# A4. SHARED VISION CO-DEFINITION

## WP2: Status Quo & Best Practices

ULALABS
University Lab of Labs for Transformative Societal Innovation

Co-funded by the European Union

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**Future Vision Co- Definition**

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# Future Vision Co- Definition

WP 2: A4 – Shared Vision Co-definition

## About This Deliverable

The ULALABS project aims to define a theoretical and practical framework for the implementation and operation of a European *Distributed Living Lab* focused on urban challenges and climate change. The notion of a Distributed Living Lab, or a Lab of Labs, explored in this project aims to capitalize on the opportunities for exploiting this type of infrastructure to understand how its values, innovative practices and translocal knowledges can be used to promote transformative innovation in European regions.

One of the challenges with living labs is that they are often born out of local contexts and networks, and to address local challenges. However, the knowledge, practices and procedures that are employed and/or produced in these labs can inspire other regions and settings. A current challenge is how to support the exchange of these local knowledge sets and practices into other contexts and living labs. The assumption is that the development of a supra-lab network of living labs - a Distributed Living Lab - can facilitate this exchange.

This deliverable reports on the activities completed during WP2 that aimed to support the development of a translocal vision of a living lab - a Distributed Living Lab. This report includes the processes and the activities developed in A4 - Shared Vision Co-definition - and its corresponding R2 Future Vision Co-Definition.

## Connection with other WPs and Activities

WP2:A4 and the current report connect to other activities and reports in the following way (figure 1):

This WP2:A4 report is informed by:

**1. Position paper (Jan 2024)** - this position paper was the outcome of the ECIU SMART-er Conference workshop that was organized in Barcelona in October 2023. Community participants co-defined an initial vision for a Distributed Living Lab, or a Lab of Labs, and the insights, recommendations and emerging topics were mapped and discussed. This position paper guided the initial discussions in the activities conducted for the Definition of a Shared Future Vision, namely serving as a departure point for workshops and discussions.

**2. Status Quo Draft Report (WP2.R1)** - This report provides an overview of the state of relationship between the HEI partners and their respective ecosystems and communities. It also describes the methodology followed for a systematic literature review for state of the art factors and variables influencing the sustainability and innovation in Living Labs. The review of the literature highlighted the lack of a consistent definition of Living Labs, apart from the general agreement that living labs refers to real-life environments and the "living lab approach". Some characteristics of living labs were highlighted, together with similar infrastructures (for example experimentation spaces and testbeds) and modes of working (networked, variety of stakeholders, integrated in an innovation ecosystem, etc).

**3. Case Studies Interim Report (WP2A2)** - This report includes the identification and initial analysis of relevant case-studies and experiences. In order to understand the ample range of labs working with urban innovation to support sustainability and the fight against climate change, ULALABS prepared an interactive survey that was shared amongst potential relevant participants and target groups. The survey was used to map out and identify diverse experimentation spaces and perform an initial mapping of the emerging collaborative system. The results were presented and further discussed at the Multiplier Event that was held in Linkoping, Sweden, in September 2024 (see below). The interim report was essential to identify relevant stakeholders to invite to contribute to the co-definition of a Future Vision.

The insights gained from the activities reported here will serve as an input for:

**4. Base definition of Learning Communities (WP3A1)** - This report engages with current literature about learning communities, their characteristics and how they interact within their local contexts and across to other communities. The report reflects on how organizations and communities learn, how they share knowledge, and how knowledge needs to be de-contextualized and re-contextualized in order to be able to be transferred to other contexts and fields of application - the notion of transformative learning. Borrowing on existing research and reflecting on the goal of contributing to an understanding of a

Distributed Living Lab as a learning community, we adopt the concept of Mutual Learning Communities, referring to a framework that promotes shared learning experiences among individuals to enhance their learning and skills. The Value of Mutual Learning Communities lies in its ability to create a shared/ common identity among participants and permit each participant to bring their diverse skills and backgrounds to the community of learners. This base definition influences how the shared vision for a Distributed Living Lab must capture this ability of a living lab to de-contextualize, re-contextualize and vehicle their learning across living labs, in order to facilitate learning and knowledge transfer and generation.

**5. Status Quo Report and Best Practices Catalogue (WP2A5)** - The Status Quo report outlines a joint understanding of the elements and aspects of urban experimentation spaces, their role in accelerating sustainability innovation, and the role these spaces play as arenas for collaborative learning. It sheds light on the four regional ecosystems of each of the Higher Education Institutions involved in this project and concludes with a set of recommendations. It is a baseline discussion of the challenges and opportunities that currently exist with the current set ups of experimentation spaces in the ULALABS partner regions. It complements this shared vision report as it defines the point of departure from which implementation strategies for achieving our shared vision of a Distributed Living Lab can be defined further defined in subsequent work packages and activities.

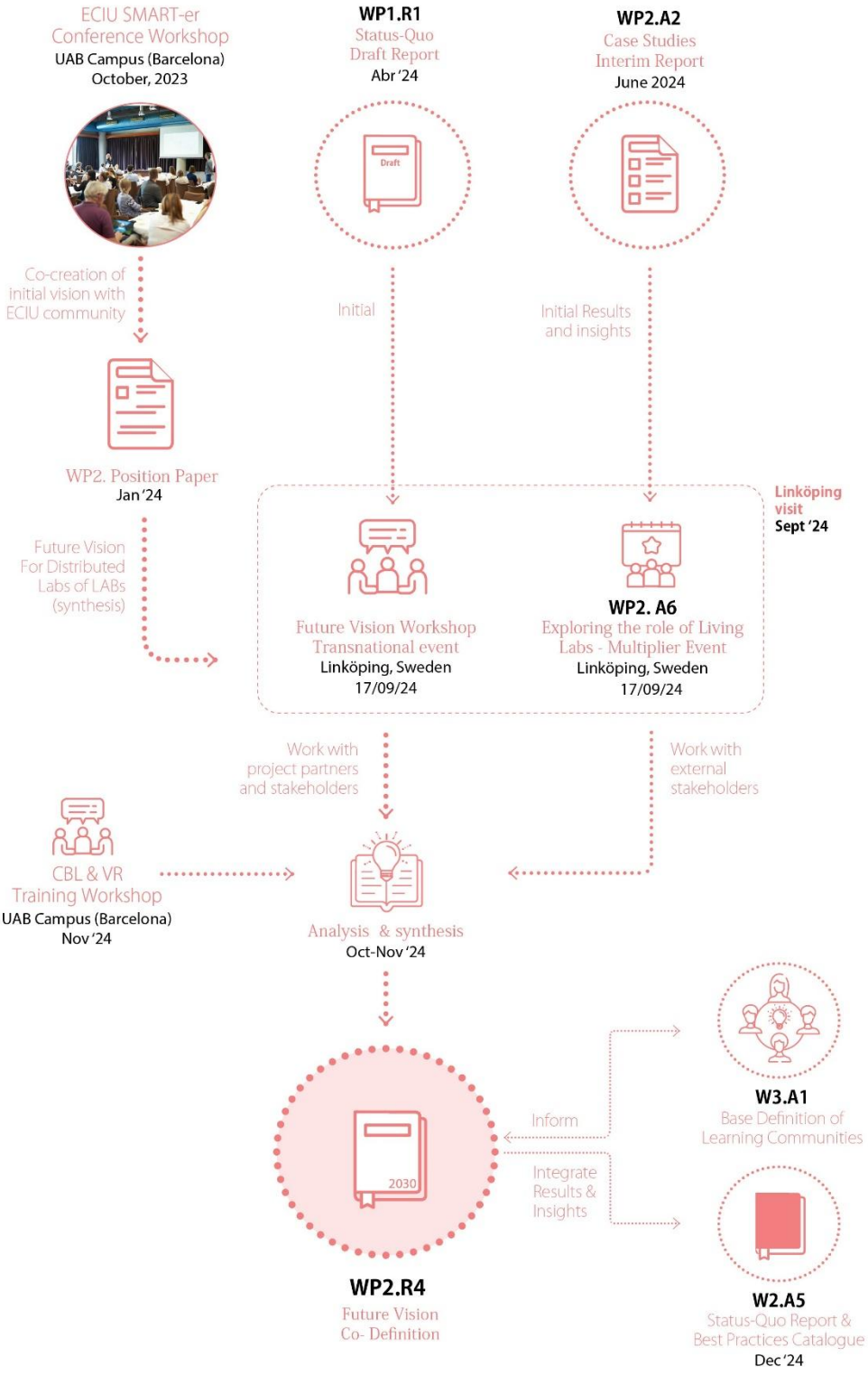


**Figure 1:** Diagram demonstrating the relation and synergies of the current report with other WP activities and outputs

## Co-Defining A Shared Vision

Within the ULALABS team, we consider that the development of a shared vision for a Distributed Living Lab is possible with engagement across different contexts and with different stakeholders involved in a living lab. This shared vision is associated with a long-term perspective, and somewhat utopian view of what an ideal Distributed Living Lab, or a network of European Living Labs, could be. This future-orientation and this focus on cross-contextual engagement is visible in the activities that were defined by ULALABS to work towards the co-definition of a shared-vision. These activities are described below.

