SISCODE CO-DESIGN FOR SOCIETY IN INNOVATION AND SCIENCE

DELIVERABLE 3.7: FINAL REPORT OF THE DISSEMINATION IN THE CO-CREATION LAB ECOSYSTEMS

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Executive Summary

The project 'Society in Innovation and Science through CO-DEsign' (SISCODE) is a Horizon 2020 research and innovation project aimed at exploring and stimulating the use of co-creation methodologies in policy design, using bottom-design-driven methodologies to operationalize Responsible Research and Innovation (RRI) and its application in Science Technology and Innovation (STI) policy making.

A key element of SISCODE's investigation, has been the creation of a network of 10 co-creation labs spread throughout Europe. Each of them has undertaken a co-creation journey together with relevant local stakeholders to find solutions to a pressing local societal challenge.

The current document is the result of their engagement and dissemination as presented in deliverable 3.6 Dissemination plan in the co-creation labs. For each of the labs the following aspects have been presented and analysed:

- a short description of the labs,
- the key/societal challenge tackled and its solution,
- stakeholder engagement approaches; and
- the dissemination actions implemented within the duration of the pilot project.

During the four phases of the co-creation journey (analyse the context, reframe the problem, envision alternatives, develop and prototype) and their iterations, all of the labs have succeeded in engaging a network of stakeholders, but through very different strategies. There has been a broad range of ways, from more targeted activities to broader exploratory ones, from delivering a high number of small meetings to a fewer number of large events. Each lab has experimented and learned along the way about the most effective ways to engage their target stakeholders.

The analysis of this engagement has some limitations that the reader should take into consideration as they might put in context the figures and reflections of the following sections.

When it comes to their dissemination and communication plans, in total the labs have secured more than 250.000 impacts. Revising the assessment frameworks of the labs, we can see that this has been mostly used to promote their local events, invite participants but

also update their audiences about their co-creation journeys (including the challenges and solutions). Of those around 180.000 impacts were reached using social media, which could be expected. Conversely, still 60.000 impacts were secured using emails, presentations, workshops and face to face meetings, which represents a high number.

1. Introduction

The project 'Society in Innovation and Science through CO-DEsign' (SISCODE) is a Horizon 2020 research and innovation project aimed at exploring and stimulating the use of co-creation methodologies in policy design, using bottom-design-driven methodologies to operationalize Responsible Research and Innovation (RRI) and its application in Science Technology and Innovation (STI) policy making.

A key element of SISCODE's investigation, has been the creation of a network of 10 co-creation labs spread throughout Europe. Each of them has undertaken a co-creation journey together with relevant local stakeholders to find solutions to a pressing local societal challenge. This network of labs is composed of Living Labs, FabLabs, and Science Centres and Science Museums. The 10 co-creation labs are classified as follows:

- In three Living Labs: Krakow Technology Park (KTP), Krakow; PA4ALL, Novi Sad; and Thess-AHALL, Thessaloniki;
- In three FabLabs: FabLab Barcelona, Barcelona; Polifactory, Milan; and Viadukten, Copenhagen;
- In four Science Centres and Museums: Cube Design Museum, Kerkrade; Pavilhão do Conhecimento - Ciência Viva, Lisbon; Science Gallery Dublin, Dublin; and Traces, Paris.

The labs have been carrying out real-life experiments that have contributed to knowledge generation around co-creation and testing the effectiveness of design methodologies to better combine co-construction (ideation) and co-production (implementation) of solutions and policies for the integration of society in science and innovation.

These experiments have contributed to the establishment of a solid network of stakeholders that have been engaged all along the project. To do this, each of the labs has tapped into their existing networks to consolidate, but above all expand, their stakeholder base by bringing together local actors around their specific societal challenges: end-users, scientific and research community, industry, policy makers and importantly the public. Beyond their

work in developing a product or service to respond to the local needs, these local networks have become multipliers of the SISCODE actions - communicating to the broader community the value of co-creation and design driven methodologies. Most stakeholders have also been involved in testing these tools by practicing together. In other words, as part of their co-creation journey, each lab has communicated, disseminated and engaged various stakeholders promoting the journey, stimulating the public disclosure of the results and ensuring that users, internal and external stakeholders, and institutional actors have become active parts of the co-creation activities.

It goes without saying that the current COVID-19 pandemic has had an important impact in the initial plans of the labs, i.e., many of the in-person activities have had to be cancelled, with some being replaced by online activities and others having to be fully cancelled.

The current document is a response to the initial engagement and dissemination plans developed by the labs described/presented in deliverable 3.6 Dissemination plan in the co-creation labs. For each of the labs the following aspects will be presented:

- a short description of the labs,
- the key/societal challenge tackled and its solution,
- stakeholder engagement approaches; and
- the dissemination actions implemented within the duration of the pilot project.

The sources of information for this deliverable are the deliverables already produced by the labs such as deliverable 3.4 Experimentation report: Lab's journeys as case studies, 3.5 Assessment report and deliverable 3.6 Dissemination plan in the co-creation labs. These deliverables were developed under the tasks 3.4 Implementation through organisational transformation and learning and 3.6 Dissemination within he co-creation labs ecosystems. The labs journeys were assess using a framework developed as part of Task 3.5 Monitoring and assessing (see deliverable 3.5 Assessment report for more information).

A more detailed information on each of the aspects addressed by this deliverable, thorough descriptions of the co-creation journeys, including the events listed here, can be found in D3.4 that presents the co-creation journeys as case-studies. Some activities listed in this deliverable occurred after the delivery of Deliverable 3.4, between December 2020 and April 2021, as labs could benefit for this time to consolidate, sustain and disseminate their work.

2. Objectives

The objectives of this deliverable are detailed in the following:

- Summarising the results of the engagement and dissemination work of the 10 co-creation labs
- Analysing the data gathered taking into consideration the limitations of the data collection

3. Limitations to the analysis

The analysis presented below has some limitations that the reader should take into consideration as they might understand the figures and reflections of the following sections.

First of all, the data collection was done individually by each of the 10 different co-creation labs using an assessment framework developed in work package 3 “Experimentation in the co-creation labs”. This framework was operationalised in a spreadsheet with a number of items. Although, categories were pre-defined and the labs were not able to create their own sections to tag each of there are activities that might have been difficult to categorise i.e activities including an element of engagement and a part of dissemination, for instance a workshop were the project was presented and was used as an ideation activity. Since each of the labs has had free rein to fill their spreadsheets, the same type of activities by two different labs might have been categorised differently. Similarly, the report contains an analysis per phase that was sometimes criticised by the labs as some of the activities really fell at the boundary between phases.

The engagement figures presented in this report contains some degree of redundancy that there was no way of removing, so the total stakeholder engagement numbers should be taken with this in mind. Each of the labs was asked to fill in the data per activity. This means that if a specific stakeholder was involved in several activities, this person would be counted as many times. Although we understand that this may cause confusion, we have decided to leave it as a reference.

4. Engagement, dissemination and communication plans

The initial engagement and dissemination plans included a state-of-the-art analysis of each of the labs beginning the outset of the project. This analysis listed not only the challenge, but also the internal and external landscape of the lab contributing to the starting point for each of the labs. Beyond that, each of the labs analysed the potential risks and barriers for the lab's engagement of stakeholders and then, the strategy they were planning to implement. The strategy was based on the general SISCODE communication, engagement and dissemination plans adapted to the local context. This was a choice made by the project to keep a coherent message across communication channels.

4.1. Stakeholder engagement

Considering the nature of deliverable 3.7, a key component consists in reflecting and summarising the stakeholder engagement efforts carried out by each of the labs. In many cases it is actually impossible to clearly establish the boundary between one (engagement) and the other (dissemination).

Deliverable 3.1 Co-creation journeys and 3.6 Dissemination plan in the co-creation labs ecosystems were key in identifying the type of stakeholders that could be engaged, the role they could play and some strategies to better map and engage them in the co-creation journeys. Stakeholder engagement was meant to be a continuous activity at the core of the SISCODE experimentation, with all the labs searching for new ways to interact with the local ecosystem to face a societal challenge and engage interested actors in co-producing a sustainable solution for the challenge. During the four phases (analyse the context, reframe the problem, envision alternatives, develop and prototype) and their iterations, all of the labs have succeeded in successfully engaging a network of stakeholders, but through very different strategies. There has been a broad range of figures, from more targeted activities to broader exploratory ones, from delivering a high number of small meetings to a fewer number of large events. Each lab has experimented and learned along the way about the most effective ways to engage their target stakeholders.

To summarise it, the following table lists the combined the overall reach of the labs:

Total	**10993**	**Total %**
Total without staff	9192	100%
Staff	1801	-
Policy makers	964	10%
Scientific & research organisations	613	7%
Industry & innovation	550	6%
NGO/CSO	382	4%

TAB 01 - FRAMEWORK ASSESSMENT SUMMARY

On average, 1.000+ people have engaged throughout the project in each lab. This highlights a good effort from each of them to use the tools at their disposal and their strengths to connect with the local ecosystem. Each of the labs established a different flow of engagement depending on their background and challenge.

Although there is no clear pattern that can be extracted, generally, the phase of development and prototyping has been the one that has attracted the bigger number of stakeholders. On the other hand, it can be noted that labs have put a lot of effort in this phase, by analysing the context adopting a more inward-looking approach.

The fact that good solutions required a continuous stakeholder engagement has also benefitted the possibility of keeping a high number of people involved, triggering an active role and stakeholder buy in of the process. A potential supporting factor in both engagement and active involvement of stakeholders is the collaboration with similar initiatives, as well as building on local and regional agendas to pursue common goals collaboratively. Stakeholders and actors appear to shift their role not only by taking an active part in co- creation activities, but by starting to be involved even before the beginning of the initiative, as a part of the entire set-up. However, this is not the case for all the labs, some have also highlighted the fact that the challenge was to reach a high level of engagement from the beginning of the journey. For some others, it was a challenge in itself to convince people to maintain their engagement in the process.

4.2. Dissemination

As described in Deliverable 3.6 Dissemination plan in the co-creation labs ecosystems, the topic of dissemination is interconnected and complementary to the one of engagement. The strategies used have aimed not only at sharing results in general, but rather at developing tailored approaches to disseminate findings and results to the different target groups identifying and exploiting their associated channels. Then, apart from the integration of practices to provide open access to results, a variety of broader reflections on the use and results of dissemination activities have emerged. Dissemination has turned out to be a necessary mean of keeping stakeholders, and specifically policy makers, up to date and aligned. Dissemination itself can be strategically designed and applied as a different way of involving them, defined as 'active dissemination' by one of the pilots.

The dissemination of the co-creation practices and tools, showing their application for different stakeholders:

	Social media	E-mails, phone calls, meetings	Presenta-tions at workshops & meetings	Organisat-ion of workshops	Other	Dissemina-tion
Total without staff	177,917	15,557	7,445	159	53900	254,978
Staff	153	188	330	48	40	759
Policy makers	300	810	431	2	723	2,266
Scientific & research	1,134	2,355	867	5	4126	8,487
Industry & innovation	128	447	472	72	355	1,474
NGO/CSO	128	2,977	435	7	2817	6,364

End-users	162	2,804	902	24	505	4,397
Broad public	148,163	3,084	3,986	49	42275	197,557
Media	1,428	3,078	25	0	3,081	7,612
Other	26,474	2	327	0	18	26,821

TAB 02 – OVERALL DISSEMINATION REACH

4.2.1. FabLab Barcelona

4.2.1.1. About the lab

IAAC|FabLab Barcelona can be defined as an innovation centre that analyses how to live, share and produce in cities. As part of the transition into Industry 4.0 and leading the Fab City initiative, IAAC|FabLab Barcelona focuses on the human-scale and the everyday experience; identifying opportunities in rising trends across seven strategic areas of expertise: Sense Making, Productive Cities, Materials and Textiles, Future Learning, Civic Ecology, Distributed Design, and Emergent Futures.

SISCODE pilot co-creation journey at IAAC started with the ambition of reinforcing the embedding of the Fab City Global Vision[1] into the locality of Barcelona, in the neighbourhood of Poblenou where the lab is based. It started from the idea that neighbourhoods have the perfect size to test and initiate societal transformations that can then be scaled-up. During this journey, the team looked at the introduction of circularity and community engagement, reimagining what could have been the role of makerspaces such as FabLabs in fostering such changes.

4.2.1.2. The challenge and solution

A major problem around the world food waste is an issue that has been identified by the local government and has been the object of a new Catalan law. Consequently, this raised the need to rethink people's relationship with both, food and the concept of waste. A

[1] Fab City Global vision aims at developing locally productive and globally connected self-sufficient cities. https://fab.city

diverse set of interested actors including restaurants, markets, producers, cooperatives, associations, public administration, or neighbours have come together to prevent food waste, to increase the use and value of food along the food chain, even more so in the pandemic context.

Having started as an incubation programme, IAAC|FabLab Barcelona's solution "Remix El Barrio" is now becoming an active collective of food waste material designers promoting and featuring emerging local ecosystems for the crafting and micro-fabrication with food waste at the neighbourhood scale and beyond. The solution proposed consists of finding new ways of implementing local learning ecosystems that give new life to food leftovers avoiding them being tossed too soon.

In terms of stakeholder engagement, it has a huge potential as the solution aims at fostering and sustaining local collaboration between actors, to develop synergies, around the micro-fabrication of a series of material and products. The solution is about inspiring and guiding communities toward a new future for social bio-design and distributed manufacturing.

The solution has resulted in four synthetic documents that have been designed to best describe the different dimensions of the circular ecosystem emerging within Remix El Barrio:

- A Geographical Map has been created at the district level to show the synergies created between the designers in the makerspace, the providers and local associations.
- An illustrated list of the designer's projects that shows what type of materials, products and experiences have been made with a variety of food waste.
- A Service Blueprint synthesising the future offers such an ecosystem could propose to local stakeholders.
- A policy brief targeting policy maker on the future challenges and ambition of Remix El Barrio

4.2.1.3. Stakeholder Engagement

At the start of the project, FabLab Barcelona had identified several risks in what relates to stakeholder engagement:

- It is difficult to engage and onboard the Lab community.
- It is difficult to engage and onboard start-ups and SMEs.
- It is difficult to engage and onboard industry players.
- It is difficult to reach and engage policy makers (officers).

