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The Living Lab: A Reality Belonging to a Collective History[1]

1.1. What is a Living Lab for healthcare and independent living?

Complementing the conceptual formulations in the literature, which emphassizes the approach's ends, a pragmatic definition of a Living Lab for healthcare and independent living has been formulated within the Forum LLSA. This definition dates from 2012, well before the launch of the work reported here, but it still remains pertinent today. It is taken from an observable reality and involves all the LLSAs in all their diversity.

Working Definition of a Living Lab for Healthcare and Independent Living. A Living Lab for healthcare and independent living – LLSA – is:

– a multidisciplinary team of several people (typically between 2 and 10);

– able to mobilize technical and human resources;

– healthcare and independent living tools for investigation and evaluation: platforms, methods, etc.;

– healthcare and independent living cohorts and/or panels relevant to the targeted markets in healthcare and independent living;

– able to utilize academic and technical skills, which are ingredients in the future solution: either internal resources or those provided by research;

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1 See "Analyzing and referencing the Living Lab approach" in Chapter 3.

– continuously controlling and documenting, in line with experience, an innovation process open to end users;

– involving users very much upstream in developing new products/services.

The Living Lab aims to help actors who differ in their individual skills and objectives, including the final user, to work together to design, develop, implement and evaluate innovative solutions.

1.2. Incubation: establishing the LL as a collaborative initiative

The concept of a Living Lab, when it materializes in an organizational context, or more broadly in a regional, social and economic ecosystem, marks this context by its own purpose: promoting codevelopment.

However, upstream from the reality of the Living Lab there is the work of co-design and codevelopment: that of implementing the Living Lab itself. No Living Lab is created without in-depth work involving the main actors in the ecosystem involved. This point is not always emphasized enough by academic actors[2]. In fact, the process of implementing such an organization is lengthy, in the range of 1–2 years, and often more to find the optimum acceptability of the future Living Lab. Rooted in the past through the processes that characterize it, the Living Lab is long term.

It also happens that due to tricky problems and the particular sensitivity of the team, there is a history of collaborative work, sometimes over years, without any reference to the concept of the Living Lab. For those Living Labs that are Living Labs without knowing it, such as "Mr. Jourdain", recognizing their place in this approach is an incentive to look at its new methodological or scientific aspects, as well as at guides to good practice or examples likely to help them progress. This is the case with the example of the University of Technology of Troyes that has created the MADoPA association and the Active Ageing Living Lab. This is also the case with services in physical medicine and readaptation linked in the association *Approach*, some of whose members, such as "Les Appartements

2 "Setting up a Living Lab", Chapter 7, in What is a Living Lab, White Paper, www. umvelt.com ; moreover, this is very well documented and useful to LL leaders.

Tremplins" [Chapter 3, [PIC 17]][3], are also Living Labs today in the Forum LLSA.

The Living Lab cannot be likened to a classic economic actor, either entrepreneurial, public or from the mixed economy. This is another consequence of this plural and collaborative origin, resulting from dialogue or a collective practice. An enterprise or a research laboratory cannot credibly call itself a Living Lab, unless it has developed over the duration, within the ecosystem of which it is part, a network of confidence mobilized around it. The development prospects assume that the leaders are committed to an objective shared and negotiated from the outset between the different founders.

Anchoring Living Labs in their original territory is a strong trend. Yet, the type of regional concern varies substantially according to context: political priorities, regional competencies – care teams, research teams, local businesses, associations, etc. This initial context will have an impact on the ends of the Living Lab itself and the type of project on which it will aim to embark.

Setting up a Living Lab thus assumes the prior development of a network of actors who can be mobilized on such a project. The approaches target a great diversity of actors, in line with the intentions of the leadership, which seeks to make the actors share them. They can be involved or concerned for several reasons. But among them, some will agree to commit either to sustain the project financially or to devote time to it. An initial governance takes shape, a particular characteristic of which is to ensure an effective and balanced place in it for each of the stakeholders, including the user. A road map aims to prepare management of an initial concrete project of innovative design or evaluation.