### *Methodology*

A five-step approach was identified in the consortium:

1. ***ECIU Workshop in Barcelona*** (Oct 2023)
   *World café Format / ECIU Community - varied profiles*
   A 2h in-person workshop as a thematic session during the ECIU Smart-er Research Conference with the ECIU Community
2. ***Future Vision Workshop*** (Sept 2024)
   *Responsible Futuring / ULALABS partners and stakeholders*
   An on-site, 2,5 hours in-person workshop, as part of the transnational event in Linköping, to co-create further with partners and stakeholders the future vision. The workshop was led by the DesignLab team, from the University of Twente, and following a "Responsible futuring" approach.
3. **Multiplier event** (WP2.A6) (Sept 2024)
   *Presentations by ULALABS stakeholders and World café Format / ULALABS partners and external stakeholders*
   Hosted by Linkoping University, as a breakout session within the Future Now Forum 2024.
4. **Challenge-Based Learning & Virtual Reality Workshop** (Nov 2024)
   *Challenge Based Methodologies/ ECIU Community - Researchers and educators*
   A 3 day in person training course in the UAB Bellaterra campus, where the participants worked on a ULALABS challenge to complement the vision exercise
5. ***Online validation*** *(*January 2025)
   Online tools / *ECIU Community and external stakeholders*
   The updated definition of the shared vision will be validated with the project participants and local and regional stakeholders during an online session.

*1. ECIU Workshop in Barcelona*

*Barcelona, Oct 2023 – first vision*

*ECIU Community / 38 Participants / 10 ECIU Universities*

The ECIU University Research Conference that took place on the 3rd & 4th of October 2023 aimed to move beyond traditional conference structures and embody a challenge-based approach by providing an interactive forum for discussing common challenges. The conference also brought together societal stakeholders to showcase challenge-based research outcomes, share best practices of innovative research approaches, and explore / initiate potential collaborations for common solutions to societal issues. During the two days of the SMART-er Research conference a series of thematic sessions around selected challenges were organized to engage the participants with ongoing projects and initiatives through different workshops and activities. The ULALABS teams took advantage of the opportunity and organized 1,5h workshop that took place on 4/10/2023 from 11:30 to 13:00 and was entitled:

> **"A distributed ECIU Living Lab: An approach to tackle urban sustainability transformations"**

38 participants from 10 ECIU Universities/regions participated in the workshop. Most participants had an academic background (29), but there were also representatives from the administration (7) and the industry sector (2) (figure 2).

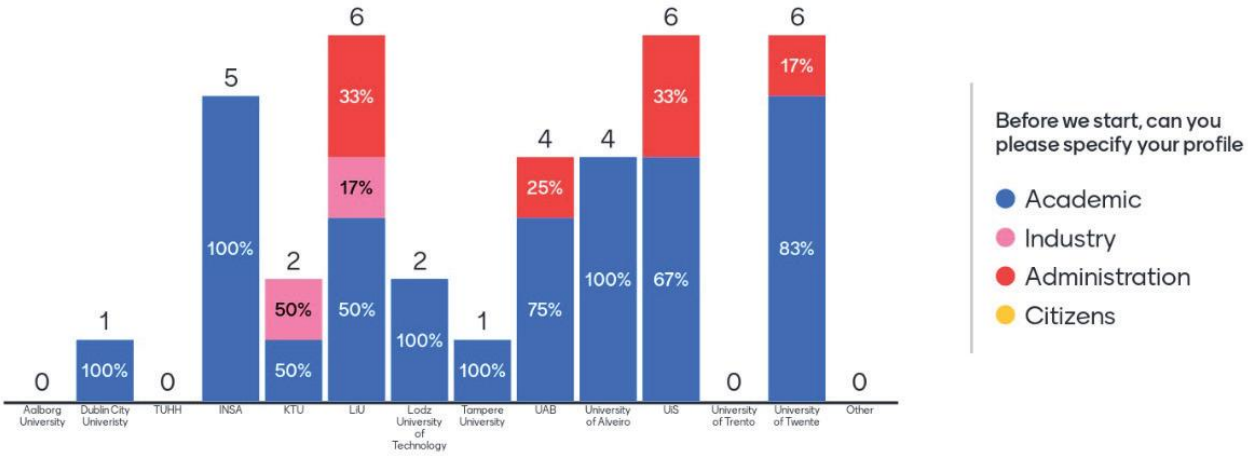


*Figure 2 Overview of number of participants per region/ university of origin and field*

The workshop was organized in a World Café format (figure 3) and one of the four corresponding tables was assigned with the following task / question:

> **"How can we envision a distributed Urban Living Lab within ECIU?"**

During the session feedback from four rounds of participants was collected in relation to this question and was synthesized posteriorly in the Position Paper into the first definition of the Future Vision:

> "A distributed living lab, with a focus on sustainable urban transitions within the European HEI context can serve as a versatile, both physical and virtual platform, to encourage a collective pursuit of innovative knowledge production through non-traditional, challenge-based methodologies. It can play a pivotal role in creating interconnections between existing living labs and innovation labs within ECIU regions based on their distinctive focus, challenges, methods, and target groups. This emerging distributed living lab is driven by the desire to engage and benefit academic communities but also all related societal stakeholders. It should thrive on dynamic knowledge exchange, facilitated openly and transparently while exploring experimental and uncommon situations with ethical considerations, placing ECIU's philosophy at its core. This approach will enrich existing tools and methods, emphasize the need for responsible and ethical handling of participants' involvement, and create a citizen-centric living lab network and learning community focused on sustainable urban transitions within ECIU ready to tackle existing and upcoming shared challenges".

This initial definition would serve as the base for debate and discussion in posterior opportunities to interact with the ECIU community and / or external stakeholders.

For more info consult the full Position paper (January 2024):

https://ebooks.uis.no/index.php/USPS/catalog/book/276

*Figure 3 Impression of the participants while engaged in the workshop*

### *2. Future Vision Workshop*

*Linköping, Sept 2024*

*Project partners and stakeholders / 22 participants / 4 ECIU Universities*

On the 16th of September 2024, the ULALABS consortium organized a workshop with a diversified set of stakeholders engaged with regional innovation ecosystems and living labs in the regions participating in the ULALABS project. 22 participants joined the workshop, including academics, public officials from different municipalities, and managers of living labs. The main aim of this workshop was to support the development of a shared future vision for the Distributed Living Lab, its aspirations, goals and objectives.

The workshop was co-organized by the University of Twente. The DesignLab team was responsible for moderation and facilitation of the workshop. Due to the limited time available for the workshop (2,5 hours), the organizers decided to focus on understanding what are the opportunities, best practices and challenges related to the development and management of living labs in these regions, from the perspective of the involved participants. These goals were addressed by engaging in the "2. Understand and Frame", and partly the "3. Imagine and Ideate" phases of the "Responsible Futuring" approach (figure 4). Most participants already knew each other so the first phase was kept very short. Phases 3 and 4 will be addressed again in follow-up workshop that will take place in May 2025, in line with the Multiplier event hosted by the University of Twente (WP3.A7) and focusing on "Learning Communities as Catalysts for Innovation".