- It is difficult to reach and engage policy makers (decision makers).

The table below lists the number of stakeholders per category reached directly by the lab throughout their journey. In total, the lab has involved close to 1.500 participants with a good variety of stakeholder groups including policy makers which seemed to be one of the main obstacles the lab foresaw.

Category	Number of stakeholders	% of total
Staff	143	-
Policy makers	20	2%
Scientific & research	87	7%
Industry & innovation	85	7%
NGO/CSO	128	10%
End-users	27	2%
Broad public	901	72%
Media	1	0%
Other	0	0%
Total excluding staff	1248	100%
Total	**1394**	-

TAB 03 – IAAC FAB LAB BARCELONA OVERALL STAKEHOLDER ENGAGEMENT

The data has also been broken down by phase, and the results show that the involvement of the different stakeholders has been evenly spread throughout the different phases with the development and testing being the one where stakeholders have been more involved. In the case of FabLab Barcelona, an effort was made to create a cycle of open events (listed under the category "other") which attracted almost half of the participants.

	Analyse context	Reframe problem	Envision alternatives	Develop and prototype	Other	Total
Total without staff	61	35	97	441	615	**1249**
Staff	19	9	22	68	25	**143**

Policy makers	3	1	0	11	5	**20**
Science & research	16	2	54	11	4	**87**
Industry & innovation	18	6	6	36	19	**85**
NGO/CSO	24	13	32	46	13	**128**
End-user	0	1	0	0	26	**27**
Broad public	0	12	5	336	548	**901**
Media	0	0	0	1	0	**1**
Other	0	0	0	0	0	**0**

TAB 04 – IAAC FAB LAB BARCELONA STAKEHOLDER ENGAGEMENT PER PHASE

The detailed description of each of the phases has been captured in Deliverable 3.2. Co-creation of solutions and policies Notwithstanding, a quick summary about the stakeholder engagement can be found below.

- Analyse the context:

The work was done mainly internally, with a minor implication of external stakeholder engagement. Still, the team conducted several interviews with local actors that served to understand the needs within the Poble Nou neighbourhood.

- Reframe the problem

This second phase marked the start of a more in-depth stakeholder engagement component, however is still to a lower extent (3% of the total involvement). The lab involved a core group of actors in their first co-creation workshop. The event aimed at identifying synergies among the actors by matching local resources with the existing needs the group has identified during the “analyse the context” phase.

- Envision alternatives

In this and the following phase, prototyping and development, have been the core parts of the engagement with relevant stakeholders. FabLab Barcelona organised three events for end-users in which they worked on identifying new opportunities, and most importantly, areas of collaboration. Throughout this phase, the core team focused on developing new collaboration and facilitating the possibility of pulling resources together. This phase could be defined as the real take-off of the involvement of the neighbourhood actors.

- Prototype and Develop (& Other)

During the fourth phase, the team used a number of existing events to reconnect with the actors that had been identified and involved during the context analysis and the problem reframing. The prototyping phase has certainly been the most intensive and in-depth involvement of stakeholders starting with a more explorative aspect and quickly becoming an incubation programme. 35% of the overall involvement happened during the prototyping phase. that was structured around 2 prototyping loops. For the second loop, which eventually led to the creation of the “Remix El Barrio" incubation programme the team went back to their initial stakeholders and used social media to reach out to a growing number of possible actors involved. 13 projects were selected and underwent a highly engaging incubation programme that included dedicated online spaces for interaction (including a WhatsApp group and a shared google drive), weekly collective activities and individual coaching both at a technical level and for community engagement. The lab also organised seven face-to-face sessions at IAAC|FabLab Barcelona and Fab City Hub Barcelona, 2 external experiential workshops in the urban garden “Connect Hort” and 16 online meetings during the COVID-19 pandemic related lockdown with 4 live sessions with external stakeholders. This phase ended with a first exhibition in October and another in April that was used as a dissemination means and that has reached at least 400 people.

4.2.1.4. Policy makers involvement

Policy makers are one of the key stakeholder groups for SISCODE, also they seem to be at the core of the risks highlighted by the pilot. From table 1: framework assessment summary, we can see that during the co-creation journey they succeeded in involving 20 policy makers, by a mix of interviews, participation to events, and co-hosting city events. Beyond the co-creation journey, as part of their work in Work Package 4, FabLab Barcelona

has also carried out 2 specific workshops for them that include one with dissemination purposes and another to collect feedback about their initiatives.

4.2.1.5. Dissemination and communication

In terms of communication and dissemination, the lab reached close to 3.350 people. Almost half of the impacts were made by the use of social media, but interestingly 30% of the audience were reached via presentations (mail, telephone and above all public presentations of the project) which guarantees more engagement.

	Social media	Mail	Presentations at workshops & meetings	Organisation of workshops	Other	Total dissemination
Total without staff	1460	258	933	159	444	**3254**
Staff	6	13	18	48	9	**94**
Policy makers	0	6	1	2	4	**13**
Science & research	5	57	4	5	0	**71**
Industry & innovation	5	12	1	72	3	**93**
NGO/CSO	0	45	7	7	17	**76**
End-user	0	0	49	24	419	**492**
Broad public	25	138	871	49	1	**1084**
Media	1420	0	0	0	0	**1420**
Other	5	0	0	0	0	**5**

TAB 05 – IAAC FAB LAB BARCELONA DISSEMINATION

4.2.1.6. Resulting stakeholder mapping

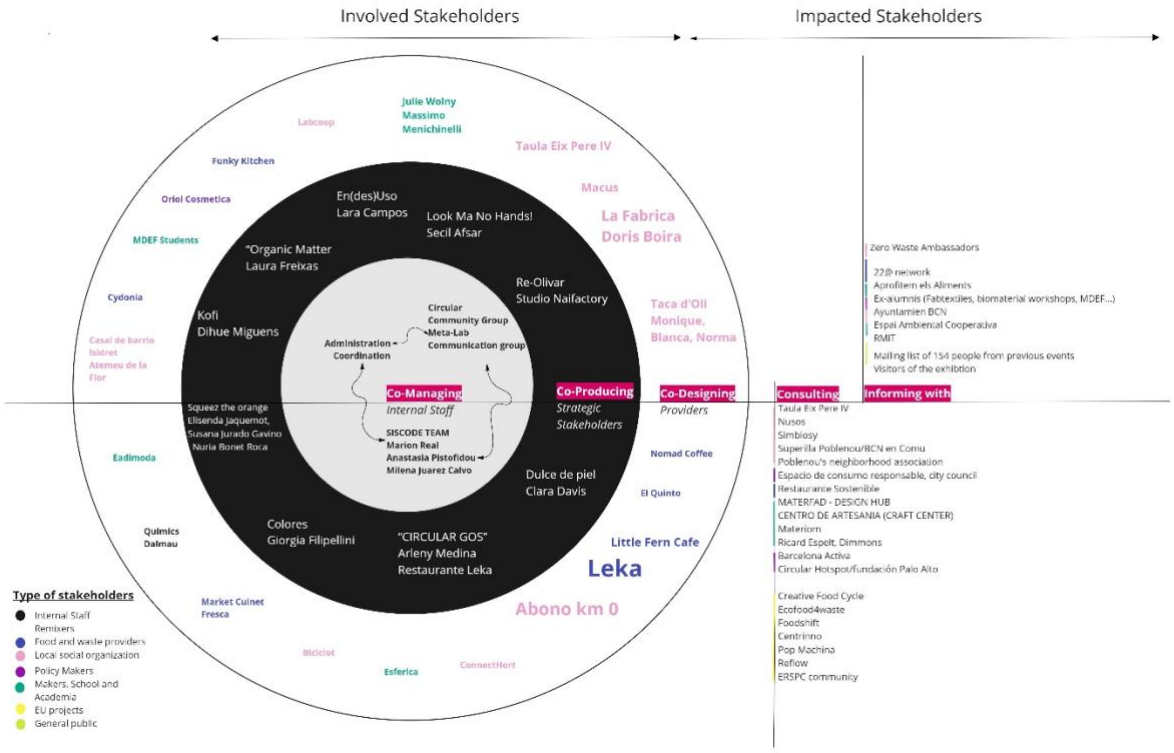


FIG 01 – IAAC FAB LAB BARCELONA STAKEHOLDER MAPPING

4.2.2. POLIFACTORY

4.2.2.1. About the Lab

Polifactory is the makerspace and FabLab of Politecnico di Milano. The lab was created in 2014 and is coordinated by the Department of Design in collaboration with the Departments of Mechanical Engineering and Electronics, as well as Information and Bioengineering.

It is an interdisciplinary research lab and a Key Enabling Technology Centre that explores the relationship between design and new production models and materialises interactive product-service solutions. Polifactory develops competitive and experimental research, consultancy projects for large companies and SMEs, experimental didactics initiatives, preincubation of talents and ideas for master degree students, PhD students, and fellowship researchers. Its staff, currently composed by 11 people who promote, coordinate and

manage the different makerspace's activities. It collaborates with a wider group of scholars, researchers, graduate and undergraduate students.

Italian and especially Milanese makerspaces and creative communities are particularly active in projects related to healthcare. Italian FabLabs collaborate and operate on these issues together with patient associations, policy makers and RRI experts in several European projects.

4.2.2.2. The challenge and the solution

For SISCODE, Polifactory's journey focused on the disease of Cerebral Palsy (CP), one of the most common physical disabilities in childhood. The idea of focusing on a so-called rare condition was developed for several reasons:

- Often rare diseases and conditions are not sustained by the public welfare system
- Rehabilitation and cure processes and environments are often unfriendly especially for children
- Collaborations between makerspaces/fablabs and innovative users in the medical field are key to avoid users 'drop out' from the innovation process before having realized a prototype because of the lack of skills, budget, etc.

Having identified the challenge, Polifactory developed a video game that generates playful environments to stimulate the physical reactivation of children with cerebral palsy. BODYSOUND system uses dance and music activities to create a new way of performing physical reactivation. The video game based on choreutics (dance+music) and on the transformation of movement into sound. Within this system, children can perform a "choreography" and transform it into a 'melody'. BODYSOUND System was conceived especially for children with motor difficulties but it is suitable for everyone.

4.2.2.3. Stakeholder Engagement

Like all of the other labs, at the start of the project when the lab was working on their own engagement and dissemination plan, they identified a number of potential barriers and risks.

Differently from other labs, they had a more qualitative concern about the level of engagement they would reach. The lab knew from the beginning that theirs was an existing need that would interest patients, carers and policy -makers alike, b but rather how much time and resources they would need to deploy in order to succeed.

The list of potential risks and barriers were the following:

- The interaction with regional policy makers requires time and effort but is feasible. However, the interaction with national policy makers is harder and needs more time.
- Risk of slow reaction from the stakeholders (patients associations, public bodies, and policy makers) that Polifactory would like to involve, due to organisational and bureaucratic processes that might take some time.
- The availability of time that these stakeholders can dedicate to the project can be limited and unstable.
- Patient innovators, patient associations, and healthcare operators need to be well informed, effectively engaged, and actively supported in the co-creation process because together with policy makers they are key actors within the pilot.
- Difficulty in engaging designers because of two main typologies of problems: First of all, the specificity and the complexity of the design focus; Secondly, the richness of calls and opportunities available in the Milanese area.

In terms of stakeholder reach, Polifactory has attracted a total of 400 participants throughout their co-creation journey. Policy makers represent almost 2% of the total number of participants in the challenge, as they had initially foreseen, this has not been a problem. Due to the particular nature of BODYSOUND, more than 50% of the participants have been End-users, which in this case are both the kids that suffer from cerebral palsy and mostly their families and carers.

Category	**Number of stakeholders**	**% of total**
Staff	156	-
Policy makers	45	18%
Scientific & research	28	11%
Industry & innovation	10	4%
NGO/CSO	4	2%
End-users	140	57%
Broad public	2	1%
Media	0	0%
Other	16	7%
Total excluding staff	245	100%
Total	**401**	-

TAB 6 - POLIFACTORY OVERALL STAKEHOLDER ENGAGEMENT

If we exclude the internal staff, we can see that figure is close to 245 people. Per phase, we can see that the bulk of the engagement with stakeholders happened during the "Reframe of the problem" (38%) and the "Develop and prototype" (38%).

	Analyse context	Reframe problem	Envision alternatives	Develop and prototype	Other	Total
Total without staff	5	94	52	92	2	**245**
Staff	14	24	20	94	4	**156**
Policy makers	1	20	1	23	0	**45**
Science & research	0	0	10	18	0	**28**
Industry & innovation	2	2	1	5	0	**10**
NGO/CSO	1	1	0	2	0	**4**
End-user	1	71	39	28	1	**140**
Broad public	0	0	1	0	1	**2**
Media	0	0	0	0	0	**0**
Other	0	0	0	16	0	**16**

TAB 07 – POLIFACTORY STAKEHOLDER ENGAGEMENT PER PHASE

- Analyse the context

In this case, the first part of the project was also done mostly at the lab's level, and with just a minor engagement of the stakeholders. This engagement included a survey and one interview.

- Reframe the problem

In terms of stakeholder engagement, this is one of the key phases in their journey. Excluding the labs staff, Polifactory involved near to 100 participants including 20 policy makers and 74 end-users. Participants were deeply engaged, participating not only in co-designing sessions, but also in the experimentation and having to work on their reflections by keeping a diary.

- Envision alternatives

For this phase the team combined light modes of engagement (surveys) with co-design sessions. Surveys were used with both policy makers and End-users whereas the latter involved end-users (deep level of involvement early in the process).

- Develop and Prototype

The nature of the solution makes the development and prototyping of the solution a very technical work. This has meant that although a high number of stakeholders have been involved, almost 50% of the people involved in the prototyping were Polifactory's internal staff. If we go in detail to the assessment framework of the journey, we can observe that this part is composed of no less than 45 activities, many of them done either with none or very few external stakeholders. Half of the external stakeholders were engaged through only 5 activities (interviews, experimentation lab, two user tests and one workshop with policy makers).

4.2.2.4. Policy makers involvement

As in the case of FabLab Barcelona, Polifactory decided to have a more personal and one to one involvement with stakeholders as they understood that they had to build a privileged relationship with them. In total, they secured the participation of 45 policy makers most of them involved through private meetings (9 policy makers out of an initial selection of 21) and direct contacts with them. The COVID-19 situation in the Lombardy region meant that contacts with the health services had to be interrupted.

