivations and coping strategies
- Include all Living Lab participants in such a reflection (not only the "institutional" initiators), across the Living Lab stages
- Strategically design Living Lab micro-practices, such as informative and educational material, choice of venue and schedule of meetings, language, provision of technological support to reduce digital divide

THE CONSTRAINT

Living Labs can be complex and long lasting. To participate meaningfully, citizens need time, energy and commitment, a certain level of understanding of the issue at stake or of the technology in use, and sometimes also specific economic and intellectual resources or skills (e.g. a smartphone or language proficiency). This means that certain groups of the population can happen to be excluded from the Living Lab.

People with no, low or very discontinuous revenues might be excluded, considering that ensuring their livability can leave little space to participating in a Living Lab. Also people with precarious employment or residential conditions might lack the possibility to plan for long term and therefore commit to participate in a Living Lab. People who are responsible for taking care of elderly or children, as well as people working during non-office shifts, are also at risk of exclusion as they lack the material time to join the Living Lab. Foreigners and newcomers can be excluded because of their limited proficiency in the language spoken in the Living Lab. In addition, people lacking a minimum understanding of the issue at stake, or acquaintance with the technology used in the Living Lab (e.g. because of low education level, or age) are also at risk of exclusion from or of limited participation in the Living Lab.

WAYS TO ANTICIPATE

A Living Lab that is inclusive of all relevant groups is virtually impossible, at the same time it is desirable to minimize exclusion throughout its lifetime. Barriers to broad inclusion in a Living Lab can be of many different kinds and require a fully-fledged strategy to be addressed. It is important to reflect on desired outcomes and apply **stakeholder** and **requirement analysis** tools to identify potential types of exclusion and adequate coping strategies. While this exercise is primordial in the design phase, it requires to nourish an ongoing reflection at different stages of the Living Lab. All Living Lab participants need to participate in an explicit reflection concerning the causes and outcomes of exclusion, and in the identification of solutions.

Overall, the micro-practices of the Living Lab need to be strategically designed. These range from the choice of venue and schedules of the Living Lab meeting, to the language and the style of Living Lab moderation, to the time spent in all sorts of capacity building. Other methods to ensure broad inclusion include targeted calls for participants, through the channels that are more likely to be used by the target group or technological fixes, to provide the tools to all (e.g. purchase of smartphones or computers).

Brussels

In the Brussels Living Lab, efforts to minimize exclusion were at the core of the process since its early beginning. Different adjustments were also made in progress, considering unexpected circumstances.

At very early stages, Living Lab organizers (the local university and a city movement) reflected together to identify potential barriers to inclusion, and decided to establish different sub-groups, precisely to include the broadest variety of population. Throughout the process, regular reach out efforts were made toward groups at potential risk of exclusion. The role of a focal person for each group was given to the most suitable person (depending on language skills, residence, family situation, work experience...), and the different workshops were designed depending on the different type of participant.

A key element, for instance, was the strategic choice of venues and schedule for the different groups: for EU officials, meetings were convened in the EU premises at lunchtime; for groups of parents and shopkeepers, small meetings were organized in the early morning, just after leaving the children in school/just before opening the shop; for young professionals, meetings were organized at early evening in a central neighborhood.

Several smartphones were purchased to ensure that those who did not have one, could still take part in the Living Lab. Tablets were also purchased, to serve as pedagogical device and to be used for demonstrative purposes. More time for training was dedicated to the least acquainted with the use of smart technologies groups/people. In some cases, it should be noted, the time dedicated by the Living Lab facilitator was not enough to bridge the gap, resulting in participants not using the technology.

Exclusion from the Living Lab was also part of the reflection that the participants engaged in. In a focus group interview on the topic, they were invited to identify potential drivers of exclusion, the possible implications, as well as suggestions for coping strategies.

Graz

The City of Graz aimed to take action in a district with challenging circumstances: high proportion of migrants, various cultures and ethnics, education levels and incomes below average. The strategy to reach out to marginalized groups such as migrants, elderly people and children was to offer various communication channels (newspapers, Facebook, public events and direct interaction with people via the Living Lab's district office) and different formats of Living Lab activities: online questionnaires, workshops, **social safaris**, **mental maps**, etc. The overall strategy was to establish a long-term participatory process with several possibilities for citizens to bring in their opinions in manifold ways. The Living Lab organizers did not wait for people to show up, but actively approached them on the street, literally bringing the Living Lab to the people. By repeatedly offering possibilities for stakeholders to participate and actively approaching them, over an extended period of time also marginalized groups were included.

Bellinzona

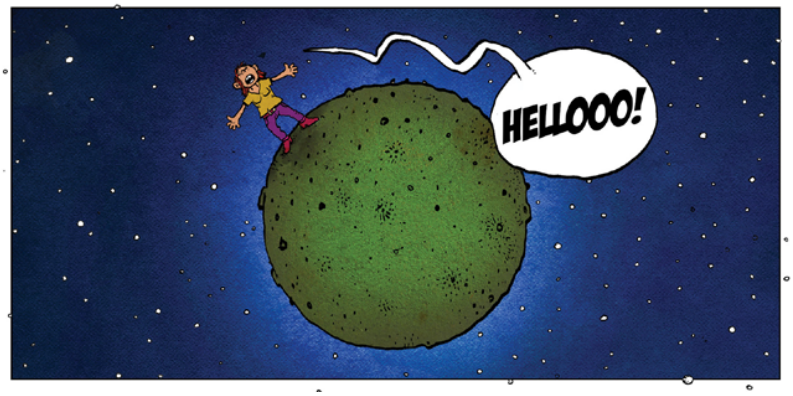
In the Bellinzona Living Lab, social groups at risk of exclusion were identified in elderly and young people and migrants. To favor their participation, a targeted recruitment strategy was applied. Flyers introducing Living Lab activities were distributed at places where computer literacy courses for elderly people are offered, and personal contacts with high school teachers and a local association supporting migrants were established. The aim was to exploit the already existing formal (computer literacy courses, teacher-student relation) and semi-formal (local migrant association) social networks to capitalize on the existing trust relationships, as well as to provide specific assistance (e.g. language mediating support). Considering the young generation's natural inclination to interact with the digital world, it was expected that students would be the easiest segment to include.

Resulting numbers suggest that the performed recruitment strategies were not enough to favor a significant participation of the groups at risk of exclusion. For instance, while young generations are the most inclined with technological innovation, they are also less used to participation and engagement in public processes. The limited engagement of students (two out of around forty participants, but not in a continuative way) suggests that further efforts could have been dedicated to specifically outreach students directly by means of informal networking, instead of involving intermediary persons such as school teachers. Providing also stronger in-person contacts to elderly people would probably have helped to trigger more active engagement than just relying on flyering mediation. In fact, even though flyers specified that no specific computer competences were needed, they probably were not as convincing as a person would have been. As for migrants, even in this case, a more direct interaction and personal invitations (face-to-face or telephone) could have reinforced the supportive action and thus engagement.

