Unlocking the Potential of Living Labs
Insights and Strategies

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13. Unlocking the Potential of Living Labs: Insights and Strategies

Epilogue

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Introduction

What are the lessons that applied design researchers can take away from this book? What suggestions and recommendations can be derived from the experiences presented in the preceding chapters? On the one hand, it is clear that working with Living Labs offers unique opportunities to address some of society's ambitious challenges. At the same time, it is also clear that it's not necessarily that straightforward to deal with the dynamics of a Living Lab. In Chapter 1, *Experimentation at the Heart of Societal Change,* we presented our expectation that applied design researchers can play an important role in connecting different levels of the Living Lab and its surroundings. To explore this, we first discussed the Living Lab and its relationship with societal change processes. Second, we discussed the social dynamics that take place in the Living Lab itself. Third, we discussed the actual practices of applied design researchers within a Living Lab, for instance with regard to their engagement with tangible forms. In this final chapter, we present some of the overarching insights that can be drawn from the many reflections in this publication.

Enabling a Customisable Approach

From the preceding chapters, it has become clear that Living Labs as experimental settings can definitely contribute to the realisation of societal transitions. Just as there is a wide variety of societal challenges, there is also a wide variety of associated Living Labs. After all, transitions in the energy sector require very different contextual considerations than those in elderly care, or those in agriculture. Overdiek and Van der Laan therefore argue in Chapter 2, *Living Labs and Other Experimental Environments,* that it is necessary to recognise this diversity. While being transparent about applying basic elements of the Living Lab like co-creation and real-life settings, it is essential for applied design researchers to adapt their approach and methods to the specific context of the experiment. Every Living Lab is unique, and applied design researchers need to adapt their repertoire accordingly. Unsurprisingly so, we also find a wide variety of approaches in this

book. For example, in Chapter 9, *Bridging Multi-Stakeholder Dialogue about AI Systems in the Lab,* Van der Horst et al. present Living Labs as a real-world context to discuss emerging technologies with diverse stakeholders. We also recognise this argument in Chapter 10, *Between Experiments – Leveraging Prototypes to Trigger, Articulate, and Share Informal Knowledge,* in which Jaśkiewicz and Smit present the case of the Cities of Things Living Lab. Here they consider Living Labs primarily as a context for research through design. Other authors, besides emphasising the future-oriented aspect of Living Labs, specifically unpack their potential to deal with the complexity of society. For instance in Chapter 5, *Exploring the Potential of Festivals as Living Labs for Systemic Innovation,* Dijkstra et al. suggest that labs can model the systemic nature of societal challenges, and that festivals can provide a unique testing ground for innovations aimed at initiating systemic change. It is clear that there are many types and forms of Living Labs, linked to different experimentation methods and goals, and related to different types of societal challenges. Thus it is essential for design researchers to adapt their methods and activities to these specific settings.

Embracing Real-World Complexity

It is almost a truism to state that Living Labs relate to the real world, but the chapters in this book indicate that this relationship is multifaceted and sometimes challenging. Van den Eijnde and Mohammadi, for example, argue in Chapter 3 that labs should embrace real-world complexities. This call resonates in many forms throughout the other chapters in this publication. However, incorporating or excluding complexities is riddled with complex decisions. This becomes clear from their chapter, in which they highlight the challenges that occur when setting up Living Labs that are really significant and meaningful. Embracing complexity means that applied design researchers need to consider which are the elements they want and can incorporate at a specific stage, and what complexities are better left out for the moment. This is also discussed in Chapter 6*, Opening & Closing Hours,* in which Smeenk et al. emphasise the importance of making conscious

choices about the moment to open up a lab to the real world, and when to shield it from the outside environment. This can be done multiple times, depending on how the co-design process evolves and which unexpected events and insights emerge. They indicate that it is essential to consciously think about which elements are open to the outside world, and which aspects are not. This does not only apply to outside contextual complexities, but also to intra-personal ones. In Chapter 4, *Co-designing towards Transitions?,* Sluijs et al. stress the importance of reflecting different levels of awareness that stakeholders bring into the lab, and to align them with the co-design methods used in the lab. That these choices are non-trivial is also voiced in Chapter 2, in which it is explained that applied design researchers may risk overlooking the disparities between concrete innovation projects and the societal transitions that they intend to accelerate. In general, we might say that every lab setup exhibits a profound effort to 'be real' in some sense and needs to compromise real-world complexity in others.