4.2.2.5. Dissemination and communication

When it comes to the dissemination and communication, the figures are impressive with a total of 27.505 individuals. Most of them have been realised by using social media (both to disseminate results, present publicly the co-creation journey and announce events. The rest, 263 people were reached via public presentations and workshops.

	Social media	Mail	Presentations at workshops & meetings	Organisation of workshops	Total dissemination
Total without staff	27267	0	248	0	**27505**
Staff	35	0	15	0	**50**
Policy makers	41	0	15	0	**46**
Science & research	1010	0	113	0	**1123**
Industry & innovation	1	0	2	0	**3**
NGO/CSO	1	0	1	0	**2**
End-user	43	0	35	0	**78**
Broad public	26138	0	31	0	**26169**
Media	8	0	0	0	**8**
Other	15	0	61	0	**76**

TAB 08 – POLIFACTORY DISSEMINATION

4.2.2.6. Final Stakeholder map

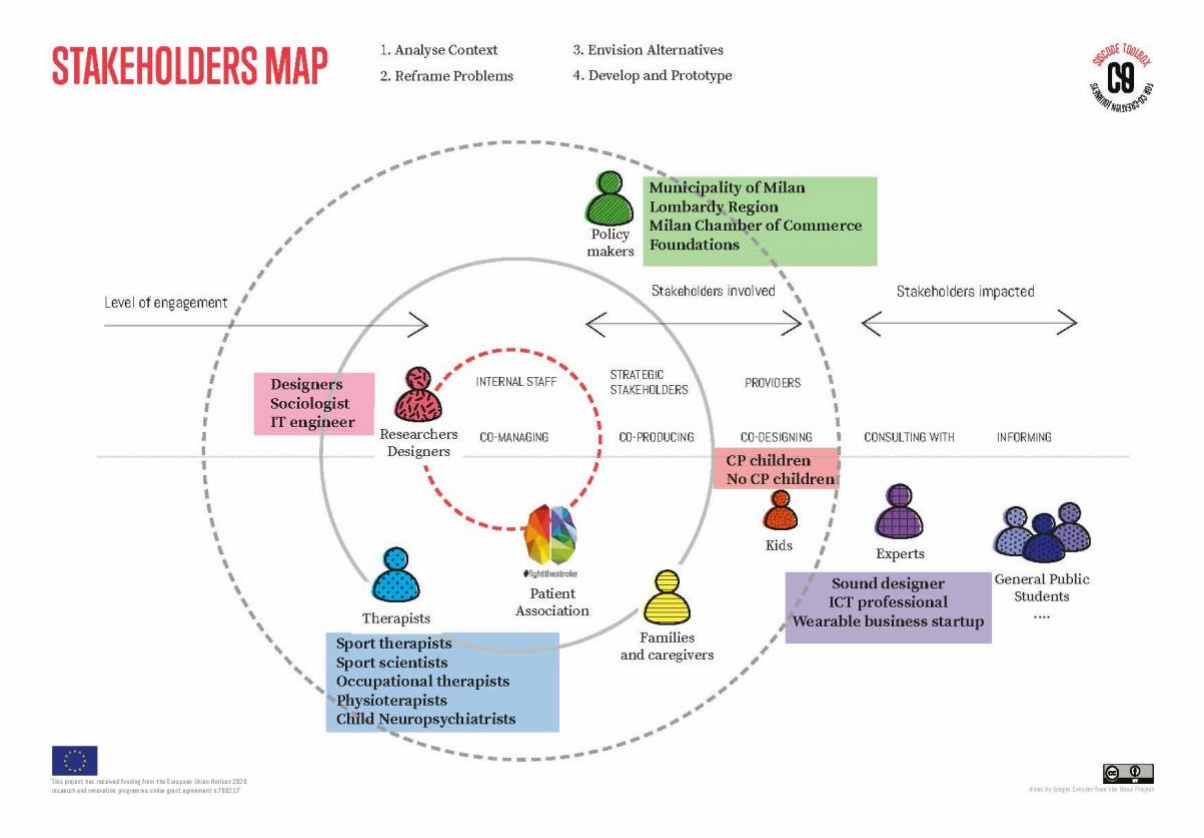


FIG 02 – POLIFACTORY STAKEHOLDER MAPPING

4.2.3. Maker/ Viadukten

4.2.3.1. About the lab

Maker is a non-profit association established in March 2015 in Copenhagen (Denmark), with the core objective to foster professionalisation and scaling out of the maker-ecosystem to support entrepreneurship in Denmark. Maker works to create a strong network between makers, private companies and the public sphere in Denmark and the Scandinavian countries. Maker nurtures, promotes and engages the Danish ecosystem of stakeholders working with co-creation of sustainable solutions, capacity building, and tools regarding design thinking, prototyping and new digital fabrication technologies. It addresses challenges in relation to the Fab City Initiative in order to experiment, develop support and promote local production, circular economy, democratisation of tools and knowledge in Copenhagen, as well as in the rest of Denmark.

Staff at Maker are trained in cross-sector collaboration, co-design methods and hands on prototyping. Maker is, most of all, a practical research association supporting and

promoting physical entrepreneurship (designers, makers, entrepreneurs), open source methodologies and circular economy initiatives.

4.2.3.2. The challenge and solution

SISCODE pilot at Maker has been built around two main elements: on the one hand, the objective of deploying the Fab City agenda in the city of Copenhagen and on the other hand, the need for locally produced recycled plastic sheets for designers.

The pilot had a big vision: the development of circular systems by adopting an eco-systemic approach for small scale systems of designers and producers, and by creating effective technical solutions with a high potential of scaling.

The needs identified by Maker (implementation of the Fab City agenda and the need for locally sourced recycled plastics) asked for a circular systemic innovation and holistic production model involving the whole model chain - from local generators of waste plastic to end-buyers of locally produced goods - making it economically viable and scalable. The solution was finally called “PIPO - Plastic In Plastic Out.”

4.2.3.3. Stakeholder engagement

Maker identified a number of risks and barriers concerning the stakeholder engagement that include:

- Know-how on keeping the lab community engaged
- Difficulties to engage start-ups and SMEs
- Difficulties to engage industry players
- Difficulties to engage resellers
- Difficulties to engage experts in the field
- Difficulties to engage policy makers
- Project partners leaving the project

These risks and barriers can be summarised in a general concern: how successful would their stakeholder engagement strategy be? The diverse range of tools used as well as the different phases of the co-creation process have proved to be successful and the risk have been carefully avoided. Maker reached a total number of 1.173 stakeholders and developed a set of activities which secured different levels of engagement with different stakeholders.

Category	Number of stakeholders	% of total
Staff	87	-
Policy makers	18	4%
Scientific & research	39	8%
Industry & innovation	97	18%
NGO/CSO	10	2%
End-users	4	1%
Broad public	342	68%
Media	0	0%
Other	0	0%
Total excluding staff	**510**	**100%**
Total	**597**	**-**

TAB 9 - MAKER OVERALL STAKEHOLDER ENGAGEMENT

The following table shows the split of the engagement through the different phases. In the case of Maker, when it comes to stakeholder engagement, the emphasis has been put in the envision alternatives phases (70% of the total stakeholders involved) which is rather striking compared to the rest of the labs.

	Analyse context	Reframe problem	Envision alternatives	Develop and prototype	Total
Total without staff	8	17	362	123	**510**
Staff	13	31	33	10	**87**
Policy makers	0	2	12	4	**18**
Science & research	0	12	4	23	**39**
Industry & innovation	8	3	38	48	**97**

NGO/CSO	0	0	0	10	**10**
End-user	0	0	4	0	**4**
Broad public	0	0	304	38	**342**
Media	0	0	0	0	**0**
Other	0	0	0	0	**0**

TAB 10 - MAKER STAKEHOLDER ENGAGEMENT PER PHASE

In terms of the different phases we find the following:

- Analyse the context:

As expected, during this phase, the work was done mainly internally, mostly through desk research and with little to none external stakeholder engagement.

- Reframe the problem:

Maker started to open the process from internal to involving a selected range of external stakeholder (13 external actors in total) via interviews (telephone, emails) and a field trip. The stakeholders involved included students from the Aalborg University, industrial and public stakeholders (mostly tapping into their existing network and using emails and informal interviews) and a field trip to a plastic recycling company.

- Envision alternatives:

Maker involved a total of 122 people in 2 co-design workshops and a circular brief design. It is during this phase that Maker continued to engage policy makers (a total of 4) and mostly, the industry and innovation community but also the general public, the research community and others.

- Development and prototyping

During this phase, the lab opened up their process to the public, involving them in workshops to share their vision and to prototyping various designs made from recycled plastics (123 participants in total and 48 from industry and innovation sectors). The core

design team, co-created physical prototypes and products with 9 different makers, designers and companies. This main engagement component was accompanied by internal work to prepare for opening up the process to the local public. Policy makers were involved at the end of this phase in the last co-creation workshop. For the previous workshops (ideation, prototyping and visualisation) mostly with other makers and the general public.

The final outputs were disseminated as a digital exhibition on Maker's social media channels as well as on the SISCODE website.

4.2.3.4. Policy makers involvement

Beyond involving policy makers to a certain extent during the co-design phase of the co-creation journey, Maker also involved them in 2 workshops specifically tailored for them;

- An informative workshop for 60 policy makers
- A workshop to assess the solution and the business model for 8 participants.

4.2.3.5. Dissemination and communication:

In terms of dissemination work, Maker reached around 10.000 people mostly to promote and invite to their workshops, as well as deliver them and present the project in the framework of other initiatives.

Maker used a mix of mailings, social media, publications on their website, as well as, personal communications including informal meetings, phone calls and emails. Besides these mailings have also been used to update and inform their stakeholders about the pilot updates. As for other labs, social media constitutes the channel that has reached a bigger number of individuals (7.400). Although listed under others, most of the social media impacts should be categorised under the Broad public.

Via presentations and workshops, Maker reached a total of 2200+ people. They have mostly presented the project, their challenge as well as their ideas on how to solve it to a wide range of public. This list also counted first contacts with actors that later became relevant stakeholders. This includes C40 Cities[2] representatives, makers (26) and above all interested citizens.

[2] https://www.c40.org/

	Facebook	Mail	Presentations at workshops & meetings	Total dissemination
Total without staff	7548	160	2166	**9874**
Staff	10	26	18	**54**
Policy makers	148	66	11	**225**
Science & research	0	20	41	**61**
Industry & innovation	0	70	72	**142**
NGO/CSO	0	4	17	**21**
End-user	0	0	0	**0**
Broad public	0	0	2025	**2025**
Media	0	0	0	**0**
Other	7400	0	0	**7400**

TAB 11 - MAKER DISSEMINATION

4.2.3.6. Stakeholder mapping

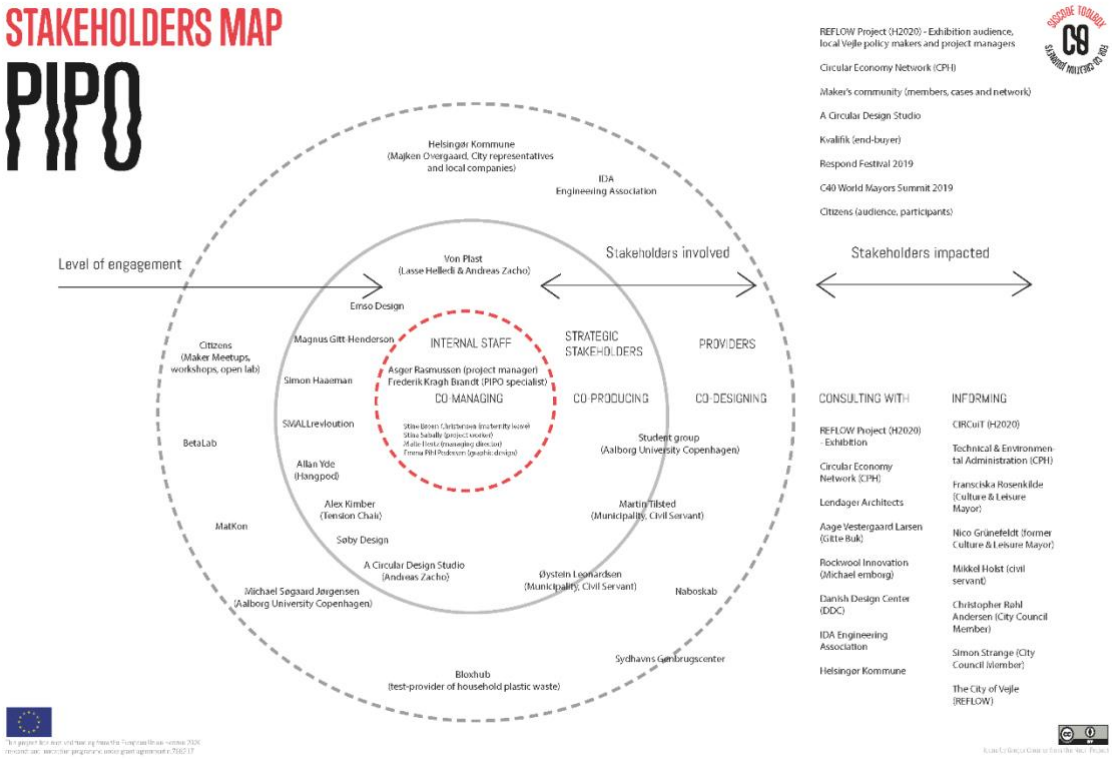


FIG 03 - MAKER STAKEHOLDER MAPPING

4.2.4. Krakow Technology Park

4.2.4.1. About the lab

Krakow Technology Park, based in Krakow, Poland is a business support organisation (BSO) which together with entrepreneurs, academia, and the territorial authorities builds the ecosystem for the development of the Małopolska economy. The main mission of the KTP is to help companies to develop faster.

KTP manages the Polish Investment Zone, authorising tax exemptions, and inspiring enterprises to new investments and promotes what the Małopolska region has to offer in terms of economy. It also helps local and regional authorities to be prepared to establish contacts with investors.

KTP also runs an incubation and acceleration programmes, a digital innovation hub and is also one of just two certified Living Labs in Poland. It cooperates closely not only with

business, but also with the local administration and regional stakeholders in the elaboration of regional development strategies.