#2

Social inclusion

Relevant stakeholders remain outside the Living Lab



→ **Stakeholder analysis allows to identify the relevant target groups and the reasons why they might/ might not be interested to join Living Lab activities**

→ **This suggests how to frame Living Lab activities in public communication campaigns aimed at recruiting Living Lab participants and to identify the specific actions needed to also raise the interest of less intrinsically motivated target groups**

THE CONSTRAINT

Due to the intrinsic innovation nature of Living Labs, large shares of the population and the relevant stakeholders might not be interested in joining them (or remaining active within them for a long period of time), because either they do not share the sense of urgency to discuss the issues at stake and take action (they have different priorities), or they even have conflicting attitudes or goals.

As a consequence, the group of Living Lab active participants risks being monopolized by people with strong personal commitment to the issue at stake and/or people already used to (critically) interact with public authorities and institutions. Ultimately, the Living Lab might become a low conflict circle of people sharing priorities, attitudes and goals, while the large majority of citizens would simply ignore the Living Lab process. Dissenting groups might also explicitly opt for keeping themselves out of the Living Lab, in order to be able to later criticize its outcomes and the introduction of policy measures based on them, according to a well-experienced and more comfortable to them "Decide-Announce-Defend" (DAD) framework.

In both cases, level and intensity of debates within the Living Lab would be trivialized and upscaling possibilities of its results would be strongly inhibited.

WAYS TO ANTICIPATE

In the process of setting up a Living Lab fundamental questions need to be clarified, above all the objectives and who could effectively contribute and therefore should be involved in order to be able to define clear goals and guarantee transparency and an open communication inside and outside the Living Lab.

In particular, a **stakeholder analysis** should be performed in order to identify the relevant target groups, together with the reasons why they might (not) be interested to join Living Lab activities.
Analyzing the reasons against a participati on in the Living Lab helps to define

- how to frame Living Lab activities in public communication campaigns aimed at recruiting participants,
- and specific actions in order to also raise the interest of less intrinsically motivated target groups and achieve their active engagement in Living Lab activities.

Aiming to involve a variety of people, special attention needs to be paid to their individual demands and desires. The objectives of the Living Lab have to be negotiated in order to prevent mismatching expectations between the Living Lab and its potential participants, as well as to avoid the possibility of generating misleading information (e.g. from Living Lab opponents). This is important to attract people in the first place as well as to keep them active in the process. Ultimately, transparent communication helps the Living Lab to obtain the right motivation and loyalty from its participants.

Brussels

In Brussels, an initiative for "Smart Mobility" was reframed by Living Lab initiators as one where air quality and people health were at the core. Adopting the right problematization approach favored raising commitment also among those citizens who would not engage in a smart mobility-related process, perceiving the topic as outside their own priorities. Instead, they genuinely and very proactively engaged in an air pollution-related process, since their cared very much for their health, and especially the one of their kids. Reframing the focus of the Living Lab helped reaching out to a rather broad variety of citizens, with different geography, and socio-economic, demographic, cultural background. Overall, though, participants could not be considered as a representative sample of Brussels population, with an overrepresentation of the educated and socially active middle class as opposed to other groups.

Bellinzona

The Living Lab in Bellinzona was largely at risk of just attracting people who had already reduced their car use, thus resulting in a very polarized sample of participants possibly jeopardizing the efforts made to keep the Living Lab as open as possible to the entire population. Particularly, there was the risk to mainly involve only cyclists, since the local association lobbying in favor of regular bicycle use was among the Living Lab initiators, and participation to the Living Lab was open to any interested citizen, on a voluntary basis. However, how could a group of urban cyclists have been able to co-design an effective smartphone app targeting reduction in car use among mainstream car drivers?

To favor large diversity and high representativeness of the local population among the Living Lab participants, Living Lab organizers opted for a hybrid recruitment campaign, relying on both bottom-up and top-down activities. First of all, a **stakeholder analysis** was performed, in order to identify the key target groups to be engaged. As a result, commuters, car drivers, bicycle riders and public transport users were identified and the relevant associations representing their interests were involved, with the aim of mobilizing them in the outreach of Living Lab participants. Posts in their newsletter and articles in their bulletins were published, to amplify and support the press release delivered by the City of Bellinzona at the launch of the public campaign for Living Lab recruitment. The campaign explicitly remarked that all citizens were welcome and desired – especially car drivers, the claim targeting those citizens being "always stuck in the car". The emphasis was put on co-creation activities, and on the key idea behind the app, that was rewarding citizens with tangible prizes, if they opt for (more) sustainable mobility patterns. Highly attractive prizes (extrinsic motivational factors) were supposed to raise the interest in mainstream commuters and car drivers up to the level of already intrinsically motivated bicycle riders and public transport users.

To reinforce and integrate such bottom-up, spontaneous self-applications, a top-down selection of diverse and overall representative citizens was also made. By referring to their wide network of personal contacts, city authorities identified a set of around fifty citizens to be personally invited to join the Living Lab, being sufficiently diverse in socio-economic characteristics as well as mobility patterns, to be considered representative of the variety and differences among the whole population. Not all of them accepted the invitation, but, together with the totally self-selected participants, the group of participants in Living Lab activities was sufficiently diverse to avoid typical "preaching to the converted" limitations.

It is to be remarked, however, that the top-down selection of the citizens to be invited was performed by the City civil servants and policy-makers themselves. Notwithstanding reassurances on their good faith, opting for a fully transparent selection process, or maybe even for a random selection process, such as the **"citizens jury"** or **"planning cell"** participatory techniques, would have endowed the whole process with additional fairness and reliability, further attracting other participants.

#3

Social inclusion

Groups and impacts outside the Living Lab context are overlooked

→ **Explicitly consider the project's indirect and cross-scale effects in the broader urban context, by reflecting on the multiple scales relevant to the Living Lab and on the actors that might be included/excluded at each scale**

→ **Adopt adequate logistic arrangements and outreach strategies to help minimize exclusion, such as convening Living Lab meetings at different locations and being open to reframe Living Lab meetings to achieve a shared vision and increase motivation**

THE CONSTRAINT

Urban Living Labs can be situated in a specific geographic context, ranging from a building block, to a neighborhood, a commune or a whole urban area. While there is a certain flexibility in choosing the scale within which to operate, any choice implies the definition of boundaries that exclude people living beyond them.

While this exclusion happens sometimes by design, it is more often due to self-exclusion: people living outside or faraway the project context might relinquish to join the Living Lab either because it takes too much of an effort to go to the locations where the Living Lab meetings are held, or because – though they might be impacted by the project – they do not feel immediately concerned.

This constraint represents also a barrier to successful upscaling of the Living Lab, as replicating pilot projects in the broader urban area can be prevented because generated knowledge is very much related to the specific context of the Living Lab or because the whole Living Lab process only focused on the pilot project, neglecting or forgetting the effects beyond its boundaries.

