

"Instead of just talking we are actually doing it!" Initial insights into the use of Living Labs in the EU-funded ROBUST project

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1 LIVING LAB – THEORY AND PRACTICE

The concept of a Living Lab (LL) gained traction in a range of domains in the late 1990s, making its way from the US to Europe. LLs have been successfully adopted in multiple areas, including urban planning and rural development. Generally, LLs are perceived as a form of experimental governance (Voytenko, et. al., 2016), and as platforms where diverse actors cooperate in the development and testing of new technologies, products, services, policy instruments, planning tools, organisational forms and governance arrangements, or ways of living. Actors participating in a LL range from researchers to stakeholders, entrepreneurs, advisors, service providers, civil society organisations and citizens. The aim of those involved in a LL is to jointly produce innovative solutions to the challenges contemporary society is confronted with, and to explore new ways forward that are mutually beneficial to all actors involved (Friedrich *et al.*, 2013; Juujärvi and Lund, 2016; Voytenko, et. al., 2016).

A Living Lab is an “*open innovation ecosystem based on a systematic user co-creation approach that integrates public and private research and innovation activities in communities, placing citizens at the centre of innovation.*”

European LL Network (ENoLL, 2018)

From the early 2000s, the development of LLs started burgeoning in Europe. Evidence of this trend is the increased support for LLs in both EU research framework programmes as well as a greater uptake in national research policy. Finland, Sweden, the UK, Spain, the Netherlands, Belgium and Denmark have all pioneered national LL networks (Leminen *et al.*, 2017) with the aim of sharing, discussing and distributing practices, and knowledge on and experiences with LLs. National LL networks encompass a broad variety of actors from government, industry, academia and society.

The European LL Network (ENoLL) was established in 2006 as the international federation of LLs in Europe and worldwide. In 2017, there were more than 400 LLs globally. ENoLL functions as a platform for best practice exchange in many different domains such as smart cities, mobility, social inclusion and innovation, agrifood and more, as well as for international project development. Based on ENoLL (2018) and others, we think that four main elements characterise LLs:

- (1) active user involvement, which implies empowering the users of research results, development and innovation actions to form, participate in and thoroughly impact the innovation process;
- (2) real-life settings, which implies testing and experimentation with new practices within actual economic, institutional, environmental, social and cultural conditions;
- (3) a multi-method approach, whereby there is emphasis on an effective combination of methods and tools that can originate from very diverse disciplines and competence areas such as sociology, strategic management or engineering;
- (4) multi-stakeholder participation and co-creation, which means involving technology developers, service providers, relevant institutional actors, and professional or other users in analyses as well as iterations of solution design with the potential users of research results and innovation actions.

2 WHY MULTI-ACTOR PROJECTS AND LIVING LABS ARE BECOMING SO PROMINENT IN EUROPE

Over the last decade, the European Commission has been placing an increasing emphasis on the importance of multi-actor and transdisciplinary projects. In the first four years of the Horizon 2020 funding programme (2014-2017) alone, around half a billion euros have been allocated to funding nearly 100 multi-actor projects (European Commission, 2018). Multi-actor projects are intended to bring together different stakeholders, such as farmers, advisers, planners, developers, knowledge brokers, public bodies, academia, enterprises and more, who are expected to closely cooperate throughout the whole research project period (Van Oost, 2017).

Research funders are encouraging academics to engage more, and in more effective ways, with the users of research, industry, government and other relevant actors, assuming that higher engagement will lead to higher research impact and relevance (Zardo *et al.*, 2016). The use of transdisciplinary approaches in EU-funded projects is therefore rapidly growing.

LLs, in principle, provide a platform for true engagement of diverse groups of actors in joint research and innovation. It is therefore not surprising that LLs are becoming a pivotal element in more and more multi-actor research projects. Fischer (2016) and Šūmane *et al.* (2018) emphasise the aspect of *true* engagement, arguing that the joint work in a LL must go beyond mere engagement with non-research actors, and that researchers need to respect, and to complement, the knowledge of non-research actors.