4.2.4.2. The challenge and solution

The Krakow Technology Park joined the process of creating a new Air Protection Programme at the early stage of the work, in January 2019, supporting the Marshal Office of the Małopolska region in conducting public consultations.

The aim of the National Air Protection Program (NAPP) is to improve air quality in the country of Poland which is a huge health concern. The NAPP applies to the areas with high concentrations of air pollutants and areas with high population density. The Regional Air Protection Programme (APP) also called "air quality plan" is a regional strategic act by the Marshal Office of Małopolska region to improve the quality of air in the region by 2023.

Besides the APP, KTP has also developed a second solution, a Platform for monitoring Industrial pollution.

4.2.4.3. Stakeholder engagement

KTP has directly engaged a total of 1.277 participants throughout the development of their co-creation journey combining different levels of engagement activities that went from light engagement (surveys and consultations) to meetings and finally a Hackaton (or in their case a Smogaton) to develop a technical solution to the problem of smog.

At the start of the process, KTP identified a number of issues or risks to be considered throughout the process:

- New thematic field of expertise for KTP.
- No expertise in the field of air pollution
- Difficulty in reaching and involving different target groups, especially citizens.
- New elected representatives, lab needs to build relations with new decision makers
- There are many exciting initiatives and activities aiming to reduce air pollution. Difficulty to create added-value on the regional landscape
- Very short time to organise and perform the whole process of co-creation journey

Even if their journey might seem complicated, KTP has been extremely successful in their stakeholder engagement strategy. All of their risks have been carefully avoided with well-crafted strategies and they have been capable of doing so within a considerably short time.

Category	Number of stakeholders	% of total
Staff	114	-
Policy makers	478	41%
Scientific & research	61	5%
Industry & innovation	123	11%
NGO/CSO	94	8%
End-users	299	26%
Broad public	57	5%
Media	13	1%
Other	38	3%
Total excluding staff	**1136**	**100%**
Total	**1277**	**-**

TAB 12 - KTP OVERALL STAKEHOLDER ENGAGEMENT

If we look at the stakeholder involvement per phase, we can see that KTP established a clear strategy in order to overcome their lack of thematic expertise on air pollution by involving a high number of stakeholders early in the process. This phase sees an involvement of almost the 20% of them. Otherwise, it is during the "Develop and Prototype Phase" where we see the majority of stakeholder involved with more than 800 participants.

	Analyse context	Reframe problem	Envision alternatives	Develop and prototype	Total
Total without staff	248	49	66	800	**1163**
Staff	11	15	22	66	**114**
Policy makers	170	23	18	267	**478**
Science & research	20	7	11	23	**61**
Industry &	23	3	3	94	**123**

innovation					
NGO/CSO	24	11	13	46	**94**
End-user	6	5	21	267	**299**
Broad public	5	0	0	52	**57**
Media	0	0	0	13	**13**
Other	0	0	0	38	**38**

TAB 13 - KTP STAKEHOLDER ENGAGEMENT PER PHASE

- Analyse the context

KTP have made a big effort in gathering inputs and involving stakeholders from the very beginning of their journey representatives of NGOs, experts, scientists, civil servants and employees of units responsible for environmental protection and transport policy, representatives of the technological sector, and citizens.

Beyond the internal work of understanding the policy context, KTP combined a big open event (220 participants representing the different stakeholder groups) with a more in-depth work with fewer stakeholders.

- Reframing the problem

Besides one-to-one meetings with the Marshall office officers, a total of 50 key stakeholders were involved in this phase. They all participated in a workshop to define stakeholder needs in terms of air quality including their prioritisation and 2 regional meetings to target citizens. These 2 workshops were held due to the perceived low involvement in the previous workshop.

- Envision alternatives

Again, this phase was done mainly around 2 main events: three local meetings involving a total of 20 end-users and two policy makers and a single workshop for 40 participants including 13 policy makers. In total, this phase, where participants were asked to dream big, engaged a total of 66 stakeholders.

- Develop and prototype

Finally, for the development and prototyping, the work was divided around 2 main elements: the APP and Platform for monitoring Industrial pollution. Both parts combined, KTP has successfully involved 800 participants including more than 250 policy makers.

For the APP, the engagement was structured around an online consultation process and a set of official consultation meetings.

For the Platform, which is the result of the Hackathon carried out during the analysis phase, the process of implementing it was managed collectively by the winning team and KTP. It included a long process of consultations and discussions with public authorities and institutions responsible for monitoring the air quality in the region. It was necessary to abide by the difficult and complicated information flow relating to bureaucracy and administrations. Once tested internally, the platform was distributed for a second round of tests by citizens (20) and enterprises (5). Moreover, an open survey was published on social media and on the Marshal office's website.

4.2.4.4. Policy makers involvement

KTP has been extremely successful not only in involving policy makers, but rather to work hand in hand with them with a total of 473 policy makers involved throughout their co-creation journey.

4.2.4.5. Dissemination and communication

The dissemination and communication strategy of KTP throughout the journey has been very balanced with the use of many tools to reach as many people as possible. They have combined social media (reach out to a high number of people) with more impactful tools such as mails, and phone calls. All of this has been completed with numerous workshops and presentations.

	Social media	Mails / phone calls	Presentations at workshops & meetings	Organisation of workshops	Total dissemination
Total without staff	29485	121	623	0	**30221**

Staff	4	11	5	0	**20**
Policy makers	2	13	161	0	**176**
Science & research	2	5	19	0	**26**
Industry & innovation	2	4	23	0	**29**
NGO/CSO	2	8	20	0	**30**
End-user	35	56	0	0	**91**
Broad public	29442	35	400	0	**29877**
Media	0	0	0	0	**0**
Other	0	0	0	0	**0**

TAB 14 – KTP OVERALL DISSEMINATION

4.2.4.6. Stakeholder engagement maps

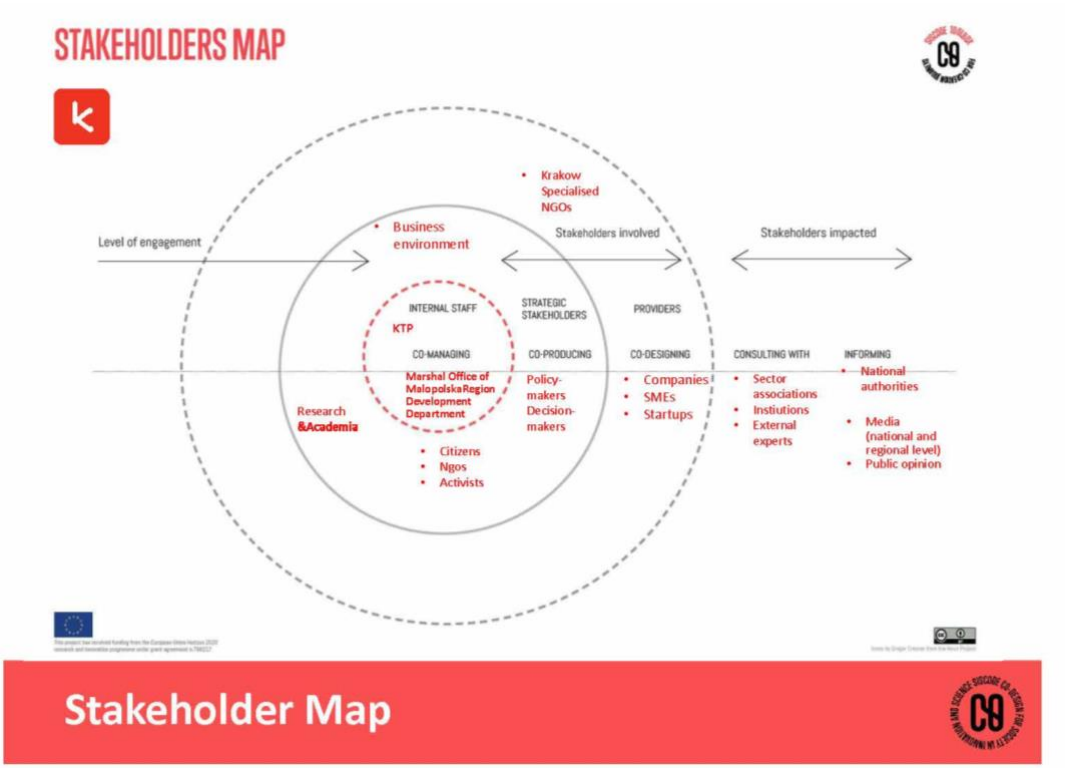


FIG 04 - KTP STAKEHOLDER MAPPING

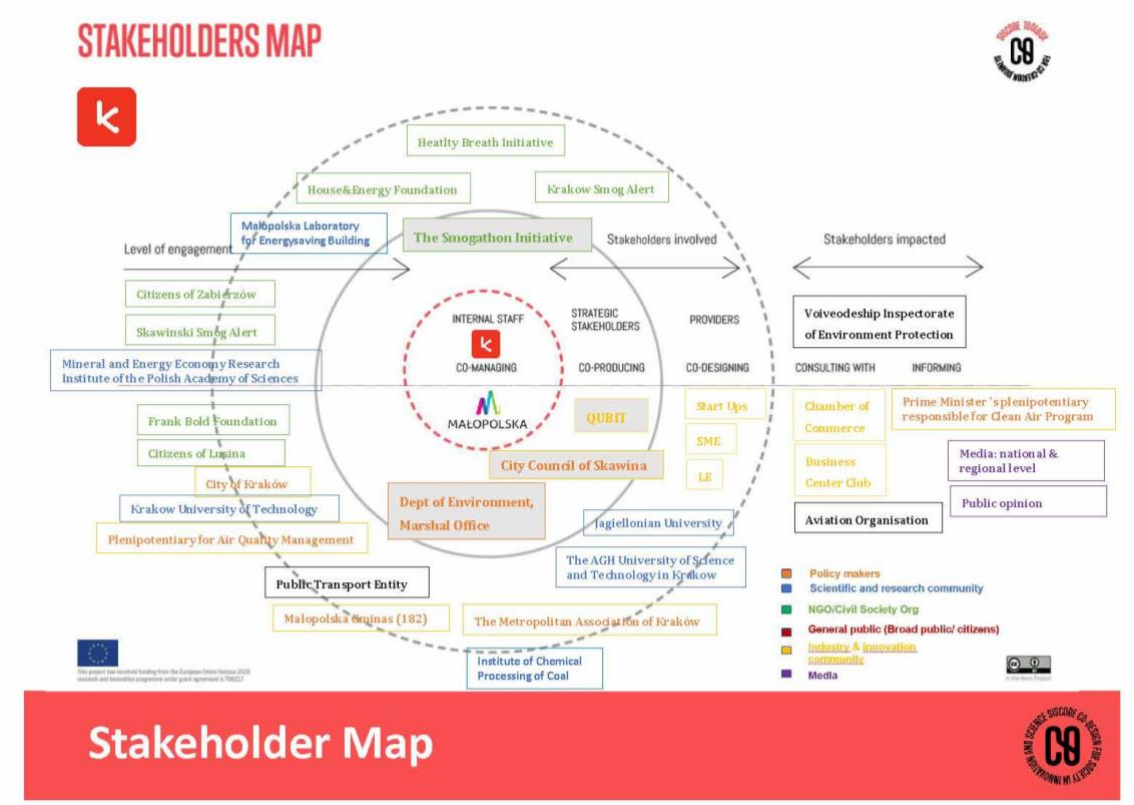


FIG 05 - KTP STAKEHOLDER MAPPING

4.2.5. PA4ALL

4.2.5.1. About the lab

BioSense Institute, is a research institute for the research and development of information technology in biosystems. Biosense is the host of PA4ALL, the abbreviation for Precision Agriculture for All, which is also the main scope of the Living Lab. PA4ALL is located in Novi Sad, Serbia and is the only institution in the region focused on the topic of ICT in the agri-food sector. BioSense advances and integrates all the advantages that ICT can offer today – nanomaterials, low-cost miniature sensors, satellite imaging, robotics, big data analytics – to provide as much information and support as possible to the agricultural sector. The Living Lab has the objective of introducing all the actors along the agriculture production chain to precision agriculture tools. PA4ALL is developed in close interaction with farmers and the agri-food sector, government bodies, entrepreneurs and business community, international researchers, and citizens. PA4ALL is working together to create a new generation of open innovation which will be readily used and lead to benefits along the entire value-chain. PA4ALL takes full advantage of inter-sectoral cross fertilisation of ideas and offers possibilities to test these and also prototypes in a real-world setting.

4.2.5.2. The challenge and solution

Agricultural decisions are turning increasingly less reliable for farmers. This raises the need for additional means such as ICT technologies applied in the field of agriculture. Many ways of applying ICT in agriculture or digital agriculture interventions have been developed and tested around the world to help agriculturists improve their livelihoods through increased agricultural productivity and income or risk reduction for damages and crop failure.

In order to contribute to finding a solution to this problem in Serbia, PA4ALL consulted research groups on the type of help that could be provided to high schools specialised in agriculture in order to prepare the students for the labour market. Remote sensing and GIS group provided an excellent reference on the equipment that should be provided to schools to support their students in learning more about Big Data analysis, which can be applied to agriculture as well. Since this group bases its research on processing, storage and retrieval of data acquired from multimodal sensors, as well as the integration of large amounts of multimodal data acquired from different sources, the idea of developing a specific curriculum for high schools was born through PA4ALL.

4.2.5.3. Stakeholder engagement

The main risks identified at the beginning of the project, when it comes to stakeholder engagement and dissemination can be summarised as it follows:

- Difficulty in engaging teachers: Lack of adequate teaching staff trained in IT. Mind-set which is more oriented towards traditional agriculture methods
- PA4ALL's mailing list is not yet compliant with GDPR and therefore cannot be used
- Potential difficulty in engaging parents of the students of agricultural schools

PA4ALL have involved around 200 people throughout the whole process. 75% of them being end-users, in this case high-school teachers and students. The rest of stakeholder groups have been more or less evenly involved.

The risks that had been listed in deliverable 3.6 Dissemination plan in the co-creation ecosystems, especially the fear of not being able to involve suitable teachers seemed to have been overcome by providing training to the existing pool. Finally, parents and families did not need to be involved but PA4ALL relied on directly engaging teachers and students. For the dissemination PA4ALL have relied on face-to-face presentations and social media.

