

# Harmonizing methods and tools

## A cube experience

The 'interoperability' cube for harmonizing Living Labs enables the definition of a shared reference of methods and tools used in the European Network of Living Labs (ENoLL). The harmonization cube not only represents the most important elements of a Living Lab, but also enables specifying bridges between existing Living Labs, i.e., to learn from each other, benchmark the validation of user behaviour studies, exchange best practices, and interconnect the Living Labs. Next to facilitating a common ground for sharing, the cube model enables recognizing the degree of harmonization of used methods and tools in Living Labs.



### Introduction

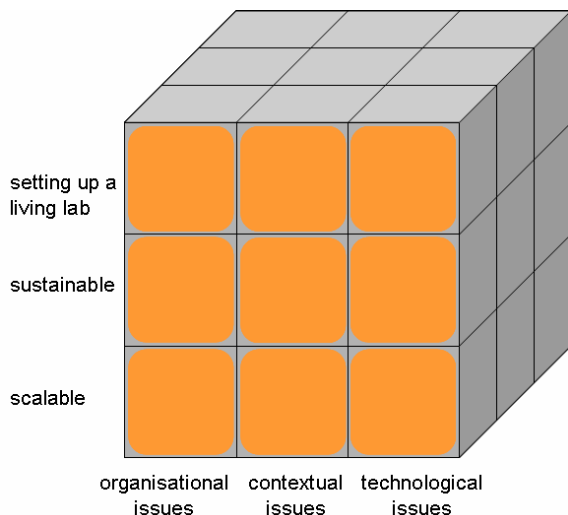
The European Network of Living Labs (ENoLL) envisions to apply new methodologies for co-creative research and innovation, including new means of open source, open architecture developments, IPR, management of research and innovation as well as new forms for direct user involvement in the innovation process. However, it is not straightforward how to harmonize these Living Labs. Therefore, we derive from the assumption that when one focuses on those elements that Living Labs want to exchange with each other, one has an appropriate basis for harmonization of methods and tools.

The harmonization cube recognizes these exchange possibilities and explicitly defines interoperability elements from organizational,

technical and contextual points of view in which different standards might apply. It is obvious that not all components of such a standardization framework need necessarily be interoperable. However, some form of standardization is imperative in order to support seamless collaboration.

### The harmonization cube

The cube for harmonizing Living Labs enables the definition of a shared reference of methods and tools used among Living Labs; the cube is a 6x3x3 model. The six sides of the cube correspond with the six most important topics: user involvement (coloured orange), service creation (coloured green), infrastructure (coloured blue), governance (coloured red), innovation outcomes (coloured yellow), and methods & tools (coloured white).



Each topic (sides of the cube) facilitates interoperability between the phases of a Living Lab (setup – sustainability – scalability). These phases are represented in the cube by the three rows. The three columns of each cube side reflect the organizational, technical, and contextual issues of the Living Lab. A first attempt to communicate the essentials of a Living Lab including applications has been described in [1]. The harmonization cube not only represents the most important elements and aspects of a Living Lab, but also enables specifying bridges between existing Living Labs, i.e. to learn from each other, benchmark the validation of user behaviour studies, exchange best practices, and interconnect the Living Labs. Next to facilitating a common ground for sharing, the cube enables recognizing the degree of harmonization of used methods and tools in Living labs. The more values (elements on the cube) can be defined in a Living Lab, the more bridges a Living Lab has to exchange knowledge, experiences and lab facilities with other Living Labs. The interoperability cube, as well as the CoreLabs taxonomy and the repository for methods and tools enable the harmonization of methods and tools in the European Network of Living Labs.

#### Dealing with social dynamics of innovation

Thus, the harmonization cube provides a good mean to facilitate the discussions within and between Living Labs. In order to exploit the dynamic character of a Living Lab, we mapped the cube model onto a physical

Rubik's Cube, as it not only provides a physical instance of the harmonization cube, it also recalls certain associations people are well familiar with. For example, the dynamics of the cube correspond with the dynamic nature and reflect the challenges Living Labs face. The easiness of making a mess of the Rubik's cube, its difficulty of getting it right revealing its complexity. It also illustrates the difficulty of harmonizing two living labs, e.g. trying to align the same planes of two different physical instances (Rubik's cubes) each representing a different Living lab, has severe implications for the alignment on the other planes.

The harmonization cube has great potential to understand the essentials of a Living Lab in the different development phases. It provides parties a method to identify areas to be further developed given the phase of their Living Lab. The cube also enables the evaluation possibilities of a Living Lab and is helpful to uncover the added value of the Living Lab as an open innovation instrument and therefore the cube can be used as a discussion facilitator both within one Living Lab and between other Living Labs. The paradigm of Living Labs gains ground, however, exchange of methods, tools, experiences, and best practices often remain on a strategic level. An outstanding role for ENoLL could be to encourage Living Labs to describe their best practices in terms of the harmonization cube, which not only helps in dealing with dynamics, it also offers an easy interface to the CoreLabs Living Labs methods and tools repository.

#### References

- [1] Mulder, I., Fahy, C., Hribernik, K., Velthausz, D., Feurstein, K., Garcia, M., Schaffers, H., Mirjamdotter, A., & Stahlbrost, A. (2007). Towards harmonized methods and tools for Living Labs. Paper to be presented at e-Challenges 2007, October, 24-26 2007, The Hague, The Netherlands.
- [2] IST CoreLabs. The CoreLabs project has been funded by FP6 35065. Information on this project and the Living Labs community can be retrieved through: [www.corelabs.eu](http://www.corelabs.eu).