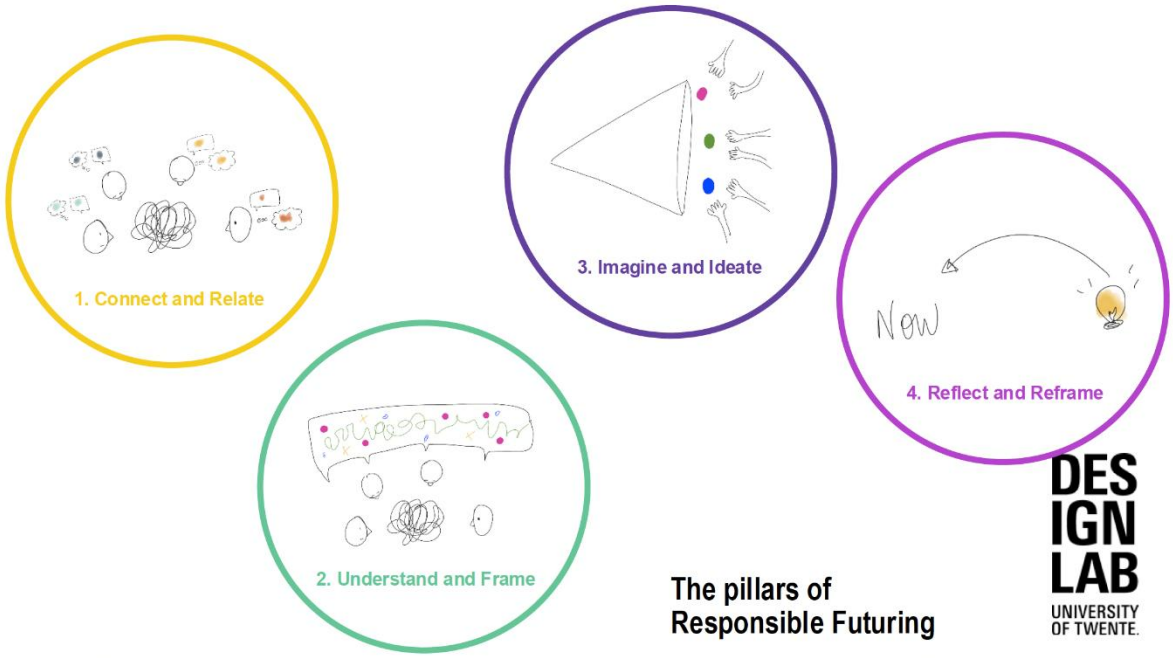


*Figure 4. Overview of the different phases of the Responsible Futuring approach. DesignLab 2024.*

### *Understand and Frame*

All participants were invited to depart from the definition of a distribute living lab that was included in the ULALABs position paper (Jan 2024) presented earlier) (see position paper/ future vision above):

The participants then discussed: "how are the interactions/ sharing of knowledge between the European Living Labs happening?" The goal was to define the interactions in terms of best practices, and things that could be improved. Figure 5 illustrates the main findings from all the groups of participants, focusing on the interactions.

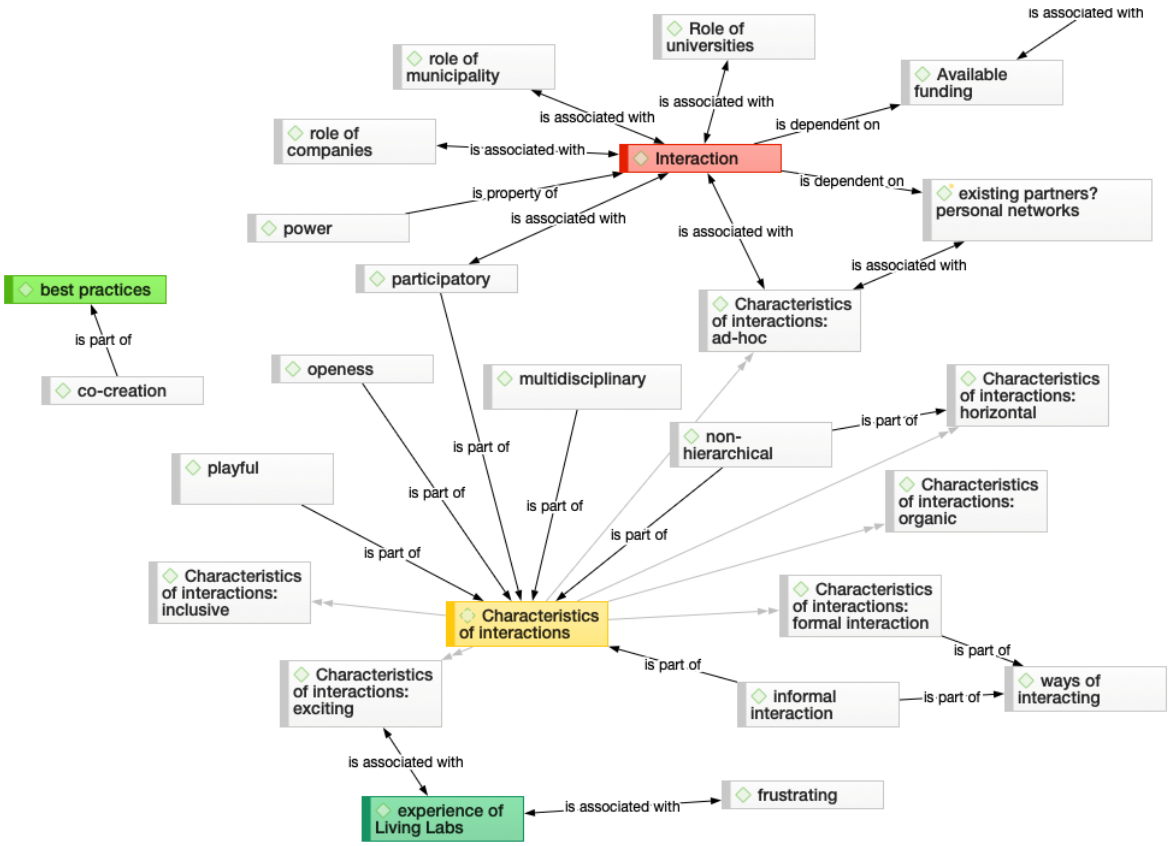


*Figure 5. Main findings regarding characteristics of interactions, according to the participants of the workshop.*

As the figure illustrates, interactions are shaped by the presence of academia, municipalities and companies, highlighting the actors involved in governance networks that are intended to address (wicked) local problems. What was curiously absent from the discussions was other stakeholders such as civil society organizations and citizens. This might be explained by the fact that these were groups not represented in the participants attending the workshop. On the other hand, it might also indicate that these are the groups of stakeholders that could, and should, be involved further in the development of living labs. Part of the omission of these groups might also be linked to the fact that interactions are often based on existing personal networks, and pragmatically develop in line with funding requirements where civil society organizations and citizens might not be identified as funded partners.

Interaction was also recognized as associated with issues of Power, reflected in the identification of companies, universities and municipalities being present in the constellation of actors involved in living labs, but with no other potential partners mentioned. However, the interactions occurring in living labs settings were characterized as playful, often informal, ad-hoc, playful, open, inclusive, non-hierarchical, organic and exciting. Given these characteristics, one could assume that the limited (or non-existing) role or civil society organizations and citizens in living labs might be due to other factors, such as limitations derived from funding, lack of awareness, lack of (personal) networks or connections, or may be linked with specific core reasons of functioning of the living lab, among other possible reasons.

The workshop also invited participants to indicate where improvements could be made to how living labs currently function. Figure 6 illustrates the main findings.