Each Living Lab initiative is marked by the status, profession, history and level of engagement of these initial leaders. This orientation may have a lasting influence or not on the Living Lab itself, which will initially develop practices adapted to these original expectations, in a shared vision, and will

3 Note: The illustrations take the form of references to presentations made in working groups and detailed in a separate volume published in French under the title *La co-conception en Living Lab santé et autonomie 2 : témoignages de terrain* [PIC 17]. Those references with links correspond to the chapters of this book.

strive to select innovative projects to accompany the initial strategic intention coherently.

This does not exclude potential new directions or subsequent changes in course, linked to the mobilization of other significant actors or decided jointly. This was the case with the association *approach*[4]: created within a group of services in physical medicine and readaptation, it has developed collaborations with the world of business by focusing from the outset on designing robotic arms to then embrace a broader field including various types of disability and populations of all ages.

1.3. The LL as a sustainable crucible for approaches to co-design

The co-design approach can be mobilized in diverse contexts by diverse types of actors: a large industrial group, a hospital (see Box 1.1) or a research laboratory, for example. It might involve a particular project without intending to systematize its practice. However, for a Living Lab, its vocation is not to sustain a single project with an innovative solution and disappear: on the contrary, it involves developing over time the collective capacity to generate or accompany the design of innovative solutions that are in line with the policies and strategies that the founders have mobilized. Stakeholders should acquire skills in this sense.

The FEHAP's "Living Lab prize"[5]

Through this distinction, the federation recognizes the ability demonstrated by member establishments to question their practices with technology in an open and participative approach. These establishments are therefore potentially the partners of choice for Living Labs for collaborations that can only increase their openness and capacity for innovation. A minority of them are more strongly committed to this approach by mass manufacturing their design processes. They become Living Labs in full with demands that are higher but compatible with those of the FEHAP prize.

Box 1.1. *Recognizing the Living Lab approach in a hospital environment*

4 Association loi de 1901 created in 1991 in France, aims to promote new technologies (robotic, electronic, home automation, information and communication technologies) to serve disabled individuals whatever their age and living environment, www.approche-asso.com.

5 Federation of hospitals and non-profit charities, www.fehap.fr.

The Living Labs' vocation to accumulate experiences of co-design is not opposed, on the contrary, to regional actors who lead projects or hope to solve particular problems occasionally mobilizing a co-design approach. They could rightly turn, to do this, to LL organizations. However, the challenge for LLs is to consider this type of request, in order to see how far its applicant will accept questioning to ensure that LLs are not perceived as simple low-cost testers for successful solutions.

1.4. Governing[6] a Living Lab and the associated challenges

Governing means anticipating, deciding, communicating and following. The complexity of these activities is greater when they are collegial and based on heterogeneous aspirations, focused on new objects that carry different and partly contradictory potential for each. Moreover, in LLSAs, the weight of each stakeholder in decisions does not result from down payment; this weighting reflects the contribution of each to a collective activity and gauges the success of the LLSAs and the projects they sustain (see the example of Autonom'Lab [Chapter 4, [PIC 17]]). This explains the variety of legal structures for LLSAs and the associated methods of governance, which conditions their performance (see Part 3: "The LL as an approach" → "LL and organizational/social changes" → "The concept of governance").

The size and diversity of possible investigations (populations, product or service types or observation tools) obliges LLSA starters to make a choice, especially when selecting products. These choices take account of regional priorities in health and in the social realm, as well as regional economic or industrial assets.

The place of the user in co-design is accompanied by their responsible and active presence in the LLSA's decision-making processes in an original form favoring the sharing of knowledge and development of its practical experience (see Part 3: "The LL as an approach" → "LL and organizational/social changes" → "The LL approach as social participation").

6 See analysis and references on governance in Part 3.

Management of the projects that join an LLSA together – sometimes only during a single critical phase – is marked by the previous points, as well as by the presence within the projects of creative and collaborative sessions and the validation or invalidation of results depending on how the future solution is received by users.