Category	Number of stakeholders	% of total

Staff	10	-
Policy makers	11	6%
Scientific & research	36	3%
Industry & innovation	10	5%
NGO/CSO	0	0%
End-users	140	75%
Broad public	12	6%
Media	3	2%
Other	5	3%
Total excluding staff	**187**	**100%**
Total	**197**	**-**

TAB 15 – PA4ALL OVERALL STAKEHOLDER ENGAGEMENT

PA4ALL developed most of the work of the first 3 phases, internally, involving external stakeholders mostly in phase 3 (90% of the participants took part in the Develop and Prototype phase) and most of them were end-users (teachers).

The table below show the split of participation between phases:

	Analyse context	**Reframe problem**	**Envision alternatives**	**Develop and prototype**	**Total**
Total without staff	5	1	12	169	**187**
Staff	1	1	1	7	**10**
Policy makers	1	0	5	5	**11**
Science & research	3	0	1	2	**6**
Industry &	1	1	1	7	**10**

innovation					
NGO/CSO	0	0	0	0	**0**
End-user	0	0	0	0	**0**
Broad public	0	10	0	130	**140**
Media	0	10	0	2	**12**
Other	0	0	0	3	**3**

TAB 16 – PA4ALL STAKEHOLDER ENGAGEMENT PER PHASE

- Analyse the context

Like most of the labs, this phase was done internally. They still involved one teacher and its pupils in a set of interviews.

- Envision alternatives

For this phase the lab organised meetings with policy makers such as the former Minister of Education, Science and Technological Development of the Republic of Serbia, the Advocate for high and primary education of Serbia and the managers of the Center for the Promotion of Science of Serbia. These meetings helped them establish contacts with different school directors which would help the lab during the experimental phase of the project.

- Reframe the problem

The Lab carried out this phase mostly internally. Other than their internal work, students of agricultural schools were invited to send their ideas on how they would like to involve precision agriculture in their curricula.

- Develop and Prototype

During this phase, the lab carried out most of their engagement activities which ranged from the light (surveys) to the deeper involvement (meeting with relevant stakeholders).

4.2.5.4. Policy makers involvement

The strategy of PA4ALL has consisted in not separating policy makers from other stakeholders, thus they have involved 11 policy makers in activities held together with teachers, researchers, students and in general educational decision makers from the agri-food sector.

4.2.5.5. Dissemination

In terms of their dissemination and communication strategies the lab has reached a total 1.500 people mainly via social media but most importantly by participating in workshops and presentations.

	Social media	Mails / phone calls	Presentations at workshops & meetings	Total dissemination
Total without staff	566	86	700	**1352**
Staff	107	5	21	**133**
Policy makers	104	0	61	**165**
Science & research	112	0	128	**240**
Industry & innovation	120	0	160	**280**
NGO/CSO	120	40	40	**200**
End-user	110	40	200	**350**
Broad public	0	3	60	**63**
Media	0	3	19	**22**

Other	0	0	32	**32**

TAB 17 – PA4ALL OVERALL DISSEMINATION

4.2.5.6. Stakeholder map

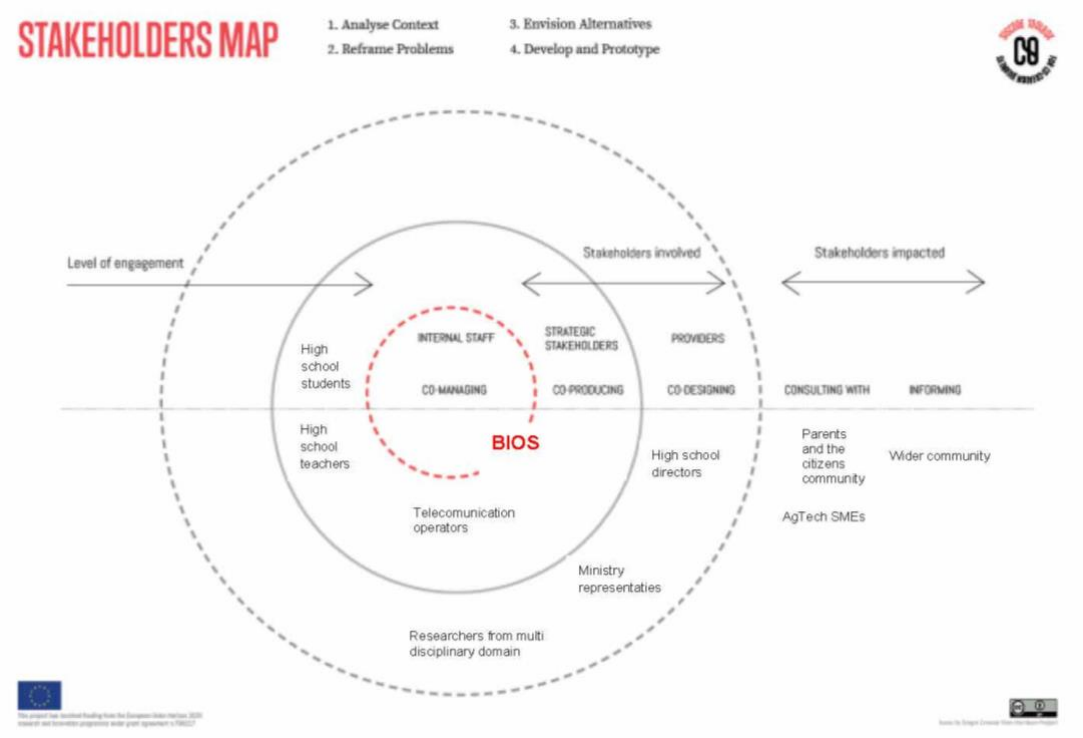


FIG 06 – PA4ALL STAKEHOLDER MAPPING

4.2.6. Thess-AHALL|AUTH

4.2.6.1. About the lab

The Thessaloniki Active & Healthy Aging Living Lab (Thess-AHALL) has been operating since 2014, governed by the Medical Physics Laboratory, School of Medicine of the Aristotle University of Thessaloniki (AUTH), Greece. It fosters research initiatives, encouraging regional development and sustainability of novel technologies in the Active & Healthy Ageing (AHA) domain. The lab has a broad experience in the field of research and innovation, as partner or coordinator in national, European-funded programmes, while running several self-funded initiatives. Its multidisciplinary personnel are experienced in designing, evaluating and implementing co-creation practices. Researchers regularly collect and share users' feedback and findings from systematic observation, monitoring and user-behaviour analysis in real-life context, applying the Agile Development Methodology

4.2.6.2. The challenge and solution

The challenge for the lab was loneliness and social isolation in the ageing population. Social isolation is also perceived by chronic disease patients who usually tend to spend their day mainly with other patients due to the cultural stigma regarding the loss of mental and physical ability. Thess-AHALL had identified a potential solution involving senior citizens in participatory research activities and decision-making process proving that a more accessible scientific community could become the solid ground to address societal problems in cooperation with citizens and experts.

Thess-AHALL solution to increase social inclusion and active citizenship in seniors and chronically ill patients is a research programme called "Partners of Experience". Chronic disease outpatients and older adults were brought back to the community as an alternative research group that collaborates with the University and Lab's researchers to contribute with their own solutions to research questions related to their own health and well-being issues.

4.2.6.3. Stakeholder engagement

Thess-AHALL had identified a potential set of risks attached to their service:

- Difficulty to engage with final users (elderly population)
- Caregivers are often overburdened by demands (lack of time & financial motivations)
- Social innovation and RRI are relatively new concepts in Greece.
- Difficulty of engaging co-creators
- Researchers rarely communicate their research with the community
- The public may not easily understand the value of the "Participate 4" campaigns.

Overall, throughout the co-creation journey, the lab involved more than 400 participants, with a vast majority being end-users (40+). The main aspects cited as risks at the beginning of the project have been overcome with 44 citizens participating in the project throughout despite the fact that the last part of the programme had to be done online with a target audience that are, in principle, not common users of technological tools.

Category	**Number of stakeholders**	**% of total**
Staff	87	-
Policy makers	18	4%
Scientific & research	39	8%

Industry & innovation	97	18%
NGO/CSO	10	2%
End-users	4	1%
Broad public	342	68%
Media	0	0%
Other	0	0%
Total excluding staff	**510**	**100%**
Total	**597**	-

TAB 18 – THESS-AHALL OVERALL STAKEHOLDER ENGAGEMENT

Considering the results considered per phase, there is a big involvement of stakeholders throughout the first phase which in the case of other labs has been done internally. Otherwise, Thess-AHALL mostly involved stakeholders in the development and prototyping phase.

	Analyse context	**Reframe problem**	**Envision alternatives**	**Develop and prototype**	**Total**
Total without staff	92	11	2	261	**366**
Staff	5	5	3	43	**56**
Policy makers	0	3	0	31	**34**
Science & research	2	2	2	65	**71**
Industry & innovation	0	0	0	0	**0**

NGO/CSO	0	0	0	9	**9**
End-user	0	4	0	146	**150**
Broad public	90	0	0	0	**90**
Media	0	0	0	10	**10**
Other	0	2	0	0	**2**

TAB 19 – THESS-AHALL STAKEHOLDER ENGAGEMENT PER PHASE

- Analyse the context

Besides collecting quantitative and qualitative data, the lab staff started their engagement work at a very early stage by carrying out a number of focus groups with professional healthcare sector stakeholders to validate their findings. Besides, chronically ill patients and seniors were also interviewed to complete the general situation analysis. In fact, a quarter of the overall participants were involved in understanding the problem at hand.

- Reframing the problem

Thess-AHALL conducted a round of discussions with the SISCODE consortium, a series of focus groups with experts from the healthcare sector (6 psychologists, 4 doctors, 2 physiotherapists, 2 nurses), interviews with outpatients who had a previous similar experience, co-organising such events with the Thess-AHALL (Parkinson's Association of Northern Greece), as well as some in-person discussions with organisations and private bodies (PAOK F.C., Telloglion Fine Arts Foundation), who would possibly donate the symbolic gifts for the campaigns, presenting the entire idea.

- Envision alternatives

Interestingly, this stage of the work turned out to be much more internal for the lab. In this case, the engagement of external stakeholders was kept to a minimum representing a 3% of the overall participants.

- Develop and prototype

For this phase the lab combined public events with presentations for stakeholders in the outer circle of engagement including presentations of the challenge, objectives, and panel discussion with end-users, policy makers, researchers and professionals with small-scale in-depth co-creation sessions for a detailed planning of the implementation of the prototype. Besides this End-users were also involved in ideation sessions and field trips.

4.2.6.4. Policy makers involvement

Overall Thess-AHALL have involved 34 policy makers (10% of the total stakeholder engagement) most of them during the develop and prototype phase. Policy makers were invited to join a public deliberation together with seniors and healthcare professionals to assess the needs of this sociological groups. They implemented a co-design session to define the programme and to act as mentors for pitching sessions.

4.2.6.5. Dissemination

	Social media	Mails / phone calls	Presentations at workshops & meetings	Total dissemination
Total without staff	183	0	698	**1271**
Staff	0	0	74	**86**
Policy makers	0	0	11	**13**
Science & research	0	0	257	**257**
Industry & innovation	0	0	150	**152**
NGO/CSO	0	0	0	**0**
End-user	0	0	102	**142**
Broad public	183	0	165	**688**
Media	0	0	1	**7**

Other	0	0	12	**12**

TAB 20 – THESS-AHALL OVERALL DISSEMINATION

4.2.6.6. Stakeholder mapping

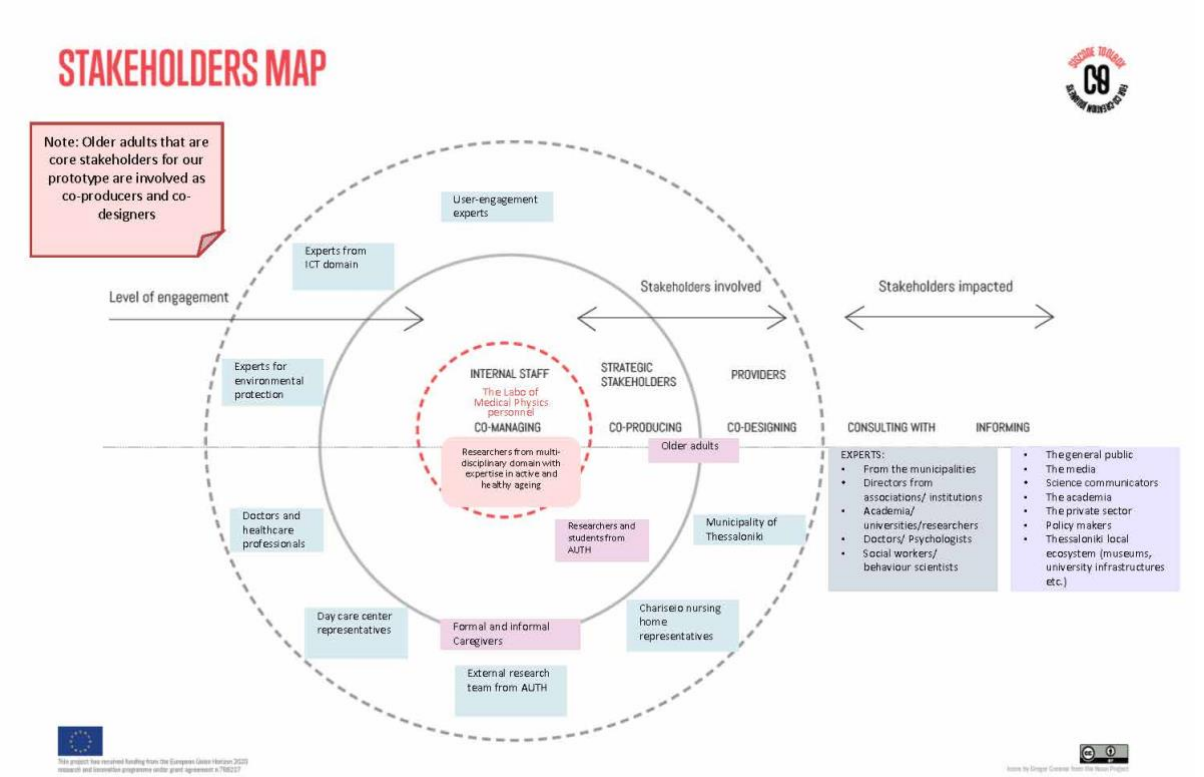


FIG 07 – THESS-AHALL STAKEHOLDER MAPPING

4.2.7. Ciência Viva

4.2.7.1. About the lab

Ciência Viva (CVIVA), the Portuguese agency of scientific and technological culture, is a non-profit private association, funded by the Portuguese government, European collaborations, contributions of its associates (mostly, public partners from universities across the country) and commercial activities (tickets, etc.). CVIVA is also a network of science centres and museums. Pavilhão do Conhecimento, one of the members of the network based in Lisbon, is one of the co-creation labs of SISCODE.