Considering the wide range of actors typically engaged in transdisciplinary projects, it is useful to examine their diverse roles. Defila and Di Giulio (2015) assert that *"in an actor-oriented understanding of transdisciplinary research, there are basically two types of actors: those in the academic system who ensure scientific rigor and who are responsible for project outcomes, usually called 'researchers' – and 'the others'"*. In this paper, we want to go beyond this basic distinction. We will do this by reflecting on the role that LLs and various actors might play, in the EU-funded research project *"ROBUST – Rural Urban Outlooks: Unlocking Synergies"*. We will refer to and quote individual actors involved in the project in order to illustrate different perspectives and expectations as well as first experiences.

3 THE ROLE AND FUNCTION OF LIVING LABS IN THE ROBUST PROJECT

The central component of the ROBUST project are 11 place-based case studies, or Living Labs. Each of these LLs is represented by a consortium partner from a municipal government or regional authority (i.e. practice partner) in charge of regional development planning and/or policy (see **Figure 1**). Han Wiskerke, the scientific coordinator of ROBUST from Wageningen University, highlights that *"the LLs are not limited to consortium partners but involve many different actors, such as entrepreneurs, citizens, NGOs, teachers, cooks and artists, with whom we will collaborate in different ways and whose practices and ideas will also shape the (research) activities in a LL"*.

In these eleven LLs, teams made up of practice and research partners will explore rural-urban relations and interdependencies, and the related socioeconomic development potentials and governance arrangements, in real-life settings.

By putting LLs centre stage, the ROBUST project builds on a transdisciplinary, multi-actor approach. Researchers and practice partners (planners, developers, administrations etc.) involved in the project collaboratively designed the research approach, ensuring its practical and scientific relevance for everyone involved. Lara Sibbing from the Municipality of Ede, the practice partner in the Netherlands,

illustrates this point by referring to the joint aim to *"(re)define the synergies between rural and urban areas, in a way that translates into concrete opportunities for local farmers that are almost going out of business"*.

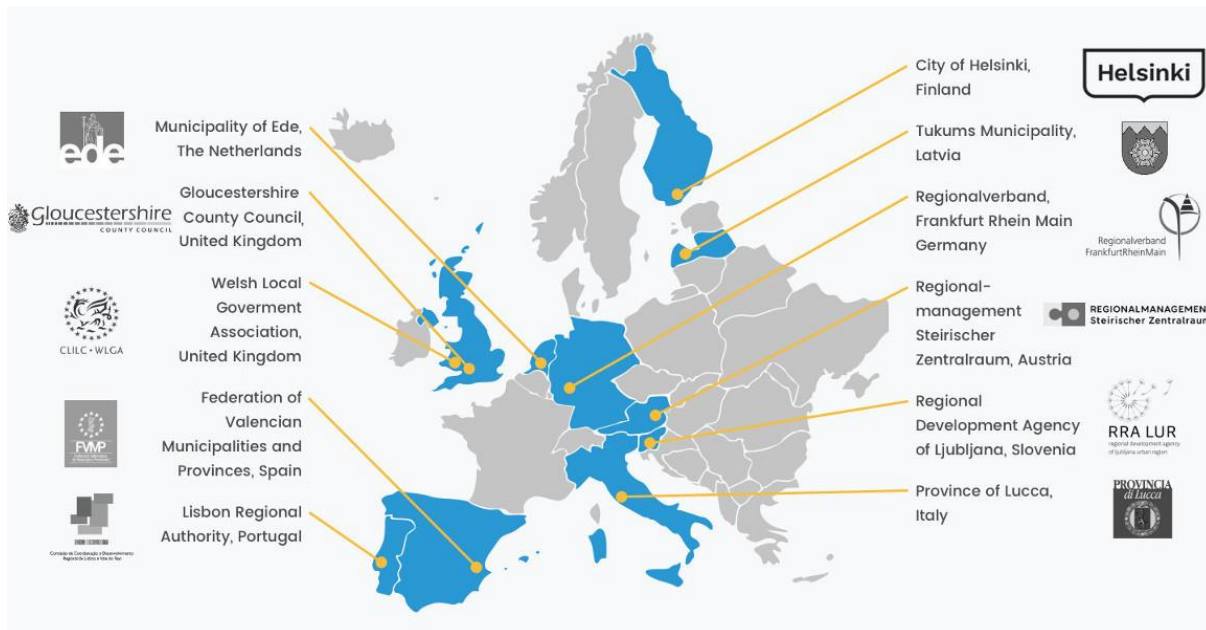


Figure 1: Eleven case study regions with Living Labs in ROBUST

Regarding the LL approach in Latvia, Sandra Šūmane from the Baltic Studies Centre in Riga, Latvia, emphasises that *"as a researcher, I find the LL component of the project more real life driven [...] What actually happens during the joint project work, is often beyond initial expectations and plans – and that is the challenge and excitement of the LL"*.