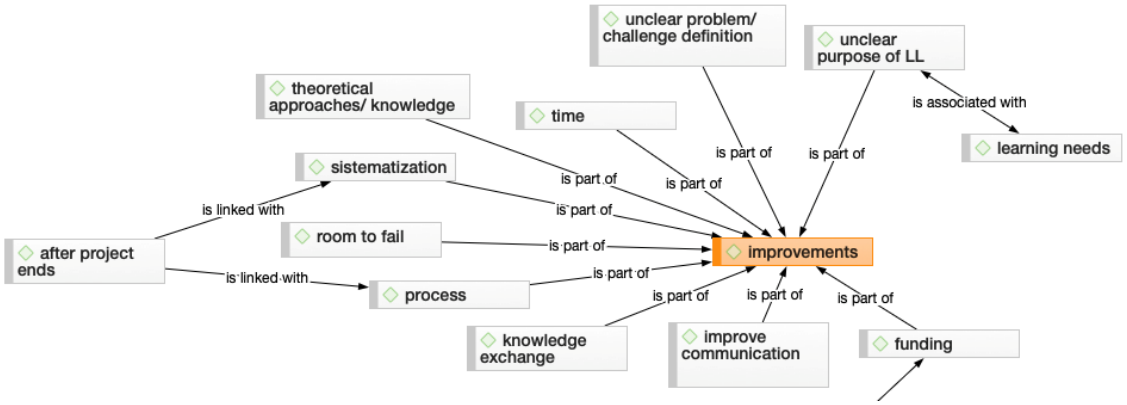


*Figure 6. Fields of improvement to living labs, according to the participants of the workshop.*

Lack of clarity in the definition of the challenges that the living labs are expected to address, and in the role or purpose of living labs was a recurrent point of improvement. There was also mention of aspects that are linked to how knowledge can be created and circulated within and between living labs, and from the labs back into society. Participants mentioned the need for developing a systematic approach in developing a living lab, and the link to theoretical knowledge and concepts, the need to follow-up on learning from a project after its conclusion, and the need to improve knowledge exchange and communication. Room to fail and time were important aspects to consider when the goal is to generate trans-local knowledge. Attention to the process of running a challenge and a living lab was also identified.

Funding was the one operational aspect that was less directly connected with translocal knowledge exchanges and learning, but that should be improved. This can be understood in light of some of the characteristics of interactions identified earlier, that related to the ad-hoc and informal aspects that were partly due to the limited access to consistent funding. The need to develop funding strategies results as a condition for ensuring continuation of the activity of a living lab and development beyond the pilot phase.

### *Imagine and Ideate*

After the Understand and Frame stage of the workshop, participants were invited to imagine alternative visions and "What if" scenarios, and to speculate and explore one such future scenario. Each group of participants imagined its own scenario and what would be the direct and indirect impact of the imagine scenario.

In common, these "what if" scenarios had the emphasis on living labs being used as infrastructures that would connect (people, life and different resources) and facilitate more democratic, open, inclusive access to knowledge and resources amongst a wider community. There was also a concern evident in formal structures enabling the

sustainability of living labs. These formal structures appeared in different shapes, for example access to secure funding that would enable living labs to focus less on procurement and more on action and innovation. Secure funding might also translate into living labs' resources being free from political agendas and cycles, translating into more autonomous and impartial institutions; stability in the relationships established between involved partners could translate into professionalism and more innovation. Groups also imagined living labs as more responsive to the needs and aspirations of citizens and local businesses and associations and seen more as a civil society association and more accessible to all.

Technology was also imagined as having an enabling role in these aspirations surrounding the future of living labs. New technologies can enable different ways of interacting, questioning the need for living labs as physical spaces, and for how experiences and knowledge are shared, translated and appropriated by different contexts. Technologies might also generate new opportunities to secure stable funding and revenues, in the form of, for example, blockchain technologies. With technologies facilitating new and different forms of interaction in different (virtual) spaces, there was also the hope that living labs would emerge as having overcome contextual and cultural differences, becoming more transparent entities, with new spaces for playful experimentation and offering flexible, multiple uses and solutions. Figures 7 and 8 visualize the construction of these scenarios by two of the groups of participants.


*Figure 7. One of the "what if" scenarios proposed by one group of participants of the workshop: can we imagine a living lab that includes also non-humans, nature and technology as stakeholders?*

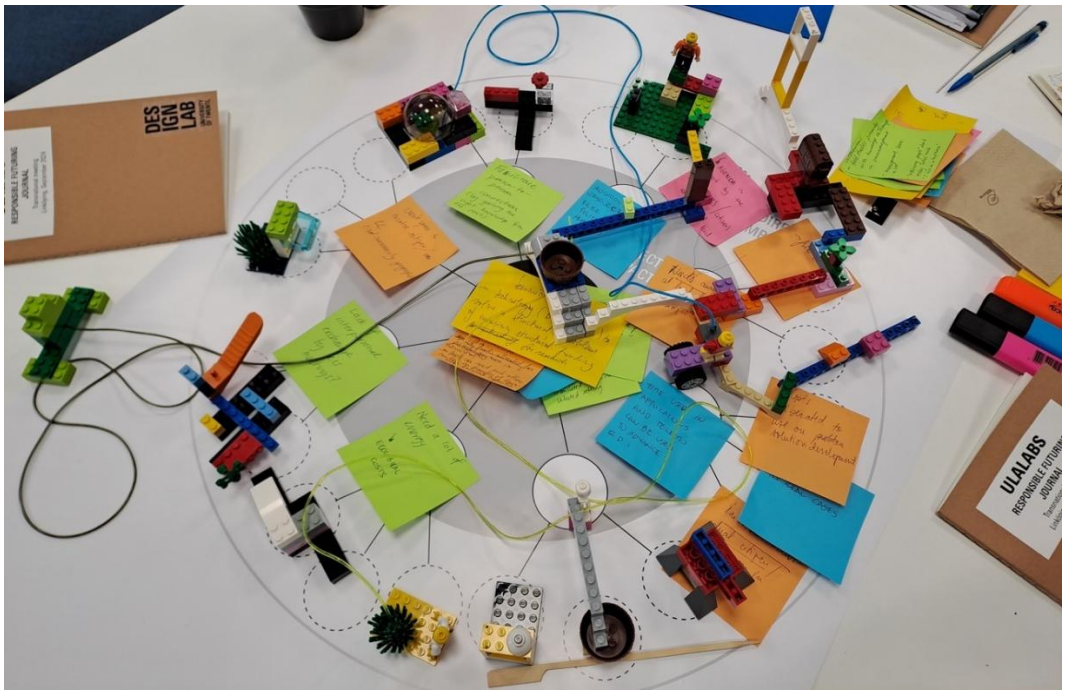


*Figure 8. One of the "what if" scenarios proposed by one of the groups of participants of the workshop: Future scenario: technology (blockchain) to solve a structural problem of ensuring structural funding for research; if new technologies like AI help to enhance processes - new ways to allocate capital to accelerate processes*

### *3. Multiplier Event (WP2.A6)*

*Linköping, Sept 2024*

Project partners and external stakeholders / 35 participants / 4 ECIU Universities

The multiplier event was entitled "*Exploring the role of Living Labs for Urban Sustainability Transformations*" and was developed as a break-out session, part of the Future Now Forum 2024, in Linkoping, Sweden (figure 9). 35 participants joined the event in person, and 9 online, including Academic, Public administration (municipalities) and Industry representatives. The session set out with a presentation of the most recent project results, highlighting the mapping and analysis of European Living Labs and Testbeds as an early task of the project. To showcase experiences from Living Labs in the four ULALABS regions, we discussed the structure and role of living labs for urban sustainability innovation, covering both social to technical innovation initiatives.


*Figure 9 Logo of the Future Now Forum, organised in Linkoping, Sweden*

Participants highlighted the significant opportunities arising from integrating intersectional perspectives and interdisciplinary methods and approaches within living labs and testbeds. They emphasized the importance of facilitation and communication in co-creation processes to achieve inclusive processes and engagement from all stakeholders. Additionally, cultural differences and cooperation were identified as powerful enablers. Potential benefits and opportunities of a future European Distributed Living Lab were also recognized, underscoring the importance of fostering innovation, collaboration, and shared learning across diverse contexts (figure 10). Further areas were identified during the workshop, and the overall analysis will feed into the projects ongoing and upcoming work in WP2 and WP3 specifically.