Balancing Risk and Safety

Whereas it is non-trivial to embrace the complexities of the real world within a Living Lab, it can also be necessary to keep the real world outside the door, at least temporarily. After all, for experimentation to be successful, it is essential that a certain degree of safety is present. Of course, this precondition applies to conducting material experiments, as it would be unfortunate if injuries occur because a new technology turns out to be dangerous for the user. But this need for safety applies at least as much to social aspects and dynamics. Can employees or citizens freely express their opinion, even if this opinion goes against the ideas of a higher ranking manager or the government official they are depending on? And vice versa, can eldermen or managers make themselves vulnerable, without the risk of people taking them less seriously afterwards? To innovate, it is essential to facilitate taking risks, but these must be affordable risks. Living Labs are the perfect place to encourage this kind of calculated risk-taking. The setting of the lab, the internal culture, the way of working, and the practical facilitation can all help to create the safe space needed

to come up with new and unexpected alternatives to an existing situation. This is for instance addressed in Chapter 5 in which the authors argue that the temporary and physical boundaries of a festival's environment can provide unique opportunities for exploring radical innovations. In Chapter 2 the authors explain that user-centred approaches and co-creation strategies are essential to engage stakeholders in the kind of thinking and doing necessary to initiate effective change. The challenge then is to facilitate stakeholders in adopting a creative and open 'designer mindset' that embraces uncertainty and complexity. It is important to be aware of the efforts and risks that less powerful stakeholders who are often citizens might face, versus the efforts of professional actors facing less personal risk. In summary, Living Labs are about encouraging risk-taking in a relatively safe and ethical way.

Encouraging Creative Collaboration

Virtually all authors indicate that engaging relevant stakeholders, and facilitating collaboration between them, is an essential component of Living Labs. For example, the authors of Chapter 5 emphasise that collaboration between different types of stakeholders can foster innovation and experimentation at festivals. Similarly, in Chapter 11, *Ceci n'est pas un Prototype,* Stompff et al. suggest that the disciplinary diversity of stakeholders in a Living Lab is an important ingredient for improving its innovation potential. As do the authors of Chapter 9 when they explain that understanding systemic aspects of emerging technologies such as their ecological footprint, and creatively engaging the stakeholders in it, is crucial for effective co-creation in Living Labs. But how to deal with the fact that many partners are not trained as designers at all? Designers can foster creativity by challenging existing perceptions within the context of the Living Lab. In Chapter 3 the authors explain that designers should prioritise co-creation with end-users and stakeholders, in order to foster a sense of shared ownership among stakeholders. Similarly in Chapter 6 the authors suggest that stakeholders should have the opportunity to be involved in collaborative decision-making

in the context of Living Labs. It is up to the facilitator or team to streamline and coordinate the dynamics associated with such shared decision-making processes. The designer's unique ability to approach an issue from different perspectives can be invaluable here. If the designer then also manages to encourage other stakeholders to view the collective challenge from a different perspective, this will further increase the chances of productive collaboration.

Facilitating Rich Learning

Productive collaborations are not possible without making sure that labs form an environment in which everyone can learn. This means, first, acknowledging the type of knowledge and experience all stakeholders bring into the lab. In Chapter 10 the authors argue that both formal and informal knowledge coexist in the lab. The learning perspective is further articulated by Van Turnhout and Andriessen in Chapter 7, *Experimenting with Novel Knowledge*. In their chapter, the authors discuss different ways in which individual learning and collective learning can be aligned. They suggest that innovative environments where individual learning is combined with collective learning are a promising approach to the deployment of Living Labs. The value of learning also emerges in Chapter 6 where the authors analyse three real-life cases based on the different learning mechanisms arising from boundary-crossing theory. They suggest that joint learning processes are a key enabler of the success of Living Labs. This is in line with Troxler and Mostert-van der Sar, who emphasise the importance of serendipitous learning in Chapter 8, *The Open Lab as Boundary Object*. They suggest that transdisciplinary encounters are key to spark innovations if stakeholders are willing to learn from each other. Also the authors of Chapter 4 argue that designers need to develop new skills in order to facilitate this rich learning. In conclusion, it is clear that an open attitude and approach of both individuals and collectives facilitate joint and rich learning. Such an attitude and approach are essential to make sure the cultural and epistemic diversity of a Living Lab environment can effectively be brought to fruition.

Creating Tangible Artefacts

The development of material objects and settings is a key ingredient of imaginative collaborations. At the same time, creating tangible and visible innovations is one of the designer's significant distinguishing qualities. Designers can create a new reality which did not exist before, through the synthesis of seemingly disconnected elements towards a new whole. In Chapter 12, *Concerning Apples and Oysters,* Van Middelkoop and Pescatore Frisk elaborate on the development of the environment in which creative professions, also called studio or workshop professions, take place. From this perspective, Living Labs are actually variants of the long-established workshop or atelier of the painter, sculptor, architect, and other creative professionals. When it comes to Living Labs, the challenge for the applied design researcher is to collaboratively organise this creation process, involving all other stakeholders. The joint development of material objects and settings, designed boundary objects, provotypes, prototypes, technological trials, and ideal types can help to find and explore collaborative reflections. It can encourage new ways of thinking about the situation at hand. For example in Chapter 8, the authors unpack how practical experience and experimentation can promote understanding and innovation. In Chapter 11 the authors suggest that tangible objects actually represent future realities or ideals. They emphasise that these objects can significantly promote effective discussions among stakeholders. Tangible objects can also play a productive role in the social dynamics of Living Labs. For instance, in Chapter 9 it is being described how the use of tangible objects can make difficult topics negotiable, and in Chapter 10 the authors suggest that prototypes can be a catalyst for collaboration and experimentation within Living Labs. Making sure that these objects are accessible and meaningful to all parties involved will promote transparency and alignment. It is clear that the act of materialising settings and idea directions, in various shapes and forms, is an important part of the applied design researcher's toolbox for working with Living Labs.