WAYS TO ANTICIPATE

Exclusion based on participant residence can be either a matter of logistic or of personal concern with the stakes of the Living Lab. In both cases, it is important to reflect on desired outcomes and **apply stakeholder analysis** and **requirement analysis** tools to identify potential types of exclusion and adequate coping strategies. In other words, this implies a thorough reflection on the multiple scales relevant to the Living Lab and on the actors that might be included/excluded at all scales.

In the former case, adequate logistic arrangements can help to minimize exclusion. Living Lab meetings can be convened at different locations, to target different audiences. In the latter case, a constant outreach effort might be necessary. This includes both communicating the Living Lab purposes, but also adapting them and adjusting the frame.

Overall, constantly negotiating with participants and potential participants the objectives and the frame of the Living Labs can be particularly helpful in defining a shared vision, thereby increasing motivations and buy in of a broader audience.

Organizers, in particular, need to estimate and take into account projects' indirect and cross-scale effects, also outside the boundary of analysis. To adequately cope with them and anticipate any negative impact, they also need to actively engage with stakeholders of the broader urban context that might be affected by the Living Lab or by an upscaled version of its results.

Brussels

In the Brussels Living Lab, the citizens' place of residence was one of the most solid barriers to broad inclusion. In particular, the city is characterized by a great inflow of workers commuting in and out the city from the metropolitan area. These commuters are immediately impacted by air pollution in the city, and largely contribute to it. At the same time – with some exceptions – the Living Lab failed to include them in the activities because of lack of time and resources to identify suitable locations at the urban periphery, and because of their relatively lower concern for the issue at stake (i.e. widespread perception that suburban living is less impacted by air pollution).

Given its main focus (i.e. air pollution), the Brussels Living Lab was characterized by the overlapping presence of multiple scales. To minimize exclusion based on participants' place of residence, different arrangements were made. To begin with, the Living Lab ateliers were held in different locations, depending on the participants' place of residence and employment. In one case (group of parents of children at school age), the group was split in two, based on the location of the school, and the information between the groups was constantly being relayed by the Living Lab facilitators. These included places throughout the regional territory. In one case (EU officer citizen group), rather than building the group based on place of residence, it was built based on the shared place of work. To do so, meetings took place during office hour at the office location: this allowed for participation of people living in many different locations to interact around common questions. It also allowed to have a discussion on different scales: while it started from a concern about the air at place of work, it soon included the commute, and finally their place of residence.

Despite the outreaching efforts, the Living Lab was eventually not successful in including participants from all neighborhoods of the region, nor participants living outside of the regional borders. To complement for this shortcoming, constant efforts of networking and coordination with other organizations were made, to share good practices and lessons from the Living Lab: by experience sharing with organizations in nearby cities, the conditions were created for replication in other contexts.

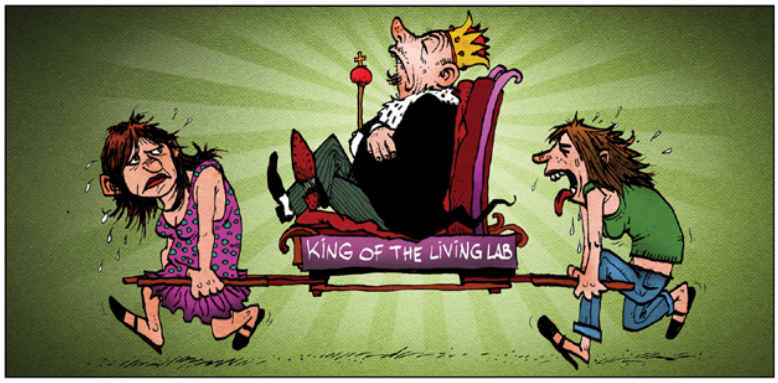
Maastricht

In Maastricht Living Lab, although the station area was of main concern, the visioning assessment Living Lab experiment initially focused on the city of Maastricht as a whole. Later on, the scope of the visioning exercise was narrowed, and participants were specifically asked to consider implications for the station area. Also, the **stakeholder analysis** identified people from different areas (residents of city center, of outer districts, commuters) as relevant stakeholders for the vision of Maastricht, and these actively participated. This helped to include effects on other areas than the station area, hence anticipating this constraint.

#4

Social inclusion

Existing power structures are reproduced inside the Living Lab



- Regularly perform a stakeholder group dynamics analysis, in order to understand group structure and leadership relations among group members
- Particularly, identify any dominant position among Living Lab participants, due to already existing institutional roles outside the Living Lab (political responsibility, lobbying activity)
- Design a communication and management strategy to address all identified target groups, keep flexibility, favor development of activities along different tracks, allowing each group to adapt to their speed of progress

THE CONSTRAINT

One fundamental aim of Living Labs is to involve citizens and establish a democratic structure that guarantees that every voice is heard and taken into account. However, in practice, instead of achieving real participation, various circumstances can lead to a mere reproduction of existing power structures inside a Living Lab. For example, if the city Mayor joins Living Lab meetings, his vision and proposals might end up dominating and conditioning Living Lab outcomes. Similarly, the position of a technical expert might be given more weight than that of laypeople. Gender also often influences group dynamics, with men taking more often a central position.

This can be the result of deliberate management in the Living Lab, if it is only run as an alibi activity. On the other hand, Living Lab organizers might not be aware of the heterogeneity of stakeholders and of the importance of taking the right precautions to guarantee any group or participant equal opportunities for participating in the discussion.

WAYS TO ANTICIPATE

To avoid reproducing existing power structures, as a first step, these need to be assessed by carrying out a **group dynamics analysis**, in order to understand group structure and leadership relations among group members.

Particularly, it is important to identify any dominant position among Living Lab participants, which could be due to already existing institutional roles, such as political responsibilities, lobbying or expertise. If people in such positions attend Living Lab activities, their ideas should be given no more attention than those of the other citizens without a leading societal role.

The Living Lab organizers have to design a communication and management strategy to address all identified target groups, applying tailor-made methods for each of them. To ensure fair and equal participation, flexibility in the use of methods is a key requirement (e.g. not only conversation or only ICT tools). Inviting people at various levels and occasions and building trust and social cohesion plays an important role for a long-term success of a Living Lab. Organizers should facilitate development of activities along different tracks and allow each group to adapt to their speed of progress: equal opportunities are often the result of different – not identical – processes. In general, **group facilitation techniques** help guarantee that everybody is engaged and contribute to a good learning and planning process. Next to the methodology, also the locations should contribute to setting a plain ground. For example, if city representatives actively participate in Living Lab activities, meeting at the city hall might indirectly reinforce existing power structures, involuntary putting hosts in a dominant position. Meeting in places such as schools, or maybe changing locations over time, helps counter-balancing existing power structures.

Graz

The City of Graz aimed to take action in a district with challenging circumstances: high proportion of migrants, various cultures and ethnics, education levels and incomes below average. Reaching out to marginalized groups such as migrants, elderly people and children turned out to be difficult. At events organized by the Living Lab, the people who showed up represented an incomplete sample of the actual target group. Even more so, a couple of persons repeatedly "sabotaged" events by excessively raising their voices and acting as opinion leaders.