1.5. The economic model of an LL

Two phases shosuld be distinguished in sustaining a Living Lab: (1) the build-up, of limited duration, made possible by engaging funders to support an innovative initiative of this type (see section 1.2) and (2) running, for which the economic model should change. The actual co-design activity should be promised as a financially sustainable activity that creates value. The Living Lab is therefore implicitly involved in research and funding activities, for itself, for the projects that it leads or in the form of participation as a partner with collaborative projects. The success of these commitments should form both an argument to promote its activity and a source of revenue (agreements, permits and various rights). The governance is also interested in the efficiency of the resources committed in a Living Lab: the technical heritage, whose tangible character and capitalistic nature make it possible to raise funds without too much difficulty, but more critically, it is the expert skills that must be recruited, the continual training and payment for its duration that form an intangible legacy that is harder to finance. Public funds (European Regional Development Fund ERDF, national or regional funding) make it possible to build structures of this type, but not to pay the engineers, facilitators and designers who will work in them over time.

1.6. Managing competencies in a Living Lab

A Living Lab is managed by a staff limited to a few individuals, reinforced when needed by additional skills taken from the host structure where it exists (healthcare establishment, research center, etc.) or founders. Among the key competencies are law (intellectual property and contract law), economics (the initiative's viability, the economy of the projects supported) and above all that of facilitation, sometimes called innovation engineering. This last skill is complex and today the corresponding body of practice is not codified. It should be able to employ numerous techniques,

methods and tools[7] depending on the demands of each project. The technical competencies differ greatly from one LL to another, depending on the domain of activity and the associated economic model and this is one of the characteristics that differentiates them.

The need for expert human resources obliges the Living Lab to master tight skills management, with the main concern being qualitative and quantitative adjustment of human resources. Demand from Living Labs for external competencies outside the founding structures is not, however, very widespread. It should be recognized that experienced practitioners are still very few. The need takes various forms: providing academic expertise, techniques, coaching and temporary facilitation skills. This limitation on the call for external competencies doubtless arises from the diversity of possible needs and the absence of any codification of the competencies and professions that can be employed specifically in co-design. It also results from the difficulty of funding such provision of skills sustainably and from having to do this via calls from each project that, for example, are known to be expensive and uncertain. Finally, Living Labs can share competencies, thanks especially to the Forum LLSA that promotes this connection, especially in answering some calls collectively. This practice is still emerging (see Part 3: "The LL as an approach" → "Actors' interplay" → "Innovation in LLSAs: open?").

1.7. The Living Lab as a space for learning interdisciplinarity[8]

The dialog between points of view involving different technical knowledge or between different technical and socioeconomic perspectives is known to be difficult. This can be an obstacle to the effective management of projects within Living Labs. However, the Living Lab can be seen as a privileged space for educating future professionals in the challenge of co-design, which is fundamentally interdisciplinary (see Part 3: "Co-design methods" → "Expansion, tensions" → "Interdisciplinarity").

Leaders at Lille Catholic University (LCU) have sought to discover how a university could use students in innovation by developing new knowledge. The response came in the form of a university "Co-design center", which is a Living

7 See Part 2.

8 See analysis and references in Chapter 3.

Lab component. The following quotation is from Pierre Giorgini, President of Lille Catholic University – LCU [9].

"Entering into a codevelopment process, as LCU has for some years, means handling the objects of innovation in their complexity, without deciding on the 'right' solution from the outset. This means accepting status equality between all the participants in a co-design session and being able to move away from one's own initial convictions and usual ways of working. It means designing, collectively, an innovation that takes shape gradually, with phases of destabilization and then of convergence, into a product or service that appears, finally, as a collective production. During sessions, it also means agreeing to explain to others why one thinks the way one does and in response working on the meaning that the suggestions has for others".

9 During the visit to the University on March 26 and 27, 2011 by the future founders of the Forum LLSA .