From its birth, CVIVA has developed knowledge and resources that directly inspired its work in SISCODE. Specifically, CVIVA is part of (and helped to build) extensive partnerships related to ocean research and governance, uses of the ocean, ocean advocacy, and ocean education. Although relatively inexperienced in terms of development of full co-creation processes, CVIVA has been involved in the organisation of participatory processes with school communities, researchers, the public, policy makers, NGOs, business, and artists (in the field of ocean literacy, among others).

4.2.7.2. The challenge and solution

For SISCODE, CVIVA wanted to address a challenge it had already identified: although the river is a central part of Lisbon, it remains underutilised. Marine leisure activities that put people in direct contact with water are proven ways to increase engagement of the public with the ocean. But to have any real impact, marine leisure activities must be widely practiced, which does not happen in Portugal. CVIVA's journey aimed at engaging residents and "users" of the river in Lisbon including policy makers (from the Municipality and neighbourhood council; ministries of education, the sea), school communities, scouts, NGOs, water sports clubs, researchers, staff from other Ciência Viva departments in finding solutions for this disengagement.

Ultimately, this effort translated into a solution: a festival with practical year-long activities that could show that Tagus, the river that flows next to Lisbon (but, potentially, similar contexts across the country) is interesting, safe and accessible. Specifically, and among various activities, the lab's prototype is a service to support the co-design and co-development of an annual festival devoted to the DIY design, customisation and/or construction of real size kayaks that can be used in rivers or similar conditions.

4.2.7.3. Stakeholder engagement

At the beginning of the project, CVIVA had identified a number of risks in what relates to stakeholder engagement:

- Policy makers are hard to reach and engage.
- Participants from the public, i.e., “users” will be hard to identify, reach and engage in a long process – for anything more meaningful than a survey.
- Consultation fatigue (stakeholders are fed up with participatory processes that amount to “nothing but talk”).
- A fatigue from the co-lab journey itself, considering its long duration.
- Co-creation lab won’t have direct access to CVIVA communication channels (i.e., social networks, newsletter), which have their own agenda and aim to reach the largest audience possible.

In terms of stakeholder reach, CVIVA’s activities have gathered a total of 862 participants. Despite the risks, CVIVA succeeded in engaging more than 20 policy makers, and more than 200 users of the river even with the effects of the pandemic.

Category	Number of stakeholders	% of total
Staff	130	-
Policy makers	26	4%
Scientific & research	4	1%
Industry & innovation	4	1%
NGO/CSO	58	8%
End-users	228	31%
Broad public	354	48%
Media	2	0%
Other	56	8%
Total excluding staff	**732**	**100%**
Total	**862**	**-**

TAB 21 - CV OVERALL STAKEHOLDER ENGAGEMENT

The breakdown of the number of participants per phase of the co-creation journey shows that the two strongest phases in CVIVA's journey, in which the majority of participants was involved, are the context analysis, and the development and the prototyping.

	Analyse context	Reframe problem	Envision alternatives	Develop and prototype	Total
Total without staff	132	26	15	567	**740**
Staff	16	0	10	96	**122**
Policy makers	8	8	0	18	**34**
Science & research	0	0	3	1	**4**
Industry &	3	1	0	0	**4**

innovation					
NGO/CSO	8	1	5	44	**58**
End-user	51	2	5	170	**228**
Broad public	52	14	2	286	**354**
Media	0	0	0	2	**2**
Other	10	0	0	46	**56**

TAB 22 – CVIVA STAKEHOLDER ENGAGEMENT PER PHASE

- Analyse the context

First of all, it was crucial to identify the types of marine leisure activities that are the most successful in reaching the population. This analysis has been conducted with desk research, as well as with fieldwork and involvement of relevant actors. Instead of relying on internal work, and probably to overcome the fear of not being capable of identifying and/or engaging End-users, CVIVA adopted the strategy of involving them early in the process (17% of the total number of stakeholders engaged were involved in the Analyse the context phase already). These key stakeholders have been interviewed and different activities have been organised by CVIVA.

- Problem reframing

A small number of participants, a total of 26 persons, were consulted during the problem reframing phase, using specific tools adapted within the project such as a provisional SWOT analysis and a more elaborate stakeholder mapping. Considering the total number, policy makers were highly involved in this phase.

- Envisioning of alternatives

Similarly, during the problem reframing phase few stakeholders were involved in this phase. Despite this small number, different events were organised for them. First, several workshops gathered core stakeholder to exchange, discuss and categorise ideas.

- Development and prototyping

The prototyping phase has been a collaboration between key stakeholders, involving school teachers, representatives of the municipality, different associations and NGOs that were interested in the project and makers. A school-year long kayak construction workshop was the occasion for students and adults to get a sense of the project with an immersion in key moments of the kayak. Two workshops were organised within the Open Weekend for Teachers at the Pavilion of Knowledge, involving specifically end-users and the general public, with two main goals: assessment of the potential engagement of the initiative and identifying the solution's weak points, "what could go wrong". These events have gathered more than 567 participants, mostly from the broad public of end-users of the solution.

4.2.7.4. Policy makers involvement

Policy makers were one of the key concerns for the lab in Lisbon. Despite this, they were successfully engaged throughout the co-creation process: a wide range of policy makers including staff from the Municipality (e.g., division of "Green Structure"), directors of Municipality departments (Sports, Sea Innovation), "mayor" of Pavilion of Knowledge parish) and representatives of Ministry of Education and Ministry of the Sea. The strategy at CV has been to rely on one-on-one meetings to update them on how the pilot can contribute to each of their department's objectives.

4.2.7.5. Dissemination and communication

The numbers presented in the table below attested that CVIVA strongly chose a human approach based on direct conversations with participants and citizens, as the entirety of their communication has been based on workshops and meetings. The lab opted for this strategy to overcome the lack of access to the social media handles of the institution, a risk that had been identified when defining their dissemination strategy.

	Social media	Mails / phone calls	Presentations at workshops & meetings	Total dissemination
Total without staff	0	0	520	**520**
Staff	0	0	26	**26**
Policy makers	0	0	22	**22**
Science & research	0	0	35	**35**

Industry & innovation	0	0	12	**12**
NGO/CSO	0	0	12	**12**
End-user	0	0	74	**74**
Broad public	0	0	218	**218**
Media	0	0	3	**3**
Other	0	0	144	**144**

TAB 23 – CVIVA OVERALL DISSEMINATION

4.2.7.6. Resulting stakeholder mapping

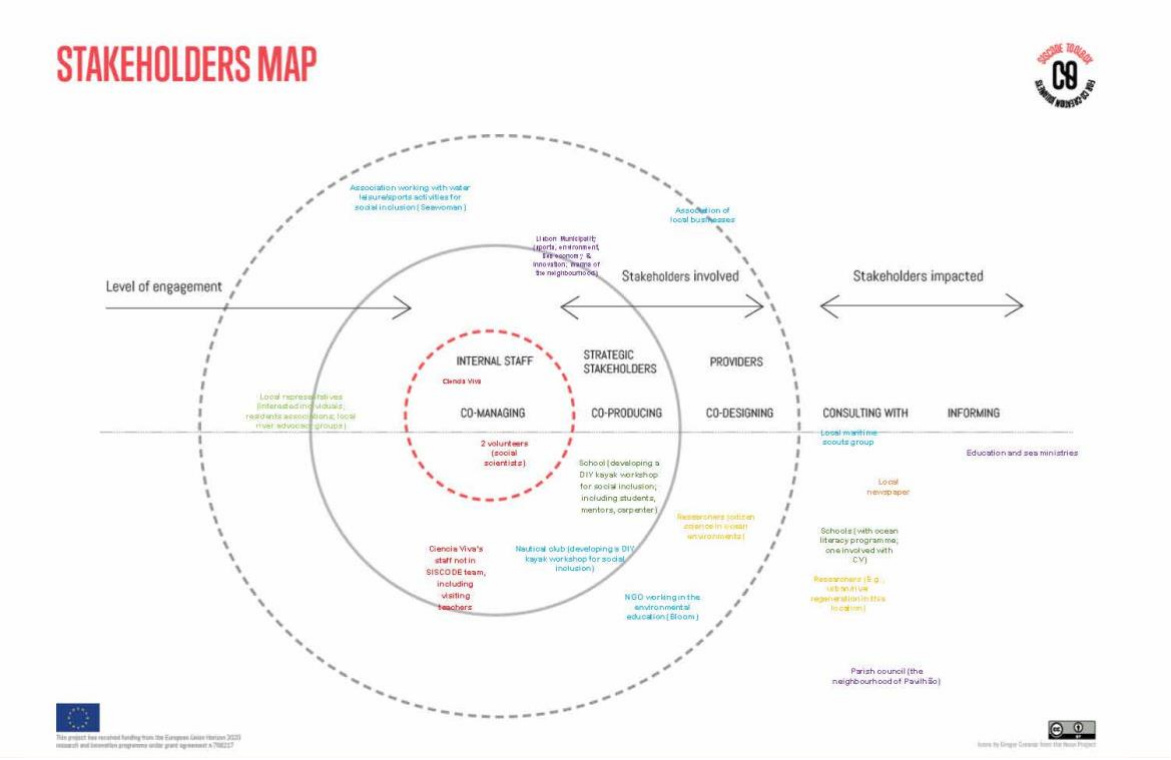


FIG 08 – CVIVA STAKEHOLDER MAPPING

4.2.8. Cube Design Museum

4.2.8.1. About the lab

Continium and Cube are part of Stichting Museumplein Limburg, a foundation in Kerkrade (The Netherlands) that also includes Columbus Earth Centre. Together these three venues tell the story of Earth, sustainability, science and technology, and design in the context of mankind, industry and education. Cube is a museum about design and development aimed at an international public that is interested in the process of design and design for human needs and ambitions. Within Cube's design labs, students are encouraged and enabled to approach the process of design not in a solo manner, but based on an analysis of needs, possible materials or technologies, production possibilities, and market opportunities. In this way, Cube approaches the design process through a chain concept of market demand, innovation, and knowledge transfer. In the design labs visitors are encouraged to participate in the co-creation process as End-users.

4.2.8.2. The challenge and solution

Cube's co-creation journey started at the beginning of 2019, in the context of the Netherlands' increasing political focus on citizen participation and Limburg's social challenges in terms of ageing and shrinking population. The initial challenge aimed to increase the quality of life of people living and growing up in an ageing society like the South Limburg region. The challenge started as an open-ended process with museum visitors, designers, students and researchers. Gradually the focus shifted, with the lab working together with the municipality of Voerendaal and citizens of the village of Ransdaal to reframe the plans. The hypothesis they worked with is that citizen participation and public engagement are necessary preconditions for a future proof society and quality of life for all citizens. While the municipality wants to increase the number of opportunities available to the citizens to take responsibility for their own environment, they struggle to find ways to actually empower citizens within the boundaries of their legal and political responsibilities. The reframed aim of Cube's co-creation journey became broader, and could even be considered more "meta" as Cube worked on stimulating and facilitating new, participatory ways for policy making. The village of Ransdaal served as a pilot to design a tool that helps citizens (and mostly citizen-led initiatives) and policy makers to better collaborate, plan, evaluate and coordinate co-creation and co-design processes.

This has resulted in the development of the Co-Design Canvas: a conversation tool that can facilitate an open and transparent dialogue about stakeholders' experiences and interests, to manage expectations, being empathic, and talking about knowledge, power and shared responsibilities in both planning, conducting and assessing a co-design process.

4.2.8.3. Stakeholder engagement

At the beginning of the project, Cube had identified different risks or barriers that could challenge the implementation of their solution, most of them being related to the local situation of their journey or to the profile of the stakeholders they hoped to involve in the process:

- Policy makers are hard to reach and engage, as they have their own agenda. They don't see the advantage of citizens' involvement and co-creation.
- Politicians who think in "election terms" and four-year periods.
- Lack of awareness of the challenge in the city.
- The danger of stigmatisation as target groups or citizens who may want to participate in the project can feel stigmatized for taking part in activities around aging society and loneliness.
- Not enough time.
- Researchers are not willing to participate.

In terms of stakeholder engagement, Cube has successfully involved a total of 393 participants throughout their co-creation journey. As their challenge was very much linked to policy makers, it is natural that these actors represent a huge part of their participants (almost 20%). It is also interesting to note that the end-users and the broad public were majority of participants in Cube's activities.

Category	Number of stakeholders	% of total
Staff	71	-
Policy makers	76	19%
Scientific & research	44	11%
Industry & innovation	1	0%
NGO/CSO	0	0%
End-users	97	25%
Broad public	144	37%
Media	0	0%

Other	31	8%
Total excluding staff	**393**	**100%**
Total	**464**	**-**

TAB 24 - CUBE OVERALL STAKEHOLDER ENGAGEMENT

You can find below a more detailed breakdown of the different types of participants, by co-creation phases:

	Analyse context	**Reframe problem**	**Envision alternatives**	**Develop and prototype**	**Total**
Total without staff	92	28	70	203	**393**
Staff	11	13	16	31	**71**
Policy makers	12	18	0	46	**76**
Science & research	15	3	21	5	**44**
Industry & innovation	0	1	0	0	**1**
NGO/CSO	0	0	0	0	**0**
End-user	35	2	21	39	**97**
Broad public	25	0	7	112	**144**
Media	0	0	0	0	**0**
Other	5	4	21	1	**31**

TAB 25 – CUBE STAKEHOLDER ENGAGEMENT PER PHASE

- Analysing the context

During the initial phase, besides conducting a thorough exploration of the context of social challenges related to an ageing society internally by analysing several research and policy reports and demographic statistics, Cube also involved participants from the start and organised informal workshops with approximately 25 citizens. These activities had the ambition to explore (social) challenges and needs related to ageing and possible solution ideas, to further re-frame and contextualize the challenge. Moreover, Cube has directly contacted potential stakeholders, including policy makers, researchers, designers, and entrepreneurial citizens to have oriented conversations. In total, 92 stakeholders took part in this phase.