The Living Lab in Graz involved a lot of stakeholders including residents, shop owners, bus operators, city entities and politicians. All of them filled out certain roles that contained different levels of power. The Living Lab organizers aimed to blur the borders between them, enabling each person to participate equally. This was achieved by offering different formats of Living Lab activities: online questionnaires, workshops, **social safaris**, **mental maps**, etc. By repeatedly offering possibilities for stakeholders to participate and actively approaching them over an extended period of time, also marginalized social groups (e.g. migrants) were included. Locations of events were carefully selected. In particular, a city district office was installed next to Griesplatz and was used as a neutral place for diverse activities throughout the whole project duration, complemented by outdoor activities in the district, literally bringing the Living Lab to the people. These measures created awareness for the Living Lab and social cohesion among the people involved.

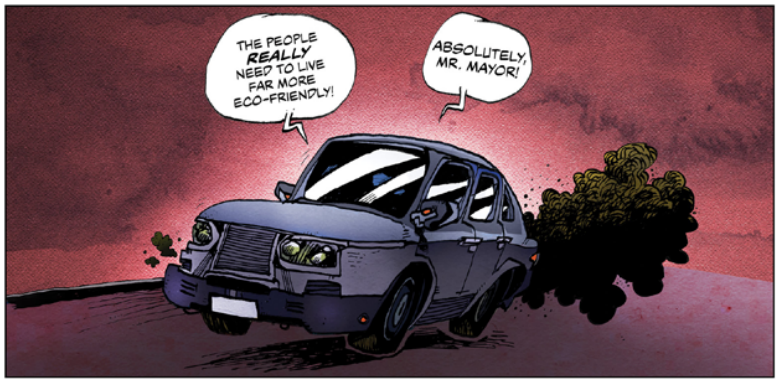
Maastricht

In Maastricht, the university (i.e. a relative outsider) arranged the invitations and facilitation of the visioning workshops, whilst treating the municipality as just one of the six stakeholder groups (others were: entrepreneurs, mobility operators, and three types of residents/travelers). All groups made their own vision and these were presented and discussed as equivalent outputs. A facilitator was present at each of the six tables to manage the discussion among very different types of people and make sure everyone was included in the discussion. In the post-interviews all participants stressed they felt they could express themselves well. The municipality enjoyed their freer role as participant and not being the facilitator. No one mentioned (s)he felt overruled by another group.

#5

Upscaling

The Living Lab's potential for learning is underexploited



- **Develop a comprehensive learning strategy, aimed at capturing and monitoring knowledge creation in the Living Lab (collective knowledge co-production) and transferring it to all relevant actors outside the Living Lab**
- **Knowledge exchange can be favored by people-to-people real-life interactions (i.e. physical meetings), which make learning more rewarding and comprehensive to all and also ensure tacit knowledge to emerge allowing each group to adapt to their speed of progress**

THE CONSTRAINT

Some stakeholders tend to reduce Living Labs to pilot project "to try out something new", without an agenda on what exactly they like to learn. Although the label of Living Lab is used and the importance of learning is acknowledged, local authorities taking part in such bottom-up experiences may not fully recognize opportunities offered by Living Labs, thus neglecting to systematically assess the process, to improve their future work. Performing structured evaluations and drawing lessons from Living Lab activities would instead allow them to get a broad understanding of specific innovation processes, including their implications and consequences, thus supporting diffusion of the innovation across spatial scales.

Often, local authorities lack the farsightedness and political will to perform explicit monitoring of the lessons learnt throughout the process, since this would imply accepting the potential of shared (stakeholder) knowledge and could imply challenging the status-quo system.

When single Living Lab participants draw their assessments and conclusions, they often lack a comprehensive view of the process, and therefore no comprehensive knowledge is generated and the lessons learnt are partial or biased. If no single actor has an overview of all options, mechanisms and impacts emerged during Living Lab activities, limited transfer of learning is possible to future users, precluding upscaling.

WAYS TO ANTICIPATE

Explicit comprehensive learning strategies are needed, including a learning agenda (i.e. a co-created set of learning goals), capable of capturing and monitoring knowledge creation and transferring it to the engaged actors, in order to empower them and supporting the transfer of lessons to other contexts.

Living Lab managers should first formulate the learning goals, understand who has to be involved in learning, with respect to the final goal of upscaling Living Lab outcomes, and then make sure that the experiments are designed in such a way as to answer the learning goals. In other terms, this means developing a strategy to favor collective knowledge co-production.

To this purpose, first goals and ambitions of each actor need to be understood. Then, period reflection sessions can help to monitor the learning process. Especially people-to-people real-life interactions (i.e. physical meetings) make learning more rewarding and comprehensive to all and also ensure tacit knowledge to emerge.

Bellinzona

The Living Lab in Bellinzona was a pilot project, run on a voluntary, politically non-binding base. On the one hand, this favored acceptance of the Living Lab approach by the City, but on the other hand it made also responsibilities and commitment by the City to contribute to the participatory knowledge-sharing process less pressing. This made the process of capitalizing on the "lessons-learnt" from the Living Lab and integrating them into the City's policies more difficult. Thus, a learning strategy was explicitly designed, with the aim of monitoring knowledge co-created within the Living Lab. This implied analyzing the project's impacts according to a multi-criteria framework, assessing the level of engagement and satisfaction by Living Lab participants and reporting and communication of results, both internally to all actors involved, as well as externally, through local media.

Similar activities were also planned for the period following the launch of the app to the whole population: regular statistics regarding app use and its effect on local mobility (who, when, how, how much, ecc.) were envisioned. Special attention was dedicated to avoiding "unbiased and neutral" assessment by external experts driving a one-way learning process, by defining "their problem", providing "their knowledge and technology", and preparing "their solutions". Therefore, such statistics would at first be summarized within traditional report documents, though they were planned to be publicly made available, within an online dashboard, showing anonymized key indicators, data and maps, and therefore also fostering a public debate on the future of local mobility and land development.

To further avoid a traditional "expert-driven" learning process, a user-centered approach to learning was adopted, and focus of the Living Lab was put on co-creation activities themselves, through the co-design of the persuasive app. In particular, during Living Lab meetings inclusive participatory techniques were adopted (division in small groups, favor round-robin interactions, voting, short discussions for different topics, etc.), to better stimulate the participation and knowledge-sharing of all the different personalities present in a heterogeneous group of participants. Results of a final evaluation survey were planned to be openly shared with all Living Lab participants, in order to attract their further feedback and comments. Overall, such an approach was expected to help increasing intrinsic motivation, enduring participation and learning and knowledge-sharing between participants.