Focussing on new business models and labour markets, Daniel Keech from University of Gloucestershire, the research partner in Gloucestershire, UK, perceives the role of LLs in ROBUST as follows: *"Living Labs have been successfully applied in software development which tries to address pressing social challenges (such as resource efficiency) and, increasingly, as ways to help citizens devise, improve or operationalise public services. Within ROBUST, our challenge is not to invent new ICT tools, but to improve governance structures and decision-making in Gloucestershire"*.

Overall, LLs are expected to foster the relevance and actual implementation of research results that have been jointly generated in ROBUST. The collaboration and face-to-face relationships between research and practice partners play an essential role in this.

Increasing research use is related to decision-makers' ability to access research evidence (Zardo *et al.*, 2016). Communication strategies and knowledge bases matter, but perhaps even more important is building decision-makers' skills to connect research and related empirical evidence to their particular situation. By locating research processes in a real-life context, LLs can play a crucial role in enhancing the capacity of decision-makers to *independently* use research. Simultaneously, researchers can gain a better understanding of the complexity of real-life decision-making processes and the limitations of some analytical approaches and tools.

In ROBUST, this capacity building effect is increased further by applying an integrated approach towards outreach, communication and training that incorporates classic dissemination activities with virtual and face-to-face training platforms for different user groups, as well as innovative transnational and regional engagement activities.

4 "HOW WE SEE AND DO IT" – FIRST INSIGHTS FROM SELECTED LIVING LABS

LLs operate as a *"platform for policymakers, researchers, citizens, businesses and other stakeholders for joint learning, collaboration and value creation"* (ENoLL, 2018). In the following, we will share the perspectives of ROBUST partners in order to illustrate what the idea of a platform means in practice. The practice partners, and their views, also exemplify the significance of their LL for their region and their expectations from this form of collaboration.

We divide the discussion in this section into three main clusters of LLs. We think that these three clusters capture the main trends and challenges, and contextualise the planned work. It is obvious that there is overlap between clusters. In many cases a LL plans to address more than one main issue, and they are often interrelated. Nevertheless, we think that the three contextual clusters are easily comprehensible and can help to identify some interesting patterns. The clusters are:

- Managing rapid growth (Frankfurt Rhine-Main, Helsinki, Valencia, Gloucestershire)
- Fostering socio-economic development (Ljubljana, Styria, Tukums)
- Renewing relations, fostering synergies (Lisbon, Wales, Lucca, Ede)

4.1 Managing rapid growth

Frankfurt Rhine-Main conurbation (Germany) is experiencing significant growth. Much of the rapid increase in population and business activities is linked to demand for space which will need to be accommodated in surrounding open areas, further increasing settlement density. As a result, there has been a subtle and slow process of diminishing open space. Frankfurt Rhine-Main, as the regional planning authority, is interested in developing strategies and methods for an efficient and modernised application of planning instruments that help to reduce the steady expansion of built-up areas.

The partners in this LL refer to a close collaboration right from the start of the project. On behalf of the practice partner, Reinhard Henke of Regional Authority Frankfurt Rhine-Main (*Regionalverband Frankfurt/Rhein-Main*) informs that the Regional Authority is currently working on a new edition of the Regional Land Use Plan covering the 75 towns and cities in the area, including Frankfurt am Main. He sees this work as a challenge, as *"usually Land Use Plans are done by the individual municipalities."* His expectations and personal ambition are clear: *"We want to make the new Land Use Plan a flagship for the application of German planning laws"*. In the further development of the Land Use Plan, particular attention will be paid to the particular needs of agglomeration areas in a modern society. Reinhard Henke believes that the participation of the Regional Authority Frankfurt Rhine-Main in ROBUST provides mutual added value: *"it informs our planning process, and it provides the policy relevance for the researchers."*

Rolf Bergs, the research partner of Policy Research & Consultancy, supports this view. He sees the overall aim of the LL as *"facilitating policy and planning decisions by rigorous data exploration using a high spatial resolution of data. The results are expected to directly serve the concrete information needs for planning and inter-municipal policy coordination"*.