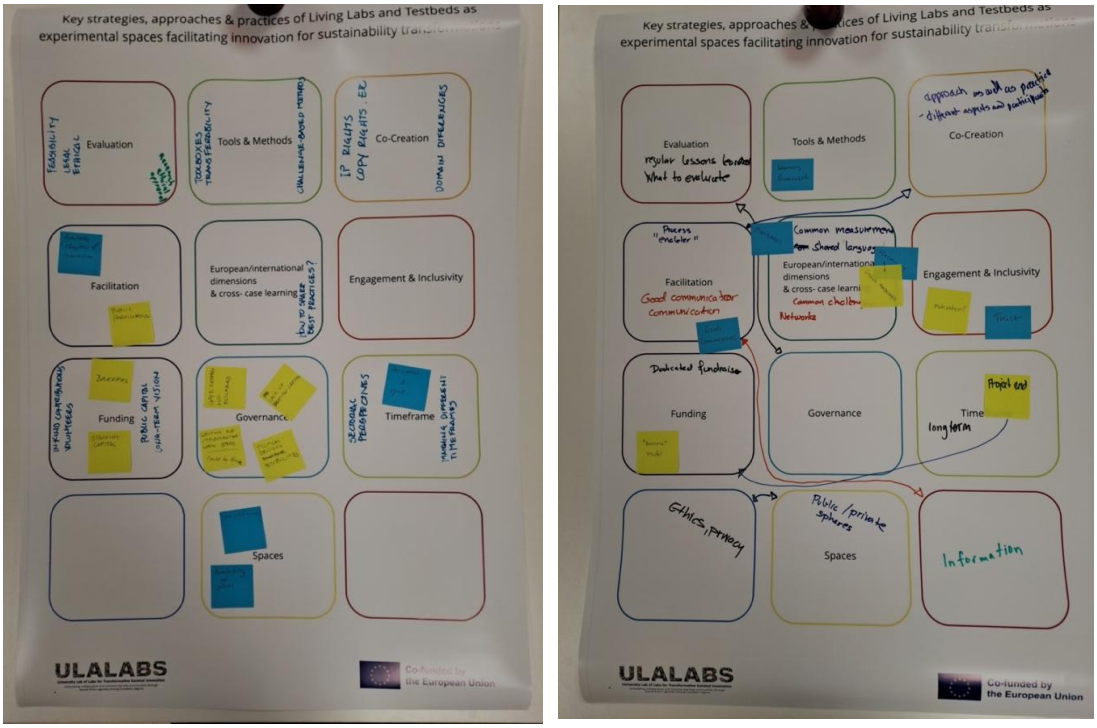


*Figure 10 the workshop was organised in a World Cafe format*

### *4. Challenge-Based Learning and Virtual Reality Workshop*

*Barcelona, UAB Campus - Nov 2024*

ECIU Community / 25 researchers and educators / 9 ECIU Universities

From November 6-8, 2024, the ECIU Challenge-based Learning Event took place at UAB. The event brought together 25 educators and researchers from 9 ECIU member universities, including Dublin City University (Ireland), University of Stavanger (Norway), Lodz University of Technology (Poland), Tampere University (Finland), Universitat Autonòma de Barcelona (Spain), Institut National des Sciences Appliquées (France), Hamburg University of Technology (Germany), University of Aveiro (Portugal), University of Trento (Italy) and Kaunas University of Technology (Lithuania). The training, titled "Challenge-based Learning, Enhanced by Virtual Reality," aimed to foster collaboration and knowledge exchange through hands-on prototyping and virtual tools. It focused on building capacities in the

integration of Agile methods in learning and teaching, advanced strategies for creating interactive digital learning resources, and the use of digital technologies to improve learner interaction. These themes and tools were well-aligned with the ULALABS project approach. Moreover, given that the event involved the ECIU educational community, from the ULALABS project we considered it as a unique opportunity to engage with the potential end-users of the future Distributed Lab and gather their needs and ideas. Thus, on the first day of the training, ULALABS project coordinator, Konstantinos Kourkoutas presented the project, its objectives and the first insights of our vision of the ¨Lab of Labs" that promotes transformative innovation policies through open and collaborative Learning Communities and Shared Agendas, fostering inclusive and collaborative learning environments across European regions. It was highlighted that the project also emphasizes challenge-based methodologies, addressing how to design hybrid, distributed, and inclusive learning spaces that meet the evolving needs of the ECIU.

Following the presentation, and adopting the Challenge-Based Learning methodology, the participants were asked to tackle, explore and co-create in smaller groups the proposed solutions to the following challenge:

> "How can we design a hybrid, distributed, and inclusive learning space that meets the evolving needs of the ECIU, fostering innovative collaboration, problem-solving, and knowledge generation, through a shared teaching and experimentation environment?"

The participants were then divided into 4 working groups that would elaborate their proposals during the next 2 days following challenge-based methodologies (figure 11):


*Figure 11: Fotos from the workshop kick off and the challenge presentation*

*Group Results (4 groups)*

The main points and insights from the group proposals developed during the workshop are presented in a tabulated and synthetic manner:

| ***Group 1*** | | | | | |
|---|---|---|---|---|---|
| *Sub-challenge defined* | *Methodologies* | *Vision of the distributed model* | *Community* | *Tools* | *Values/ principles* |
| How to develop an inclusive learning space to support the co-creation of multi-disciplinary projects based on different disciplinary courses for students of partner universities to improve inclusive learning. | 3D model content sharing; discussions in synchronous (VR) & asynchronous mode (leave notes). Could be used for specific classes between different curriculums and promote interdisciplinarity.<br>Synchronous moments for milestones of the project/ class/ course, when everyone meets in the virtual room and interact. Always accessible. | Virtual room in VR where there is a table with the central object of the study/ course/ project and interactive screens, and where you can discuss and work on the model/ subject.<br>Also other facilities like screens where you can project information, add notes; space for discussions.<br>Well-being space in the room. | Multidisciplinary and multicultural.<br>Focus on exchanging the expertise across different university students, e.g. student experts for the others, including to teachers. | Thinglink to show the model.<br>Meta Horizon World. | Inclusiveness<br>Connecting teachers and students in a novel way.<br>(Live captions options to support the inclusiveness for participants with hearing impairment and across different universities.) |

Additional Observations:

*Resources needed:*

- VR headsets and dedicated spaces/infrastructures.
- Knowledge – capacity building
- VR training for teachers and students to be able to set up and use the space.

*On evaluation on this solution:*

- Count amount of communication on the platform.
- Learning outcomes more multicultural and disciplinary?
- Cost saving and sustainability (less travelling)?

Potential limitations/challenges:

- Interaction with VR creation for development and the costs of devices.
- Limitations for video or other types of documents sharing.

| ***Group 2*** | | | | | |
|---|---|---|---|---|---|
| *Sub-challenge defined* | *Methodologies* | *Vision of the distributed model* | *Community* | *Tools* | *Values/ principles* |
| How would we create an inclusive and immersive digital learning space for undergraduate students to future proof them for an uncertain environment. | 1. Team chair pilot.<br>2.Challenges development.<br>3. Important: assessment with students, via quizzes, polls, reflections etc. | ¨Sofany¨- a VR place to come and engage in research. Big open spaces to foster research and innovation.<br>Collaboration between the 5 ECIU universities (first pilot on smaller scale).<br>Stakeholders' inclusion (university and industry).<br>Student Buy in. | Foster the development of students' transversal skills, essential for work, education and daily life, e.g. digital literacy, collaboration team, critical thinking, creative thinking. Key skills that are lacking within Europe at the moment are digital based skills and green skills. | Horizon Worlds | Inclusiveness, closeness and immersive.<br>Safe space that will allow and promote students' engagement.<br>Diversity. |

Additional Observations:

VR resources detected:

- CoSpaces Edu
- Thinglink
- Horizon Worlds

| ***Group 3*** | | | | | |
|---|---|---|---|---|---|
| *Sub-challenge defined* | *Methodologies* | *Vision of the distributed model* | *Community* | *Tools* | *Values/ principles* |
| How to minimise the gap between academics and non-academics and to create the habit and collaborative learning space for learning and research space.<br><br>Target group change: high school students and the students who are hesitant to come to the university, to come and understand research world and make them feel comfortable. | The sense of collaboration that must be mediated. There must be events planned and that's going to need someone to continuously moderate that. | Virtual apartment/ library with dedicated laboratories/spaces and terrace.<br><br>Dedicated spaces for interactions, asking, questions. | Minimise the gap between the researchers and the students that might be scared of the university and might feel more comfortable to talk anonymously and about their doubts. Safe space<br><br>Stakeholders map. | Thinglink | Safe / inclusive /<br><br>Bidirectional.<br><br>Transdisciplinarity/<br><br>Empathy |

Additional Observations:

Resources needed:

- training and capacity building with VR, not only for teachers but also for students;
- role of facilitators/mediators of the place;

On potential evaluation methods:

- Behaviour of the users (if they just come in and leave; if they stay and play/look around)
- Long-term: looking at the demographics and students' enrolment, if there was a change.

| ***Group 4*** | | | | | |
|---|---|---|---|---|---|
| *Sub-challenge defined* | *Methodologies* | *Vision of the distributed model* | *Community* | *Tools* | *Values/ principles* |
| How might we meaningfully address stakeholder problem through a network of shared resources (skills, labs, competences) for the ECIU community to foster collaboration using multidisciplinary teams? | Trial – pilot- small scope in terms of scope of resources, personnel.<br><br>CBL approach. | 3 components:<br><br>AI Project profiler – engine to do the match between different researchers/ educators to meet criteria set by stakeholders/ project; technical accessibility – simplicity of the tool with sample logic tree.<br><br>Meeting space - to share common expectations and kick-off in a newly formed group<br><br>Working space – multi-collaborative, brainstorming spaces, relaxing space; | KIRO- a path to hope | Learners, teachers and researchers<br><br>Create a pool. | Accessibility – not exclusive on the tech side. |

Additional Observations:

- VR can be expensive, be aware so as not to exclude any potential partner.
- CBL processes foster a deeper understanding of complex concepts; allow individuals to learn from different perspectives and enhance their communication and teamwork skills;

*Methodologies*

As expected, the focus on the methodologies discussed during the workshop was on challenge-based methodologies, and in this case concretely given the profile of the participants more on Challenge based learning and active learning. Apart from the Challenge Based element a couple of other insights were produced with respect to the methodologies and functionalities to be integrated in a lab:

- **Synchronous & asynchronous modalities**
  Asynchronous could be used for specific classes between different curriculums and promote interdisciplinarity. Synchronous moments for milestones of the project / class / course, when everyone meets in the virtual room and interact. At any other time, one can access always.
- **Space for assessment and reflection**
  with participants, students, via quizzes, polls, shared reflections etc.
- **Mediated collaboration**
  Although interaction and collaboration should remain open, there should be a mediator overseeing processes and results.
- **Flexibility/adaptability**
  To different contexts (remote access, collaboration), objectives (teaching/research) and availability of resources needed.

*Values*

The values that have been highlighted during the workshop as essential and transversal for the proposed distributed lab are presented in continuation:

- **Inclusive** – facilitating and ensuring access to all and especially less represented users
- **Accessible** - keeping in mind the barriers that technology can also create
- **Safe** - guaranteeing a space where everyone can feel welcome and free to participate
- **Diverse** - celebrating the richness in opinions, perspectives and experiences
- **Transdisciplinary** – employing the collective potential to achieve greater impact

With respect to its functioning:

- **Innovative** – incorporating newest technologies and verifies methodologies
- **Engaging** - inviting typical and a-typical users to engage and commit
- **Immersive** - using VR technologies and inviting interfaces/ environments
- **User friendly** - intuitive interfaces easily integrating various tools and workflows

*Tools*

During thew workshop the following VR platforms were presented and tested by the participants, utilizing them to visualize and communicate their proposals (figure 12).

- **CoSpaces Edu**

  CoSpaces is a 3D visualization tool that makes creating virtual spaces easy as no special coding or design skills needed. With the free browser app, one can easily build virtual spaces, selecting from a library of environments, characters and objects, adapting them individually or even creating new items.
- **Thinglink**

  ThingLink is a web application that allows users to create unique experiences with interactive images, videos and 360° media. It permits users to easily create multiple 'hot spots' on specific parts of an image or video using 'tags'.
- **Horizon Worlds**

  Meta Horizon Worlds is an online virtual reality game with an integrated game creation system developed and published by Meta Platforms. On this multi-player virtual platform, players move and interact with each other in various worlds that host events, games, and social activities.

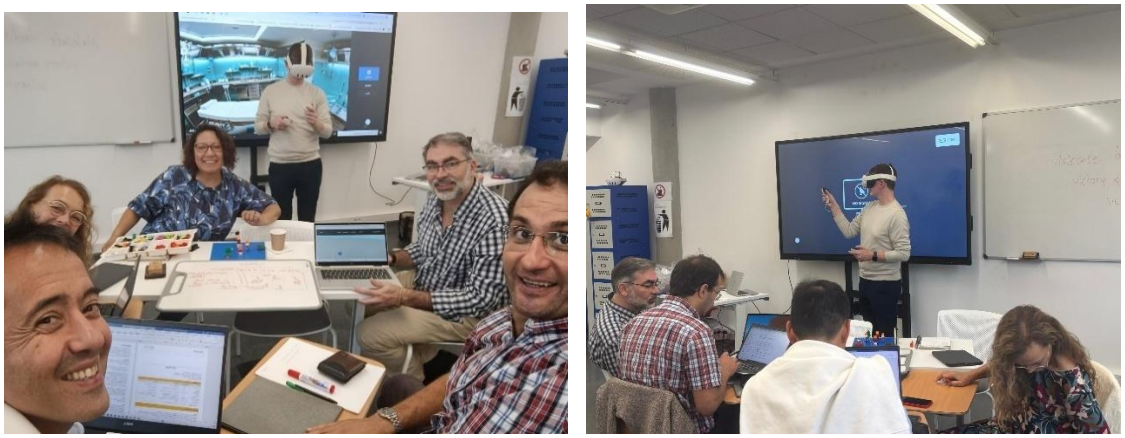

*Figure 12: Photos from the workshop and the groups workings and presentations*

### *Elements of the Distributed Lab & Learning Community*

The workshop also foresaw a series of elements and insights that can contribute to the overall vision and structure of the ULALABS project and helped inform our shared vision of a Distributed Living Lab as a space that offers a:

- **Meeting space -** to initiate conversations, projects, engage with users and create new groups
- **Collaborative Working space -** Flexible and adaptable, brainstorming spaces, relaxing space; foster learning, research and innovation.
- **Toolkit-** A set of tools and resources to promote collaboration and impact creation
- **AI Project profiler-** Ai algorithm to do the match between the different researchers/educators to meet the criteria set by the stakeholders / project; technical accessibility – simplicity of the tool with sample logic tree
- **Ecosystem map-** An easily accessible and informative map of actors / spaces / infrastructures

- **Data space / Library / Showroom-** A place to share results, experiences and knowledge generated
- **Lab spaces-** Individual spaces for each lab with information, access rules, local/ remote capacities etc.

### *Identified Sub-challenges*

Departing from the original challenge proposed to the 4 groups a series of sub-challenges were identified and were worked during the duration of the workshop. Apart from the specific results that they produced, they also provide hints to perspectives and actual challenges that could be explored further in subsequent phases of the ULALABS project. Synthesizing from the identified sub-challenges, we identified four questions that should be further discussed and addressed in order to develop a distributed living lab:

1. How to develop an inclusive learning space that promotes the co-creation of multi-disciplinary /transdisciplinary projects for students (and academic community) of partner universities and regional stakeholders.

2. How would we create an accessible and immersive digital learning space for undergraduate students in order to future proof them for an uncertain environment?

3. How to minimise the gap between academics and non-academics and create the habit and collaborative learning and experimentation space for learning and research?

4. How might we meaningfully address stakeholder challenges through a network of shared resources (skills, labs, competences) for the ECIU community to foster collaboration using multidisciplinary teams?

## A Shared Vision for an Updated Definition

In WP2A1 we elaborated on current literature that explores the definition, characteristics and challenges of (urban) living labs and other types of experimentation spaces (sandboxes, testbeds, incubators, makerspaces etc). One key takeaway of relevance to the ULALABS project was the recognition that there is a need for a "well-framed and coordinated learning process and for this reason it understands that we need to go beyond the mere comparison of differences between local solutions to forging joint learning processes that can contribute to a wider shared agenda." (see WP2A1), or what Scholl et al (2022) have referred to as a "meta-lab approach".

Building upon the feedback and insights produced over the forementioned co-creation activities, the ULALABS project and involved stakeholders have formulated a shared vision for a Distributed Living Lab. This shared vision distinguishes between what can be achieved within the scope of the ULALABS project, bound by the project duration, and what a long term vision for a Distributed Living Lab entails. This vision formulation is a necessary and key step prior to setting up the specific strategic goals, aspirations and reach of the Distributed Living Lab.