Maastricht

In Maastricht the Living Lab consisted of two physical meeting sessions with the stakeholders, with a combination of plenary meeting and subgroup meetings. The stakeholder knowledge was captured by asking them to make their vision for 2040 explicit in the first session. In the second session, they learned about each other's visions, they received reflections from practitioners about their vision (including implications on cost, environmental quality and accessibility) and they received visualizations of their vision. Possible adaptation of the visions they thus decided to introduce were monitored. The expression of the visions in the first round nicely mapped a diversity of stakeholder views on mobility in the future. However, in the second round most groups stuck to their vision of the first round. Only the urban planners (i.e. the municipality) adapted their vision, mostly based on feedback from practitioners. This lack of learning could be because:

- the groups were quite strongly convinced of their vision developed in the first round, with changes only likely on longer time frames (than four weeks);
- the format of feedback on their visions was not sufficiently "tailor-made" to be absorbed by the participants.

#6

Upscaling

The Living Lab is disconnected from broader societal debate

- **Design and manage Living Lab activities with great care for the local conjuncture: consider broader socio-economic, cultural and political aspects, ensure links with the existing public debate, with what a community considers to be its priorities, and what stakeholders consider to be feasible**
- **Maintain a certain flexibility throughout the Living Lab, be ready to adapt to changing conditions in the outside social and political agenda. Ensure that both Living Lab objectives and its framing can be adjusted and continuously re-defined by all actors**
- **Place citizens at the core of the process and actively coordinate with other societal developments and initiatives related to the content of the Living Lab**

THE CONSTRAINT

Urban Living Labs are forms of societal experiments that take place in real life conditions. While they can and should have an innovative flavor, they will successfully scale up only through existing windows of opportunity.

If an experiment is designed as if it was to take place in a vacuum, disregarding the social, economic, cultural and political conjuncture, or if the external conditions change (the windows of opportunity close), the Living Lab is unlikely to scale up.

In such cases of "disconnected Living Labs", even though Living Lab outcomes are positively assessed by participants and aligned with original plans and expectations, the broader public is unlikely to share the Living Lab's objectives, understand and replicate its methods, and to find it relevant in addressing current priorities.

Under such shifts in policy windows, instead of proactively supporting upscaling of Living Lab outcomes, decision-makers might adopt a "wait-and-see" attitude, maybe not opposing the Lab launch and management, but intentionally avoiding to develop and implement any strategy specifically designed to favor the active diffusion of its results.

WAYS TO ANTICIPATE

A Living Lab should be designed and implemented with great care for the local conjuncture. No immediate replication of Living Lab examples of best practices is likely to be successful if it is not adequately customized and adapted to changing conditions in the outside social and political agenda. This includes broader socio-economic, cultural and political considerations, but also ensuring links with the existing public debate, with what a community considers to be its priorities, and what is considered to be feasible by stakeholders. Efforts to connect the Living Lab with the broader societal developments need to be done while designing the Living Lab, but also throughout its development. This requires a degree of flexibility and adaptability to changing external conditions, involving – when needed – adjustments and re-framing. In particular, what can reasonably be scaled up should be identified since the very beginning of Living Lab activities and an upscaling strategy should be designed, together with the relevant communication and dissemination measures.
Consistently, such a strategy should be kept flexible and open to the evolution of activities in the Living Lab as well as the external dynamics, and tailored to the specific context where Living Lab results are to be upscaled, by choosing the right channels, time and language.
In this context, an important precondition is to place citizens at the core of the process, as they are likely to have the most detailed understanding of the local context. In addition, it also requires to actively coordinate with other societal developments and initiatives related to the content of the Living Lab. This can be done at different levels ranging from simple information sharing, to building bridges and identify possibilities of cooperation.
As a corollary, ensuring the Living Lab is well linked to the broader societal debate, is also a way to ensure Living Lab participants feel recognized, thereby strengthening internal dynamics and empowering them. In turn, this further favors their active engagement in the diffusion of Living Lab outcomes and the implementation of the upscaling strategy.

Brussels

In Brussels, Living Lab activities have been coordinated from the onset with the broader citizen movement for a cleaner air in the city. To begin with, an initiative for "Smart Mobility" was immediately reframed by the local partners in order to put air quality and people health at the core. Adopting the right problematization approach favored raising commitment among those citizens who would not have voluntarily engaged in a mobility-related process, perceiving the topic as outside their own priorities. Instead, they genuinely and very proactively engaged in an air pollution-related process, since they cared very much for their health, and especially the one of their kids.

From very early on, in addition, the Living Lab initiators (the local university and a citizen movement) engaged in an open dialogue with all stakeholders active on the topic, contributing to establishing both a platform for discussion for all civic movements active for better air, and a network of researchers working on air quality and citizen science. Both efforts contributed to reaching out to a broad audience and ensure that the Living Lab was immediately part of a broader discussion.

Throughout the process, finally, the Living Lab was fully co-conducted by the project partners and by the various groups who decided to join. While the broad structure was proposed by the organizer (i.e. getting to know pollution, letting others know), different groups decided to fill it in in different ways, for example by raising different questions (e.g. the level of pollution in school, while commuting, or throughout the day) and identifying different communication forms (i.e. a citizens science paper, a public conference with experts, or creative ateliers).

Maastricht

In Maastricht, Living Lab organizers decided to run a visioning assessment experiment to anticipate this constraint on upscaling smart-intermodality. Being well aware of the fact that the Municipality was one of the most relevant stakeholders in this process, Living Lab managers first waited about a year until the topic achieved visibility in the societal debate, thus leading the Municipality to accept participating in it and get interested in its results.

Then, by organizing the Living Lab around visioning in the far future (2040) and inviting stakeholders relevant for urban mobility, Living Lab managers sought to make the lessons relevant for the coming years – not just the project plan for the station area that was due in July 2018. This way, they manage to nourish and enrich the ongoing debate on the creation of shared visions for the future.

Graz

The Living Lab in Graz was initiated by the city government which aimed to improve the quality of life in the traffic-dominated area of Griesplatz. The city's Executive Directorate for Urban Planning was responsible for organizing a participatory process around a Living Lab. The concept was well prepared and applied by the Living Lab team. However, after one year, priorities in the city government changed towards other projects and the future of the Griesplatz was uncertain. The Living Lab continued but it was difficult to maintain a clear line in communication that would not promise too much but still encourage citizens to be active in the lab. Demonstrating flexibility, the city district office, where the lab was based, was turned into an exhibition room to show all collected results and ideas so far. As a direct reaction based on feedback from the exhibition, the lab organizers facilitated an additional social safari dedicated to the local economy in the district of Gries. In their overall communication strategy that comprised various media and channels they emphasized that "no idea is lost" and that everything would feed into the public architectural competition after the end of the Living Lab.

#7

Upscaling

The Living Lab consensus is not reflected in policy and society

- **Open to participation as much and as early as possible and regularly update the stakeholder analysis whenever external conditions change, in order to avoid the exclusion of any relevant stakeholder group**
- **Favor emergence of any conflicting goals within Living Lab participants and between Living Lab participants and possible external stakeholder groups not actively engaged, and manage conflicting goals by multi-criteria decision-making techniques**
- **Always emphasize and give weight to potential community-level benefits of the options under discussion, against personal or partisan benefits. To this purpose, exploit already existing networks and coalitions and seek for new and unexpected alliances between groups of stakeholders, trying to build relationships with successful initiatives already developed by other actors**

THE CONSTRAINT

In some contexts or for some specific topics, outcomes of the Lab might not find consensus beyond Living Lab participants. Even when the need for intervention on a specific topic is well acknowledged by the population and the interested parties, and addressed as a priority of the social and political agenda, persistence of conflicts might preclude reaching an agreement on a specific solution.