Future Considerations

While the aforementioned lessons underscore the considerable potential of Living Labs, they also bring to light the challenges and risks that demand attention. Important issues are related to the long-term impact, the scaling, the ethics and values, the power dynamics, the facilitator roles, and the reflexivity and reflection in Living Labs. Each of these challenges may point to key elements of the future research agenda for applied design researchers that are active in this field of expertise.

An important consideration is related to the *long-term impact* of Living Labs. While it's essential for Living Labs to continually assess initial tangible results and insights, in line with their learning-focused nature, equal emphasis should be placed on evaluating the lasting impact of collaborative endeavours. This involves prioritising transformational learning and sustainable change over the long haul, potentially necessitating the tracking of outcomes and the adaptation of strategies to ensure ongoing success. For this, looking deeper into collective Living Lab programs where different kinds of labs would be, simultaneously or successively, working together on a transition challenge will be necessary.

The long-term impact is closely related to the importance of the *scaling* of Living Lab learnings, products, and processes. Whereas market-focussed perspectives on scaling rely on *'scaling up'* and *'scaling out'* at the end of a project, it is important for applied design research to explore other forms of scaling along the process of experimentation. For instance, the concept of *'scaling in'* may offer a promising notion related to the dissemination of transformational concepts and worldviews in an organisation or broader societal system. One question could be how such a perspective could take place, and could even be accelerated, in a Living Lab project. Also the concept of *scaling scree* may be a relevant one, where a commitment to small incremental innovations adds up to a bigger shift towards a systemic change. Applied design researchers could find out more about these alternative ways of scaling and play with them.

Another future consideration is related to the issue of *ethics and values*. When engaging stakeholders from various sectors of the quadruple helix (business, knowledge institutions, government, and citizens), careful consideration must be given to their roles and capacities to contribute, take risks, and wield influence. It is obvious that all involved parties should be treated with respect, striving for a balanced approach towards both contributions and benefits of each party. While financial support may be a necessary precondition for many applied design researchers to be involved in a Living Lab project at all, this may also create an unconscious bias towards themes and subjects for which sufficient funding is available. As external funding is often supplied by some of the most powerful stakeholders, for instance government or large organisations; this may steer researchers in their decision of what subjects to tackle, and what subjects to ignore. When looking at ethics and values in a broader, more-than-human sense, applied design researchers need to scrutinise how to engage all relevant 'voices' and stakes in a lab, also those of biological non-humans and ecosystems.

The previous subject is closely related to the subject of *power asymmetries*. As mentioned already, different actors bring in different contributions, for instance finances, time, or specific insights. Applied design researchers should actively engage with the power imbalances that may occur within a Living Lab. While many labs emphasise the importance of co-creation, it is not self-evident that transparency in the decision-making process has been properly addressed. This need by no means be a conscious omission, as it is often implicitly assumed that collective enthusiasm is enough of a prerequisite for good decision-making. By ensuring that all participants have equal opportunities to contribute, are included in the decision-making process, and have access to relevant information, applied design researchers can effectively deal with the unconscious bias that may arise from the difference in power between various actors.

When regarding the role of the applied design researcher as a *facilitator*, it's vital to strike a balance between presence and absence. While facilitating active participation, they should avoid becoming overly present or indispensable in the process. When being engaged in the development of a Living Lab, applied design researchers may consider how they could for instance gradually render themselves redundant over time, as other stakeholders become more and more self-sufficient in their collaborative efforts. A distinction between more strategic roles in and across Living Labs, and the intricate task of facilitating valuable moments of collaboration and creation, is helpful to fine-tune and 'hand-over' roles between applied design researchers and other partners in a multi-stakeholder group.

Another future consideration of applied design researchers has to do with the need for *reflexivity and reflective practices* within participatory design processes. This entails taking time for critical reflection on the learning that occurs and the dynamics among different stakeholders. By promoting reflexivity, one can ensure that learning is actively cultivated rather than taken for granted. Encouraging reflective practices among stakeholders, both individually and collectively, may involve dedicating time for introspection and dialogue, as well as providing support for the formation of empathy and understanding of diverse perspectives.

With this chapter, this book on Living Labs and other Experimental Learning and Innovation Environments has come to an end. In other words, it is time for the authors, and the readers, to enjoy a moment of reflective practice themselves. In these last lines of this final chapter, we can look back on an inspiring collective learning process. And, if we have then enjoyed this moment of reflection long enough, perhaps we can already start thinking about the next knowledge cycle of the Network Applied Design Research, which will focus on ways to further increase the societal impact of applied design research. But let's not get ahead of ourselves. For now, we trust that lessons drawn from this publication can make a valuable contribution for anyone engaged in Living Labs, and we hope that after reading this book, methods and activities related to experimental environments will be even more meaningful in the future!