- Reframe the problem

The ongoing process of problem reframing has been associated with the organisation of different types of events, involving different actors. While 8 policy makers have explored the context of the village of Ransdaal, citizens and other workshop participants have participated to sessions aimed at further reframing the challenge. This phase has also involved research partners and designers, for a total of 28 participants.

- Envision of alternatives

This highly-collaborative phase included the organisation of workshops with research partners, local associations and internal staff to first define the scope of the future prototype and solution, as well as several citizens. In total, 70 different stakeholders took part in these activities, from which emerged the concept of 'Future Citizens Lab', which focused on designing a sustainable infrastructure (in Ransdaal) to stimulate and facilitate dialogue and bottom-up initiatives.

- Prototyping and experiment

For Cube, the prototyping phase has been the most intense one in terms of stakeholder engagement. Their several successive workshops have involved policy makers and citizens, with a certain proportion of participants joining a co-creation activity for the first time. With the help of an empathic co-design expert, the next workshops have allowed the team to co-design a concrete prototype and connect the different needs of all stakeholders involved.

4.2.8.4. Policy makers involvement

Because of the specific nature of the tool that Cube was trying to develop, policy makers and citizens participated in joint workshops. Cube quickly realised that in their case, there was no one size fits all communication strategy suited to citizens and policy makers to be fully involved and informed. Their involvement is very much linked to bilateral meetings which is resource intensive.

4.2.8.5. Dissemination and communication

In terms of dissemination of the project, Cube has been a prolific partner with nearly 10.000 individuals reached in total.

Cube's strongest platform is, without any surprise, their social media channels that have reached out to 8660 individuals.

They have also been very successful with their open lab days that are categorised as 'others', where 727 participants were involved. Finally, their presentations and workshops almost gathered 400 participants.

	Social media	Mails / phone calls, Meetings	Presentations at workshops & meetings	Organisation of workshops	Other	Total dissemination
Total without staff	8660	40	356	0	727	**9783**
Staff	0	0	40	0	0	**40**
Policy makers	0	0	91	0	10	**101**
Science & research	0	0	34	0	10	**44**
Industry & innovation	0	0	0	0	0	**0**

NGO/CSO	0	0	16	0	0	**16**
End-user	0	40	48	0	20	**108**
Broad public	8660	0	132	0	687	**9479**
Media	0	0	0	0	0	**0**
Other	0	0	35	0	0	**35**

TAB 26 – CUBE OVERALL DISSEMINATION

4.2.8.6. Final stakeholders map

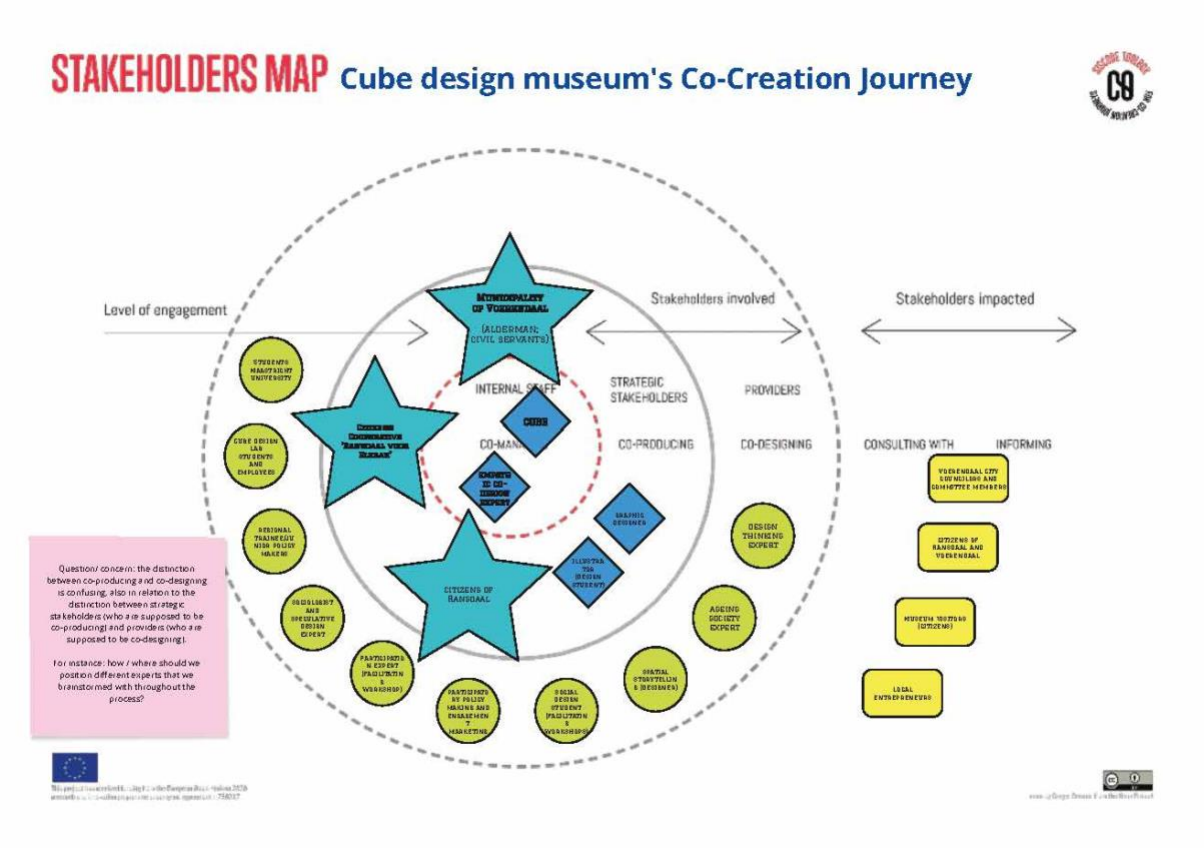


FIG 09 – CUBE STAKEHOLDER MAPPING

4.2.9. Science Gallery Dublin

4.2.9.1. About the lab

Science Gallery Dublin (SGD) at Trinity College Dublin (IE), is a public engagement space that delivers unique, transdisciplinary exhibitions, events and educational programmes with an emphasis on the intersection of art and science as a means to empower young audiences. It offers our target audience of 15-25 years of age a social space to develop ideas, imagine the future, and realise dreams.

Science Gallery was pioneered at Trinity College Dublin and its success led to the establishment of an international network of university-linked art-science cultural spaces. At the time of writing, leading universities in London, Melbourne, Bengaluru, Venice, Detroit, Rotterdam, Atlanta and Berlin are members of the Science Gallery Network with new venue openings in the pipeline.

While Science Gallery Dublin frequently uses participatory processes to develop programmes, the SISCODE project provided an opportunity, not only to the gallery in Dublin but to the whole network, to engage in best practices for co-creation, and to apply these in an iterative, long-term process.

4.2.9.2. The challenge and solution

At the beginning of the co-creation journey SGD set out to connect with young people and others and involve them in the creation of solutions for an issue of importance to them: mental health. The broad challenge of 'mental health and well-being management' was chosen in collaboration with youth advisors, the Young Leo's programming team and after a research review of issues impacting young people in Ireland. The SISCODE project team facilitated a series of design thinking workshops specifically for this group to introduce them to the SISCODE approach to collaboration, and to support them through stages of idea generation, idea refinement and prototyping. The group identified education as a key avenue to support well-being management in young people. This seemed especially relevant since education is often a contributor to the stresses and worries of young people.

The group prototyped an educational module to be delivered in second-level schools aiming to develop students' understanding of mental health and to equip them with tools to manage their well-being, with a focus on the importance of personal hobbies and interests. Over 18 months, the stakeholder group prototyped the student learning experience, set the agenda on what mental health topics to address, crafted interactive activities to deepen student's understanding and develop content.

The outputs of the co-creation journey are multi-dimensional. The educational module was co-created and piloted in schools nationally, with the content co-developed by youth participants and mental health experts. Iterative testing refined the module content and delivery in collaboration with students and teachers. The co-creation journey also led to a shift in approach and application of co-creation best practices within the Science Gallery Dublin team.

4.2.9.3. Stakeholder engagement

As the other labs involved in the project, before starting their co-creation journey, Science gallery Dublin reflected on the possible risks and barriers that they could encounter in their activities:

- Policy makers are hard to reach and engage.
- Researchers/ professionals and students can have limited availability, so an open discussion with all parties may be hard to arrange.
- The communications department has recently been restructured in 2019, resulting in the loss of a staff members and a reduced marketing budget.
- A new communication manager has started who is unfamiliar with the project.

Throughout their journey, Science Gallery Dublin has attracted an impressive number of stakeholders (more than 3000 participants), with a majority of members of the general public (almost 60%). Their fears of not being able to engage stakeholders or researchers did not become a real problem, with more than 100 policy makers involved and 210 research and innovation community participants.

Category	Number of stakeholders	% of total
Staff	296	-
Policy makers	102	3%
Scientific & research	214	7%
Industry & innovation	66	2%
NGO/CSO	36	1%
End-users	820	27%
Broad public	1784	59%
Media	0	0%

Other	7	0%
Total excluding staff	**3029**	**100%**
Total	**3325**	**-**

TAB 27 - SGD OVERALL STAKEHOLDER ENGAGEMENT

Let's have a look at the details of each co-creation phase:

	Analyse context	Reframe problem	Envision alternatives	Develop and prototype	Total
Total without staff	180	35	114	2707	**3036**
Staff	18	16	17	245	**296**
Policy makers	6	6	11	79	**102**
Science & research	63	11	12	128	**214**
Industry & innovation	1	2	3	60	**66**
NGO/CSO	6	4	2	24	**36**
End-user	95	10	50	665	**820**
Broad public	9	2	36	1737	**1784**
Media	0	0	0	0	**0**
Other	0	0	0	14	**14**

TAB 28 – SGD ENGAGEMENT PER PHASE

- Analysis of the context

For this analysis of the landscape of mental health for young people in Ireland, Science Gallery stands out from the other labs by the proportion of researchers involved, this may simply be linked to the fact that they are part of a large university. With experts being interviewed as researchers and clinicians, and the different workshops organised, a third of the 180 participants were coming from the scientific and research community. In addition to this analysis, Science Gallery facilitated three week-long education programmes involving students and teachers.

- Problem reframing

The different steps of the problem reframing phase have been accomplished through successive workshops: The first of them was attended by 31 stakeholders representing young people, mental health professionals, teachers, parents, mental health charities and researchers. In total, 35 participants took part in this phase.

- Envisioning of alternatives

A group of experts and youth advisory panel representing schools across Dublin has been mandated to shape and explore the ideas that came from the different workshops, where mostly End-users and the general public attended, for a total of 114 participants.

- Development and Prototyping

This co-creation phase has been by far the richest one in terms of the types of stakeholders engaged. In total, 2707 individuals have taken part in these activities that were concluded with the conceptualisation of a mental health programme to implement in schools called OPEN MIND. This incredible impact has been achieved by the involvement of four different schools that committed to running the pilot programme for the first piloting phase. An evaluation of these insights took place a few months later, involving participating schools and a number of relevant policy makers.

4.2.9.4. Policy makers involvement

In the case of Science Gallery Dublin, policy makers have been mostly involved in prototyping and developing the programme. Although no specific workshop was developed by the lab, they were involved regularly in the many activities that SGD organised as part of their pilot.

4.2.9.5. Dissemination and communication

Throughout their experimentation, Science Gallery Dublin's strongest channel of communication has been social media. This can be explained by the nature of their prototype and solution, which is directly linked with social media use and their role in

young people's mental health. It is then natural that these channels were an easy way to reach the End-users and principal stakeholders of their co-creation journey. With a total of 83.870 people reached via social media, Science Gallery Dublin has been one of our most active labs. This number represents 96% of the total number of people reached. Their fear of not being able to tap into their existing communication channels, or having a new communications manager did not affect at all their capacity to provide high numbers for the dissemination.

The digital world has definitively been their field of expertise, as emails come as their second most successful tool with 2.957 actors reached.