Conflicts might appear both within the Living Lab itself, thus leading to no shared outcomes, or outside, when trying to upscale the shared Living Lab outcomes across the city. In both cases, Living Lab outcomes would lack support or agreement by the population, as well as of the political majority needed to activate the envisioned upscaling measures.

WAYS TO ANTICIPATE

Living Labs should open to participation as much and as early as possible, by activating participatory processes already from the development of visions, selection of methodologies and identification of the actions to be performed. A "participation policy" (e.g. guidelines for participation) at city level can support citizen involvement in the first place and give structure to ongoing processes.

A **stakeholder analysis** should be performed at the start of Living Lab activities, and regularly updated whenever external conditions change, in order to avoid the exclusion of any stakeholder group.

Participatory processes should then be designed as to favor emergence of any conflicting goals among Living Lab participants, first of all, and then among Living Lab participants and any external stakeholder groups not actively engaged in Living Lab activities.

Management of conflicting goals could then be performed by means of **multi-criteria decision-making techniques**, which support Living Lab participants and policy-makers towards a transparent and thoughtful choice among different goals. In doing so, community-level benefits should always be emphasized and already existing networks and coalitions between groups of stakeholders should be exploited. Relying on a multi-criteria approach might also favor the creation of new and unexpected alliances between groups of stakeholders.

Finally, also building relationships with successful initiatives already developed by other actors would be beneficial.

In case these strategies fail in conflict resolution within the Living Lab, political authorities will be called to make decisions.

Maastricht

In Maastricht, Living Lab managers invited all those stakeholders that are relevant for urban mobility to attend the Living Lab and organized activites in a first session around visioning in the far future (2040). This was meant to help make the information emerging relevant for the coming decade– not just the project plan for the station area that was due in July 2018. This approach helped discussion not to get stuck on current conflicting issues, favouring instead a creative and less conflictual co-creation of visions for the future. In this context, by asking partcipants to draw their vision for 2040, Living Lab manageres were also able to make the diversity of stakeholder perspectives explicit. In the second session, participating stakeholders learned about each other's visions, they received an assessment from practitioners about their vision on multiple criteria: implications on cost, environmental quality and accessibility. Showing the pros and cons of each vision was helpful to prevent one stakeholder hijacking the debate, but it didn't lead to overall consensus either. Although final convergence of visions was not achieved, involved stakeholders learned arguments to better understand each other's point of view.

Bellinzona

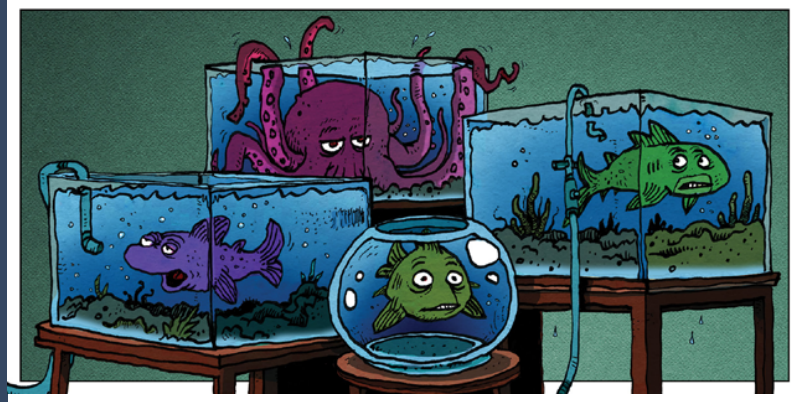
In Bellinzona discussion on the future of mobility and land use planning in general is perceived as a very conflictual topic, with highly contrasting positions among stakeholders and an equally heated societal debate, as shown by the amount of municipal referendum processes activated in the last years against decisions made by local authorities.

In such a context, local authorities would have not accepted to launch and support a living lab shared with citizens and dealing with scenario-building for the future of mobility in Bellinzona. However, Living Labs can provide significant benefits exactly in such contexts, where achieving consensus is critical. Therefore, to start activating a Living Lab process, Living Lab initiators opted to first focus on a practical, technologically-oriented topic, such as the smartphone app development. Perceived as a low-conflict topic, it was easily supported. Scenario-building activities were instead introduced later on, capitalizing on the fact that a multi-stakeholder process had already been activated for the development and test of the app. At that stage, it was easier to ask Living Lab participants what they would have needed to make mobility more sustainable in Bellinzona, thus spontaneously upscaling discussion to future mobility scenarios and policy-making. This way, highly conflicting discussions were spontaneously introduced in the Living Lab.

#8

Upscaling

Stakeholders and institutions are highly fragmented



- Foster transparency and collaboration between administrative units, organizations and stakeholders, right from the beginning of the Living Lab process
- Create occasions for them to interact and become familiar with the process, discussion topics and proposals emerging within the Living Lab

THE CONSTRAINT

Usually a series of different stakeholder networks and institutions are involved and need to interact with one another to pursue management and development of urban processes. Acknowledging this interdependency, however, coordination between these many actors is often difficult, fragmented, and may lack horizontal cooperation among the different sectors.

Fragmentation may be due to different reasons: a given legislative or hierarchical framework, lack of trust and/or communication, financial constraints, poor knowledge or strategic vision. Particularly, this phenomenon is detectable at the institutional level itself: it is not uncommon to experience vertical fragmentation in units and departments ("silo compartments") within and between public administration institutions. Consequently, even when policy-makers embrace a Living Lab participatory approach, its outcomes might suffer from limited diffusion due to fragmented institutional arrangements, which hinder clear distribution of responsibilities and effective cooperation between involved city departments. This makes both horizontal and vertical dissemination of results rather difficult. As such, nurturing the interaction between different stakeholders and institutions represents an important key to success for Living Lab processes.

WAYS TO ANTICIPATE

Transparency and collaboration between administrative units and organizations should be actively fostered from the very beginning to create the atmosphere of "a common endeavor".

To overcome problems of fragmentation, it is essential to acknowledge interdependency between different actors, institutions, units and departments and to strengthen and reinforce these networks and their specific roles.

In addition, it might be necessary to build a comprehensive vision outside the administration, by putting the wished-for changes of citizens at the heart of the debate and then address specific issues to specific institutions.

Maastricht

In Maastricht one constraint is high institutional fragmentation, in the sense that key stakeholders (residents, commuters, businesses) normally do not meet and discuss on these matters in an organized way, although probably having very different views on this. Typically, the municipality bilaterally speaks to business actors and citizens for policy input. The visioning assessment experiment was designed to help anticipating this constraint on upscaling smart inter-modality. In two sessions the stakeholders came together in both a plenary meeting and sub-group meetings, and the diverse visions were developed, presented, discussed, assessed, re-developed in an open and equivalent way.