### *Short-term Vision*

> The operational vision of the ULALABS project is to articulate the diverse urban experimentation spaces emerging in the different ECIU partner regions into a Distributed Living Lab which is centred around a vibrant learning community, focusing on sustainable urban transformations; such a “meta-lab”[1] that can tackle in a coordinated manner shared challenges within the ECIU ecosystem reinforcing the r+d+I infrastructures and capacities of the ECIU university and augmenting its overall impact.

### *Long term Vision*

“The long-term vision of the ULALABS project envisions the creation of a (hybrid) Distributed Living Lab, a Lab of Labs, aligned with the ECIU vision and philosophy, focusing on urban sustainability transformations. Transformative learning will be pursued through non-traditional, challenge-based methodologies, with this Distributed Living Lab fulfilling a role of translation between a diversity of skills, backgrounds and contexts of learning and knowledge generation and contributing to a shared knowledge agenda. It will play a pivotal role in creating interconnections between existing labs and other types of experimentation spaces and their respective communities based on their distinctive focus, challenges, methods, and target groups, into an articulated open and collaborative learning community. The Distributed Living Lab will reflect a stakeholder-driven (citizen centric) approach to innovation, where solutions emerge from the needs and insights of those directly impacted and involved. This aligns with the concept of citizen science, where the citizens contribute to the generation of knowledge, making it more inclusive, democratic.

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[1] *A **meta-lab** can be defined as a transurban multi-actor network to connect and where possible align the learning processes across thematically related **ULLs** in different urban contexts through a central learning agenda.* Scholl et al (2022)

The Distributed Living Lab, connecting the diverse labs and experimentation spaces within the ECIU, can be created through the strategic use of technology and virtual spaces that can facilitate interaction across physical and digital boundaries. This type of meta-lab will enable European, international and transnational collaboration while maintaining a focus on local contexts and needs and will place a strong emphasis on socio-technical innovation and collective problem-solving, applying tools, technologies and methods that emphasize the need for responsible and ethical collaboration, co-creation and engagement, to tackle existing and upcoming shared challenges".

### *Key Characteristics of a Distributed Living Lab (Lab of Labs)*

We propose the vision of a Distributed Living Lab or a **Lab of Labs** as a dynamic and agile organizational structure that facilitates the development of solutions leading toward more sustainable, climate neutral and resilient urban areas. These solutions are rooted in specific local contexts, while also striving for broader, translocal impact.

Our vision for a Lab of Labs is built on the idea of **co-creation of knowledge**, bringing together diverse stakeholders—ranging from citizens to local businesses, universities, and organizations—in a shared space for collaborative innovation. These structures are intentionally **highly dynamic** and **contextualized**. Collaboration across living labs and experimentation spaces is often rooted in agile frameworks, which might sometimes clash with traditional, more rigid organizational settings. This friction is a natural consequence of navigating between **flexible, evolving spaces** and more **stable, established institutions**.

#### Transformative Learning

One of the core objectives of a Distributed Living Lab is to **facilitate transformative learning**. This learning process revolves around the concepts of **de-contextualization** and **re-contextualization of knowledge** — allowing participants to shift between different perspectives and local realities (see WP3A1). The approach is based on creating **shared learning experiences** among participants. In such an environment, participants benefit from the **diversity of skills and backgrounds**, enhancing the richness of the learning process and supporting the development of innovative solutions. The Distributed Living Lab can fulfil here a key need for **translation**, by connecting the learning processes across different types of labs, in different contexts and with different dynamics (see WP3A1).

The Lab of Labs is also characterized by **informal, opportunity-driven interactions** that are **open, playful, and non-hierarchical**. These interactions encourage **creativity** and support a collaborative, flexible approach to problem-solving. The focus is on creating spaces where ideas can flow freely, and innovation can thrive through collective engagement and creation of shared knowledge.

A particular challenge for a Distributed Living Lab is how to move from **local** to **translocal** or even **global knowledge generation**. While embeddedness in local contexts is key, the Distributed Living Lab is also envisioned to build **networks of learning communities** that transcend local boundaries (see WP3A1). This allows the upscaling of knowledge and

solutions, impacting larger social systems and contributing to global sustainability goals and shared learning and innovation agendas.

**Stakeholders and Citizen Engagement**

A crucial element in the vision of a Distributed Living Lab is the involvement of a wide range of stakeholders isa citizen centric approach with a strong inclusivity focus. This includes **citizens**, **local businesses**, **organizations**, and other community groups who can play an active role in defining the vision and agenda, but usually do not have access to such processes. In this way, a Distributed Living Lab reflects a **stakeholder-driven** approach to innovation, where solutions emerge from the needs and insights of those directly impacted. This aligns with the concept of **citizen science**, where the public contributes to the generation of knowledge, making the process more inclusive and democratic. This might also contribute to overcome one of the current challenges of living labs, that of "*projectification*" (see WP2A1), increasing the societal relevance and impact of the projects and solutions developed in a living lab context, contributing to a long-term sustainability of the projects.

**Transformative Experimentation Spaces**

Transformative change is defined as challenging or replacing established/ dominant practices or institutions in a specific socio-material context. Central to the ULALABS project is the task of understanding how socio-technical innovation processes can contribute to transformative change, and how the different actors (including labs) can be involved/engaged and empowered in this process. Transformative living labs and experimentation spaces are socio-technical spaces that focus on transformations and actively contribute to shared agendas promoted collectively by stakeholders in a territory. These labs are conceived as spaces to experiment, learn and help incubate alternative technologies and social practices/services. These labs operate in complex environments and conditions and are part of a system that they seek to transform.

**Technology, Virtual Spaces, and Knowledge Transfer**

In practice, a Distributed Living Lab can be created through the **strategic use of technology** and **virtual spaces** that facilitate interaction of the community across physical and digital boundaries. This helps overcome geographical limitations, enabling **European, international and transnational collaboration** while maintaining a focus on **local relevance**. One of the key challenges is the "**transfer" of innovation** between labs or the scale-up to real-world applications. Many of the labs analysed in WP2 have struggled with this **translation aspect**, highlighting the need for a clear approach to how ideas move from concept to practice. A potential solution could lie in developing **pathways for implementation**, such as establishing **innovation-driven ecosystems** that link research, businesses, and policy actors.

In this context, the role of **universities** and **knowledge platforms** like the **ECIU (European Consortium of Innovative Universities)** is critical. These institutions can serve as intermediaries that help **codify** and **share knowledge** generated within the living labs and the Distributed Living Lab, bridging the gap between theoretical research and practical application. This vision for the role that universities can play in an ecosystem of experimentation spaces aligns with the ECIU vision of setting up a "European-wide ecosystem based upon open and inclusive collaboration connecting societal stakeholders, researchers and learners to provide European answers to future societal challenges. We create a playground for solving multi-disciplinary challenges in entrepreneurial, innovative ways and provide personalised learning and career opportunities for life at the European level, enabled by a novel university model based upon co-creation" (see ECIU University 2030).

**Multiplicity of Labs and other experimentation spaces**

Another important distinction to make is the difference between the typologies of urban experimentation spaces (**living labs, innovation labs, sandboxes, testbeds, makerspaces etc)**. While all typologies focus on fostering innovation, the principle and most useful differentiation is the role of the user in these processes, with their respective rights and responsibilities. Understanding the characteristics of these diverse typologies is key for articulating a Distributed Living Lab, encompassing this diversity. Some labs such as testbeds, sandboxes and similar experimentation spaces are typically more focused on scaling up and developing business models for commercialization of solutions (see WP2A1), whereas living labs or other experimentation spaces, as seen place a strong emphasis on **socio-technical innovation** and **collective problem-solving** within specific societal contexts. The focus of the Distributed Living Lab is naturally then set on systemic change and **transformative socio-technical innovation** with a strong **citizen (user)-centric focus.**

At the same time, as both the literature review and lab analysis demonstrated, the diverse lab typologies often overlap in their scope which often creates confusion and dissonance when not understood operatively and contextually. The ULALABS project proposes that this existing overlap in the innovation scope of experimentation spaces can serve as an opportunity to connect diverse typologies of labs and articulate them into a coordinated distributed living lab.