	Social media	Mails / phone calls, Meetings	Presentations at workshops & meetings	Organisation of workshops	Total dissemination
Total without staff	83870	2940	533	0	**87343**
Staff	0	17	98	0	**115**
Policy makers	0	19	28	0	**47**
Science & research	0	158	52	0	**210**
Industry & innovation	0	11	47	0	**58**
NGO/CSO	0	80	12	0	**92**
End-user	0	2668	344	0	**3012**
Broad public	83870	2	23	0	**83895**
Media	0	0	2	0	**2**
Other	0	2	25	0	**27**

TAB 29 – SGD OVERALL DISSEMINATION

4.2.9.6. Stakeholders mapping

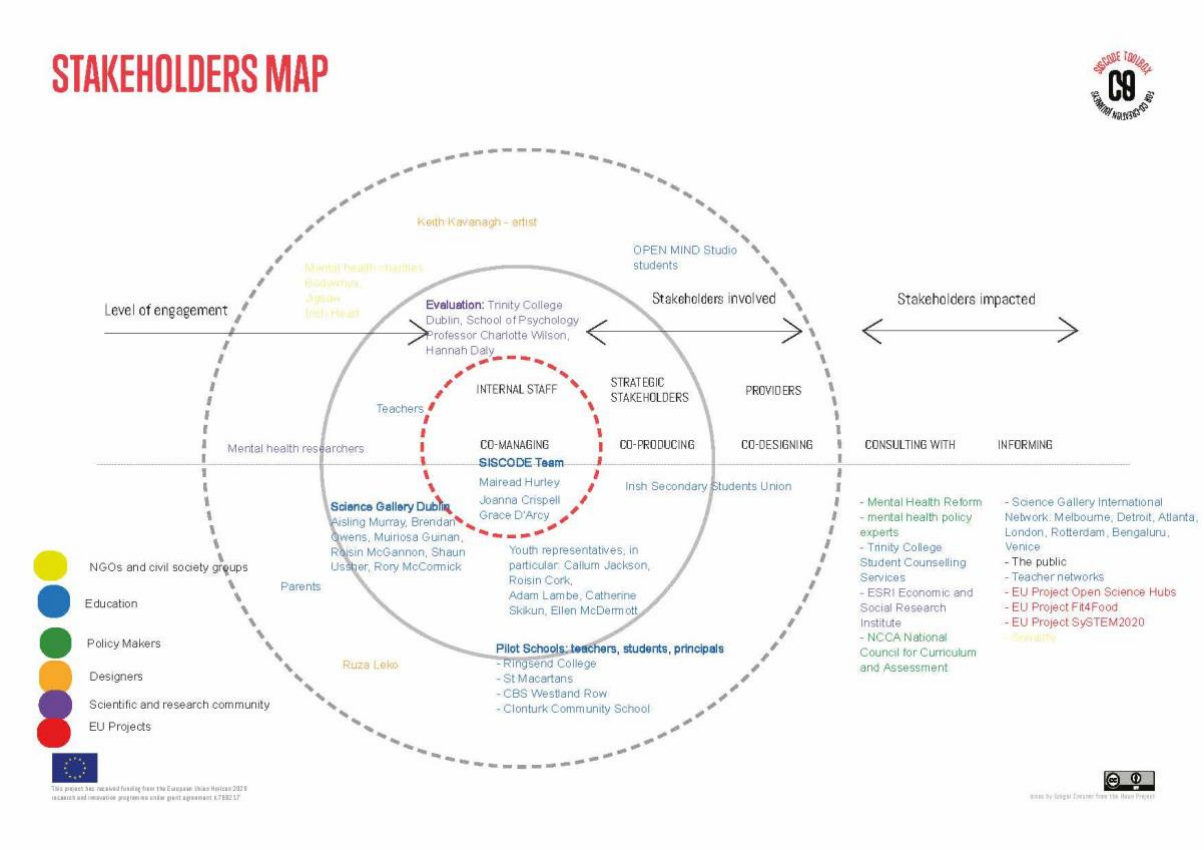


Fig 10. SGD stakeholder mapping

4.2.10. TRACES

4.2.10.1. *About the* lab

TRACES is a non-profit association acting at the crossroad between participatory science engagement and social inclusion. TRACES runs the activities of Espace des Sciences Pierre-Gilles de Gennes, the science-culture venue of ESPCI Paris and PSL Research University, a leading French research university covering a wide academic field, well-connected to national research bodies and with a strong innovation-oriented research policy. As a

platform between the academic, associative and private spheres and in collaboration with diverse partners, Traces aims to create living lab spaces in which to reflect, experiment and innovate in the fields of science in society, science education and public communication of science. TRACES team is made of 12 people, including science facilitators, trainers and experts in social inclusion projects. Its core competences rely on innovative methods for science engagement and social inclusion, facilitation of discussion games on socially relevant science and technology issues, collaborative training in RRI and science in society.

In the last 3 years, the team has initiated several projects in frugal science using living lab approaches, bringing together the science community and other actors from the arts, international cooperation, education, etc. Their knowledge and experience of co-creation methods is not brand new but needs to be further developed. So far, the approach to co-creation is based on the concept of developing public activities within the "grey zone", where the frontier between knowledge production and knowledge dissemination is not well defined. These are the activities that satisfy the needs of the general public and the needs of the research and innovation community at the same time. The living lab approach is particularly suited for this idea. The aim is to combine dialogue approaches of science engagement and living lab methodology and open innovation approach to provide meaningful explorations of science-based, socially relevant issues. Traces is adapting the usual criteria of living labs (involving end-users in the design/testing) in the classical process of co-creation, exploration, experimentation and evaluation, to events in which the general audience with a cultural interest/involvement in the issue can participate.

4.2.10.2. The challenge and solution

TRACES' journey addresses the issue of our "right to be informed" in automated decision processes using artificial intelligence in everyday life. How can the presence of AI-based support to professional or everyday life decisions become noticeable and readable for End-users / citizens so they can make informed choices in crucial aspects of their lives? This ever-growing need related to the right to be informed is important because there is more and more pressure on the public for knowing what is done with the public's data. This is a central issue in our societies, for the public to know and understand how their own decisions are influenced. The RGPD law enforced on European level in 2017 obliges companies and administrations to be accountable for that. More specifically, TRACES as a science museum identified a real need of including discussions on the topic in contexts and situations easily accessible by general audiences, such as in educational or cultural activities.

4.2.10.3. Stakeholder engagement

As per the topic addressed by the co-creation lab, Traces is particular and original. The risks and barriers that they identified at the beginning of their journey are also specific:

- Policy makers are hard to reach and engage.
- Difficult to engage industrial stakeholders.
- Hard to engage scientific community in co-creation projects.
- Lack of dedicated research agenda linked to AI developments and ethical issues.
- Too much competition of similar activities. Paris has a great activity offer, events, labs, etc., which means stiffer competition.
- Difficulty in narrowing down dissemination multiplier and opportunities.
- For being both a venue for families and children & a culture venue for discussions on research topics, Traces suffers from a double identity which blurs its messages. Often audiences /stakeholders are confused if the activity or project is aimed at them.

We can also notice this particularity with the repartition of the different participants to the activities: their specific topic highly interested the media, which are the majority of participants (35%), directly followed by members of the general public (27%) but still policy makers represented close to 20% of the participants in the pilot.

Category	Number of stakeholders	% of total
Staff	681	-
Policy makers	136	17%
Scientific & research	20	2%
Industry & innovation	65	8%
NGO/CSO	33	4%
End-users	57	7%
Broad public	217	27%
Media	288	35%
Other	16	2%
Total excluding staff	**817**	**100%**
Total	**1498**	**-**

TAB 30 - TRACES OVERALL STAKEHOLDER ENGAGEMENT

When looking at the different phases individually, we can observe the following:

	Analyse context	Reframe problem	Envision alternatives	Develop and prototype	Total
Total without staff	24	334	57	402	**817**
Staff	2	311	39	329	**681**
Policy makers	22	23	18	73	**136**
Science & research	0	9	3	8	**20**
Industry & innovation	1	11	8	45	**65**
NGO/CSO	0	20	0	13	**33**
End-user	1	33	9	14	**57**
Broad public	0	0	4	213	**217**
Media	0	238	15	35	**288**
Other	0	0	0	1	**1**

TAB 31 – TRACES ENGAGEMENT PER PHASE

- Analyse the context

Traces started their co-creation journey as they conducted their whole project: in a creative and unusual way. After a preliminary analysis that led to the first statement of the general challenge, they have shaped their analysis phase as an exhibition, called “science of choice” that took the role of an exploration tool, a platform used to generate encounters and collect inputs and ideas from many different stakeholders. At this stage, policy makers represented the majority of participants.

- Reframing the problem

This stage had already started within the exhibition “science of choice”, and was then further developed with more targeted events, such as a specific workshop which included an open-lab day. Traces’s team also used the opportunity of two workshops scheduled at the Caen “living lab festival TURFU” to test the approach and enrich it. A participatory workshop was designed involving scientists, facilitators. These different occasions brought the number of participants to 334, which represented more than 40% of the actors involved in the whole process. This is also where we can observe the highest proportion of journalists attending.

- Envisioning alternatives

The TURFU festival mentioned before has been the turning point to start the prototyping sequence. It has then been followed by different workshops, that used an approach inspired by the service design blueprint. In total, 57 participants have been involved in this phase, with an almost equal repartitions between policy makers and media actors.

- Development and prototyping

In total, three events have taken place for this phase, that involved more than 402 participants. The development stage has really been the highlight of Traces co-creation journey, with almost 50% of the total participants that took part in this phase. The first event gathered AI and humans as co-spectators of a theatre play. The second one explored the impact of the presence of an artificial agent among the participants through a zoom meeting. The third one, AI conceived as a support for visually impaired persons accompanied visitors to see the space and a science festival. As most of these activities took place during open events, the majority of participants came from the general public.

4.2.10.4. Policy makers involvement

In terms of policymaking engagement, TRACES have successfully involved policy makers, which have financed AI related projects that were the result of their exploration phase.

Beyond involving local policy makers, they have also succeeded to create a link with EU level policy makers that are connected via the AI channel on Slack and whom they have kept informed of their progress.

4.2.10.5. Dissemination and communication

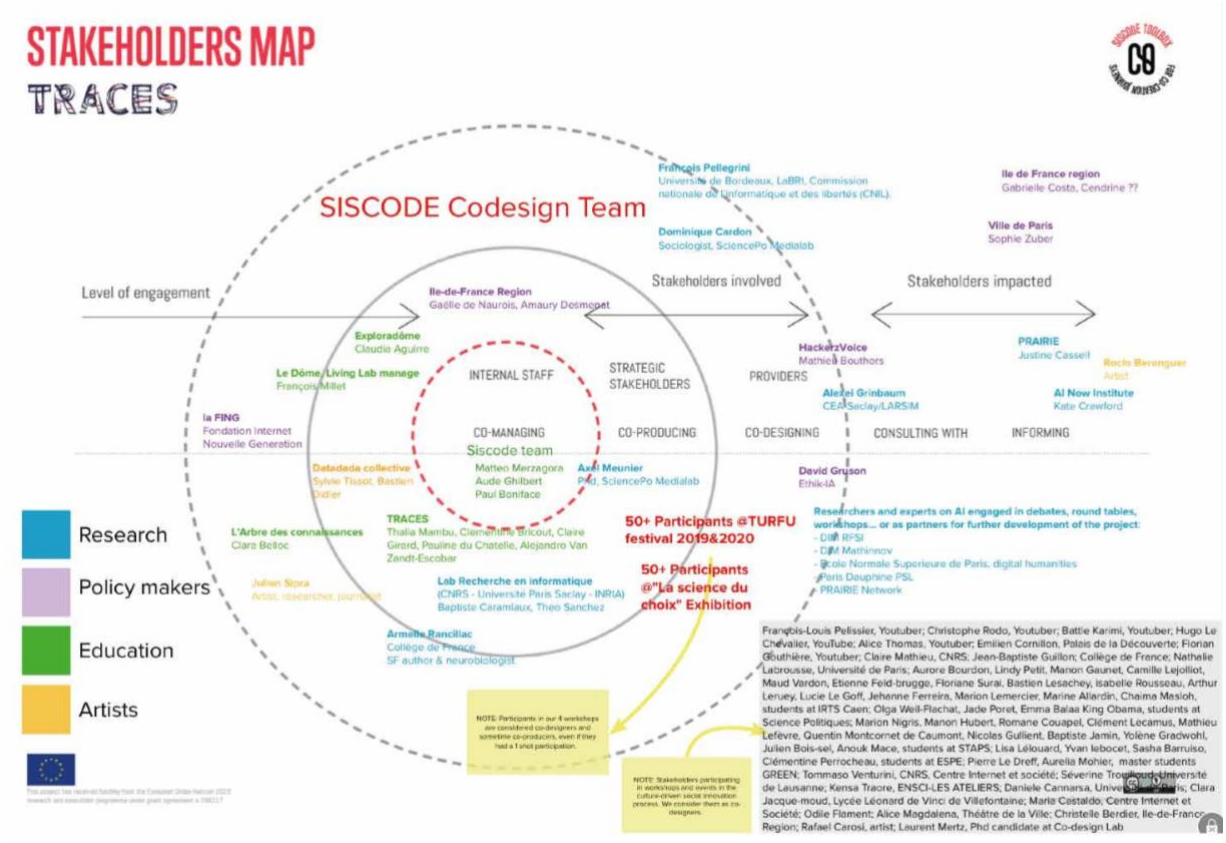
Differently from the others labs, even though Traces has been quite active on social media, these channels have not been their strongest points, and only represent 15% of their overall dissemination. Their participation in a presentation at the Launch of the 3 IA Institute PRAIRIE in Paris explains the incredible impact that they obtained for this category, as almost 64.000 participants were present and heard about SISCODE. Traces has also put an emphasis on their external communication, as mails and phone calls represent 30% of their overall dissemination.

	Social media	Mails / phone calls, Meetings	Presentations at workshops & meetings	Organisation of workshops	Other	Total dissemination
Staff	19	9	18	3	0	**49**
Policy makers	6	114	17	1	7	**145**
Science & research	5	22	186	0	0	**213**
Industry & innovation	5	11	34	0	5	**65**
NGO/CSO	0	21	10	0	0	**33**
End-user	5	26	34	0	13	**57**
Broad public	22098	0	248	0	0	**22346**
Media	255	0	30	3	0	**288**

Other	0	15	0	0	1	**16**

TAB 32 – TRACES OVERALL DISSEMINATION

4.2.10.6. Stakeholder engagement map



TAB 32 – TRACES STAKEHOLDER MAPPING

5. Conclusion

One of SISCODE's premises was to support its stakeholder engagement and dissemination strategy in the local lab's strength to bring audiences on board and it was a winning bet. With close to 11.000 stakeholders directly involved, and close to 1.000 policy makers in total the project has succeeded in keeping a regular engagement throughout. The labs have used a mix of tools and methodologies to be able to reach them: from workshops tailored to them, to individual meetings, phone calls or even a Slack channel, it is clear that one size does not fit all. Going back to the initial dissemination plans, it is interesting to see how each of the labs assessed their risks and deployed strategies to overcome them. In general, we can proudly say that they have succeeded in their journeys.

When it comes to their dissemination and communication plans, in total the labs have secured more than 250.000 impacts. Revising the assessment frameworks of the labs, we can see that this has been mostly used to promote their local events, invite participants but also update their audiences about their co-creation journeys (including the challenges and solutions). Of those around 180.000 impacts were reached using social media, which could be expected. Conversely, still 60.000 impacts were secured using emails, presentations, workshops and face to face meetings, which represents a high number.

The COVID-19 Crisis has unfortunately had an undeniable impact on the labs' activities, similarly to the way it has impacted the whole world. As described in deliverable 3.4 "Co-creation journeys as Case studies", an important number of activities have been either cancelled or postponed and therefore couldn't take place within the project's lifespan. This unexpected challenge could have been a real setback for the project and its expectations, but this was without counting on the labs' ingenuity and resilience. They have taken up this challenge by moving some of their events online, and adapting most of their actions to the current sanitary measures. This experience has been the occasion to experiment with a new dissemination strategy, and possibly reaching out to a different audience. Indeed, the convenience of being able to join online meetings has allowed many stakeholders, such as policy makers or end-users to take part in our activities, which would have been different, had they only taken place face-to-face.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