In the post-interviews all participants stressed they felt they could express themselves well and freely. About half of the participants said they had heard some interesting points from other participants. At the same time, business actors found the residents "too ignorant for such a visioning exercise" and residents' visions "just dreams". This can be seen as a type of institutional fragmentation through a classic framing of "experts" and "non-experts". A few participants remarked they liked the format of separate stakeholder groups to first work with peers, before a larger discussion with a mix of stakeholders, because it helps to better structure arguments.

The Living Lab was successful to bring the different stakeholders in a dialogue amidst institutional fragmentation, by showing all participants the pros and cons of their vision. Although the experiment did not show convergence of visions, it did show the municipality learned more arguments for a larger car-free area in the city center. Possibly, two sessions are not sufficient to enable convergence of visions, and a follow-up is needed.

Bellinzona

In Bellinzona, administrative organization at the City level was the main obstacle preventing diffusion of the Living Lab approach to other fields than mobility and institutionalization of new governance practices. The strategy to overcome the "silo compartments" barrier was to actively engage councilors and civil servants, instead of waiting for them to spontaneously express interest in processes or results. Thus, it was planned to invite them to attend Living Lab meetings, in order to personally experience how they work and the effort needed, and guess their potential in addressing complex or conflictual topics.

In the end, the envisioned strategy was not put into practice, mainly due to "low institutional receptiveness" (see constraint #10). However, this gap was at least partially closed, by planning a final meeting targeting civil servants of other City departments than the Living Lab promoter, and the related political decision-makers. The meeting was aimed at presenting and discussing the approach, the results obtained and the final evaluation of the performed activities, and was supposed to reduce fears and prior oppositions by the city managers, thus favoring larger uptake of participatory approaches in future decision-making processes.

#9

Upscaling

The urban assemblage is sticky and locked-in

- **Activate a dialogue with relevant actors as soon as possible: by developing future visions with stakeholders and crucial decision-makers, the potential of more structural changes can be highlighted**
- **Local actors might be empowered by teaming up with supra-urban actors, such as municipalities with provinces or local Non Governmental Organisations with their national counterpart (scale jumping)**

THE CONSTRAINT

Changes in urban contexts are sometimes tricky to achieve, due to technical, infrastructural, legal or financial interlinkages. In fact, frequently obduracy to urban assemblages can occur, due to persisting infrastructure, long-term contracts or legal "lock-ins". Decisions need to be taken by multiple stakeholders or entities on a political level and cannot be attached to the outcome of a participatory process only. Depending on the specific situation in a city, several obstacles might exist at the same time, which makes it difficult for Living Lab activities to take effect.

WAYS TO ANTICIPATE

To find out about possible barriers for a Living Lab's objective, a dialogue with relevant actors has to be initiated. By developing future visions with stakeholders and crucial decision-makers, the potential of more structural changes can be highlighted. Also, local actors can be empowered by teaming up with supra-urban actors, such as municipalities with provinces or local Non Governmental Organisations with their national counterpart (scale jumping). They might also assume different roles, e.g. as decision-maker and personally concerned citizen at the same time.

If still circumstances do not allow big changes, a Living Lab should focus on what is actually possible. Also providing legal flexibility at least for a limited amount of time to experiment with temporary measures can be useful (e.g. permission for markets). Communication strategy and methodology have to be designed accordingly, in order to avoid wrong expectations among Living Lab participants. Finally, also collecting ideas and concepts to apply in future when circumstances will allow it, can be a strategy.

Graz

The Living Lab in Graz aimed to improve the quality of life in the traffic-dominated area of Griesplatz through infrastructural changes. As a consequence of its purpose as traffic hub, not all infrastructural elements could be replaced according to citizens' desires. In addition, long-term contracts with bus operators forced the organizers to wait. Living Lab participants started to feel that elaborated discussions ended up in little outcome. The organizers remained flexible and changed their strategy by focusing on short- and middle-term measures. In order to deliver visible outcomes of the participatory process, they provided small and quick improvements for the Griesplatz area such as a bike lane, a new lightening system in one street, enlargement of a public space and street furniture. Also temporary awareness-raising measures were taken, e.g. organizing a pop-up market. They released press articles ensuring that "no idea is lost". That means that ideas created in the Living Lab will be remembered and put into place at a later stage in the course of a public architectural competition, once the bus contracts had expired.

Maastricht

In Maastricht one constraint on upscaling inter-modality is the "urban assemblage" around car use and parking in the inner-city, which is rather obdurate. This refers to the interlinking of traffic circulation plans that are adapted to the operation of the many underground parking garages; visitors expecting to be able to park in the center; shop owners who like cars passing by their stores; urban planners' expertise around developing over- and underground parking; and operational contracts (mostly running until 2032) of the garages, also reflecting significant financial interests. This interlocking bundle of social and technical elements tends to resist change of the whole assemblage, only allowing "add-ons" that leave the rest in place.

The visioning assessment experiment was designed by considering a year in the further future, 2040, in order to move beyond the interests and structures of today, and to allow envisioning more structural change.

The experiment found that there are broadly two different future visions:

- entrepreneurs and mobility operators envisioned incremental development toward more underground parking refining and strengthening the current urban assemblage;
- on the other hand, residents and commuters envisioned structural change towards an (almost) car-free city center. The group of urban planners had a compromise in the middle. The urban planners did learn that there is more support for a larger car-free zone than they thought, and in a second session they reduced urban parking. This was also based on the reflections that showed the ineffectiveness of park and ride (P+R) projects, without reducing urban parking.

#10

Upscaling

The Living Lab meets low institutional receptiveness

- Seek for early inclusion of policy-makers and local institutions
- Provided that Living Lab organizers show genuine commitment and give voice, role and responsibility to diverse groups of citizens, civil society organizations and experts, institutions might start appreciating the approach and its benefit
- Carry out multiple successful pilot processes
- Build on existing practices and procedures of representative democracy to promote dialogue between stakeholders

THE CONSTRAINT

Institutions may not show (or indeed not have) real commitment for a Living Lab approach.

Sometimes barriers might be due to the lack of open-mindedness and receptiveness by institutions involved in Living Lab activities. Local governments, as well as other actors involved in the process, including Non Governmental Organisations (NGOs), universities and companies, might in fact be unfamiliar with, or open to, co-creation approaches, believing that interaction with other stakeholders adds unneeded complexity to policy development.
Low receptive institutional contexts tend to favor expert-driven ways of thinking and agreement with powerful lobbies, in traditional Decide-Announce-Defend (DAD) approaches.

In such contexts, even if Living Labs are activated and developed, they might lack full support of key institutions, who might support them as a façade tactic, indeed being unwilling to implement their outcomes.

WAYS TO ANTICIPATE

To cope with such constraints on the process institutional context, early inclusion of policy-makers and local institutions should be sought for. Provided that activities in the Living Lab are adequately designed, namely that Living Lab organizers show genuine commitment and give voice, role and responsibility to diverse groups of citizens, civil society organizations and experts, policy-makers and institutions might start appreciating the approach and its benefits.