**Navigating static actors in a dynamic context**

Finally, the Distributed Living Lab must navigate the **tension between dynamic, evolving contexts** and the **stable, sometimes resistant institutions** that form part of the landscape (e.g., universities, municipalities, larger corporations). These organizations often have more rigid structures and are or may be less responsive to rapid change or the uncertainty/risk characterizing many of these processes. The challenge, therefore, is to integrate these more static entities into a highly flexible and adaptive model of innovation, without compromising the overall agility and creativity of the community and the Distributed Living Lab.

## Next Steps

In the upcoming project period, we will continue to present and validate the shared vision with our project partners and other stakeholders. This will be done in three separate events:

1. *Validation workshops/ webinar 31st of January 2025*

In this session, entitled "The Emerging Lab of Labs - Activities, Experiences, and Outcomes of the First Year of the Project" we will share insights from the project publication on the status quo, including a literature review and findings from the analysis conducted with regional ecosystems on urban experimentation spaces, including living labs, testbeds, sandboxes and others. We will also present key findings from an analysis of case studies of diverse urban experimentation spaces across different ECIU partner regions (Figure 13).

The second part focuses on sharing the developed Future vision of a Distributed Living Lab, and we will use interactive tools to validate the key aspects of the shared vision. We will also share the results of our research on learning communities and transformative learning, that resulted in the baseline definition of the Mutual Learning Community we envision.

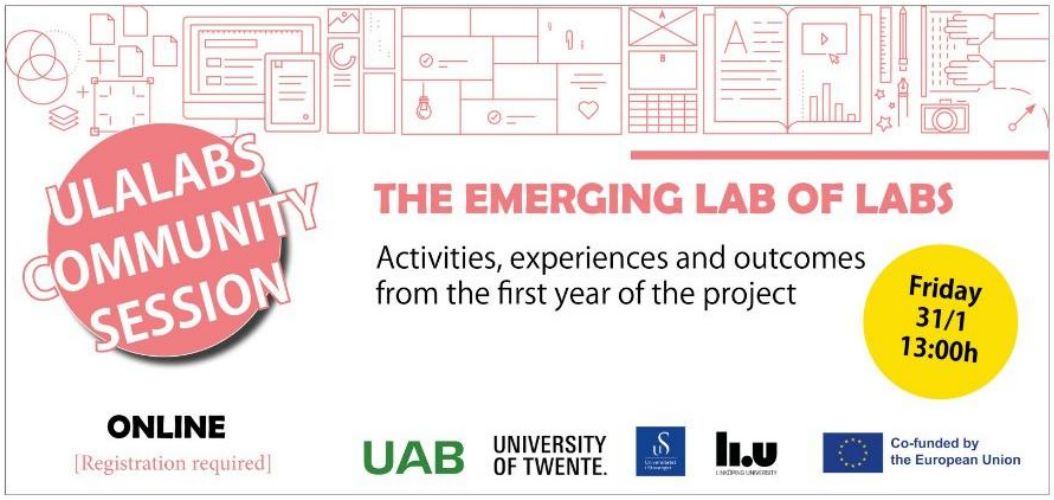



*Figure 13 Announcement to the validation workshop/ webinar, shared among project partners and external stakeholders*

2. *WP3 mapping workshops with local/regional stakeholders – February 2025*

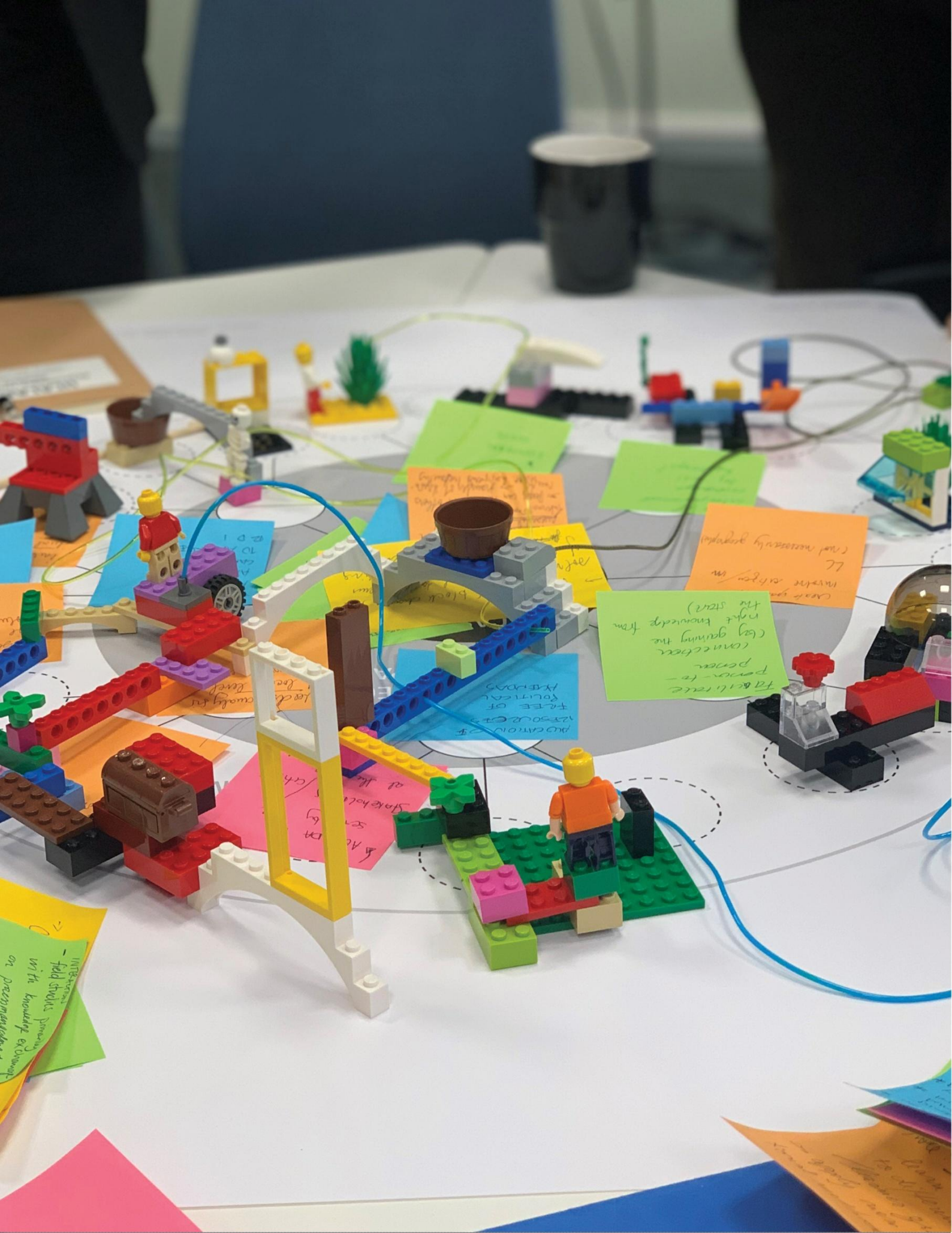
The updated definition of the shared vision will be presented and validated with the local stakeholders during workshops organized for activity 2 in WP3. Each of the participating regions will organize its own workshop, in close connection with the external stakeholders. These workshops also serve to highlight the next steps of the project, of working towards the short-term vision of the Distributed Living Lab, and building the learning communities that can embody the envisioned dynamics of experimental spaces and of the Distributed Living Lab. These local workshops will help to better prepare for the Multiplier event organized by the University of Twente in May 2025, to align with the goals and challenges of external stakeholders in working towards the shared vision of the Distributed Living Lab.

### *3. Workshop in Enschede, NL - May 2025*

The workshop will be held as part of the Multiplier event hosted by the University of Twente (WP3.A7). The goal of this workshop is to further elaborate the development of a Distributed Living Lab, its aspirations, goals and objectives, and elaborate on the implementation of this vision: necessary steps to achieve this vision, how to establish these learning communities across different living labs that will support the development of a European Distributed Living Lab, and what the different stakeholders should do in order to reach this intended vision. The participants will include academia, public officials, and managers of existing living labs.

### *4. ECIU University Forum Trento. IT - June 2025*

The ULALABS consortium is planning to organize a workshop during the ECIU University Forum in June 2025 in Trento Italy. The ULALABS team will have the opportunity to further engage the ECIU community in relation to specific aspects of the Distributed Living Lab and its long-term vision after the completion of the project.



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