Then, it would be a matter of repetition. Once multiple successful pilot processes are carried out, institutions and policy-makers would embrace approaches and processes, supporting their outcome.

If instead policy-makers and institutions do not accept invitations to engage in Living Lab practices, try to bring Living Lab outcomes into traditional channels of democratic representation, fostering a public discussion with and within elected political representatives.

Bellinzona

The City of Bellinzona was formally owning the Living Lab process; however, due to the lack of familiarity with participatory approaches, they were not fully aware of the potential of participatory Living Lab projects in supporting policy development. Therefore, they lacked leadership and predominantly relied on advice and superintendence by the local university. They mainly perceived the Living Lab as a technology innovation testing ground: a single, small-scale, closed and controlled process, aimed at developing and evaluating the mobile app prior to its rollout at city-level.

In particular, local decision-makers tended to cling to authoritative governance styles, rather than opening up to more consultative, cooperative or even facilitative approaches, mainly due to the fear of losing formal power and responsibility on the decision. Their main concern was to avoid possible financial and personal drawbacks and, inadvertently or not, the tendency was to keep the Living Lab in the policy periphery. However, leadership can only be learnt through experience: providing first-hand opportunities of experiencing public participation processes is a first start. Thus, researchers involved in Living Lab organization tried to promote a new political culture by ensuring the presence and active participation of representatives of the Municipality (civil servants, politicians) in Living Lab meetings. This helped getting local authorities and decision-makers gradually acquainted with the concept that Living Labs may represent a valuable learning-by-doing tool and a constructive and enriching means for reflection on practices or policy.

Also, to favor Living Lab acceptance by decision-makers, the strategy was to focus at first on an app development: practical and technologically oriented, this was perceived as a low-conflict topic and therefore easily supported. Later on, capitalizing on the actor- and context-dependent knowledge created while Living Lab participants were testing the app and concretely experiencing new mobility behaviors, discussion in the Living Lab was upscaled to policy-related topics regarding future mobility scenarios ("What would we need to make mobility more sustainable in Bellinzona?"). This way, also potentially scaring and far-reaching discussions were spontaneously introduced in the Living Lab with the support of the institutions.

Maastricht

In Maastricht, although found cumbersome, there is already experience and (at least among part of the civil servants) appreciation for more Living Lab-type of approaches. The tool of visioning and participatory visioning is also applied in Maastricht, although not very often. One constraint for further use is that not the municipality, but stakeholders like the national railways and local businesses, prefer to exclude citizen groups (see constraint #8 "Stakeholders and institutions are highly fragmented").

A further constraint on upscaling of Living Lab approaches was anticipated by refining specific details in the experiment in Maastricht, most notably:

- separate stakeholder groups to first work with people with similar perspective, before a larger discussion with a mix of stakeholders, helping to better structure the arguments;
- build further on output of the first session in the second one, whilst receiving reflections;
- include the municipality as one of the participants since the very beginning.

These characteristics were indeed new and appreciated by civil servants, because they helped them to participate in an equal, more fruitful way. Normally, when the municipality facilitates participatory sessions, they either tend to be under pressure and criticism due to policies in the past (raising frustration at the side of citizens and others), or they risk (at least the impression of) "reproducing existing power structures" (see constraint #4). Therefore, civil servants are now open for wider application in other policy fields.

Brussels

During the first year of the Brussels Living Lab, different attempts were made by Cosmopolis and BRAL (respectively, the local university and a city movement) to engage with regional governmental institutions responsible for mobility, environment and smart city. These included various meetings with staff of the cabinet's and of the administration, and official letters with different proposals for cooperation and joint activities within the Living Lab. The institutions did not answer to any of the proposals, for reasons that, at this point, we could only speculate on. On this basis, it was decided to approach institutions through a different channel: via the political production of the Brussels movement for cleaner air. Rather than approaching directly the regional institutions, BRAL and Cosmopolis contributed to facilitate a dialogue between citizen groups and political parties in the context of the local and regional elections, thereby scaling up the Living Lab via the consolidated practices of democratic representation. This was done, for instance, through, a process of citizen lobby in view of the regional election (series of facilitated dialogues between citizens groups and parties' representatives), and of a large event on the topic of citizen, science, and air pollution.

GLOSSARY

→ The elements introduced here are **underlined** in the document.

Group dynamics analysis
An analysis of how individuals included in a certain group interact with each other and react to changing circumstances. Particularly, influence of power structures and formal and informal relations have to be taken into account.

Group facilitation techniques
Specific techniques aimed at making discussion within groups of people easier, less conflictual and overall more creative and productive. Depending on the specific step of a decision-making process, such techniques support groups of people in brainstorming ideas, in estimating and assessing their effects, and in comparing and discussing them, with the aim of getting as much as possible shared group decisions.

Map of actors
A graph visually representing the relations between the stakeholder identified to affect or be affected by a certain topic.

Citizens jury
A participatory methodology supporting decision-making on complex and conflictual topics, based on reproducing practices of a jury in a legal trial. A jury of random selected citizens is invited to make a judgement about a specific topic, based on elements provided by a group of experts, who debate in front of them about possible alternatives to address it.

Mental map
A representation of a specific area, from the point of view of individual perceptions. It allows to identify subjective perceptions towards a place, leaving room for feelings and emotions.

Multi criteria decision-making techniques
A decision-making methodology that supports considering all relevant aspects, and not only purely monetary parameters, when making a decision between alternatives options. It requires to first identify the relevant aspects to be considered (criteria), with respect to a specific decision-making process, then to estimate the effects the available options produce on them and to turn them into satisfaction values, and finally to weigh the relative importance of criteria between each other. It can easily be arranged in order to account for the different viewpoints by different stakeholder groups (multi-criteria group decision-making), thus allowing the final decision-makers to be aware of the pros and cons of each available option, as well as who would benefit and who would suffer negative consequences.

Planning cell
A participatory methodology supporting decision-making on specific topics, involving a group of twenty-five citizens randomly selected to debate on such a topic and look for effective solutions. The cell lasts for a few days, therefore participating citizens need to be offered a monetary compensation, which guarantees no biases in the composition of the group.

Requirement analysis
An analysis aimed at identifying the needs of all the stakeholders involved in a certain process, which also takes into account any internal or external condition affecting them.

Social safari
A participatory methodology supporting land planning and development processes. A group of 20-30 citizens from different target groups (for example, residents, shopkeepers, representatives of local associations, city managers etc.) spend some hours exploring together a specific site. During the exploration, they collect data, gather information, interview people, document observations. The collected material allows to better address existing problems and develop creative solutions.

Stakeholder analysis
A process aimed at identifying all the relevant parties with interests at stake around a specific topic, that might be affected by it either directly or indirectly (namely, the stakeholders). These include public and private bodies and organizations, as well as associations. Besides identifying who the stakeholders are, the analysis also aims at identifying how they relate to each other, as well as their position on the topic under discussion.

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