Helsinki municipality (Finland) and the entire capital region are experiencing similar challenges: rapid growth both in terms of population and economic activity, but here in the context of a large and sparsely populated country. The increasing economic and commercial links between Helsinki and Tallinn and their rural surroundings also play an important role. From the point of view of Helsinki-Uusimaa Regional Council, the challenge is to find governance arrangements which could both advance sustainable economic activity and employment, as well as provide adequate public services for residents who have multiple residences and live in the region only seasonally.

The novelty of the Helsinki LL lies first in understanding in the economic flows of the cross-border twin city region Helsinki-Tallinn, and second in utilising detailed GIS analysis to gain a better understanding of the manifold interactions between urban and rural areas. With spatial clustering and analysis of residence and workplace connections, we will identify the dependencies between rural and urban areas, as well as the networks generated by employee mobility between organisations in the Helsinki-Uusimaa Region. Decision-makers and other local actors will be able to use spatial visualisation of these interactions through an online tool.

Tamás Lahdelma from the City of Helsinki expects to *"get insight on how the location of settlements in urban, peri-urban and rural areas affect their positions in labour flows, and how policies on public infrastructure and community structures, as well as the related governance systems, could enhance the relations between regions."*

Hilkka Vihinen and Olli Lehtonen, researchers from Luke, Helsinki, see the LL as a means to co-create new, functioning practices for multiple residences: *"Health bus or other temporal service models? With the LL we can further the inclusion of seasonal population in local planning."*

The growth of the city of **Valencia** (Spain) is a more recent phenomenon, but the related challenges are similar. The influence of Valencia on both medium and small cities in its surrounding metropolitan area, as well as on remote rural areas within the region, has greatly intensified with the growth of Valencia. As a result, there are increasingly complex territorial, social, economic and landscape realities —and tensions —that need to be managed. These new realities encompass diverse socioeconomic and geographic environments, such as newly developed industrial districts, previously industrial areas in the process of conversion, peri-urban agricultural areas, intermediate and remote areas, as well as coastal spaces with a distinct tourist-residential character.

The experience of progressive expansion and reconfiguration of the region implies continuous residential changes, demographic growth, relocation of productive activities as well as new business opportunities, for example related to ecosystem services. All these transformations generate new requirements for mobility and demand improved transport infrastructure, both road and railway. Comprehensive development strategies for both the region as a whole and for individual areas are needed in order to manage the resulting challenges and utilise opportunities.

The team from the University of Valencia expects that the cooperation in a joint LL with their practice partner, the Valencian Federation of Municipalities and Provinces, will offer a number of possibilities for addressing these challenges and opportunities. However, significant advances in both supra-municipal government and governance will be required, involving public and non-public, local and non-local actors. The hope is that if relevant actors are becoming more aware of the importance of coordination at the level of the region as a whole, they will implement actions and policies that are more effective serving the region as a whole.

Gloucestershire (UK) is much smaller than the three other city-regions in this cluster, but it is also anticipating high, perhaps unprecedented, levels of growth over the next 15-20 years. Not all of this growth can be accommodated within the existing urban areas, and some areas of rural and semi-rural land will be required for future employment and housing development. The LL in Gloucestershire will

"The possibility of jointly rethinking the opportunities provided by each area, and for involving the most relevant actors in this process, will help to elaborate new development strategies that are based on a rethinking of urban-rural relations. Our aim is to value each place as a space of particular opportunity. The task is challenging since it clashes with political-administrative structures"

Javier Esparcia Pérez, University of Valencia, ES

help ensure that the expected growth is brought forward in harmony with the necessary associated infrastructure, such as highways, public transport, education and telecommunications, whilst continuing to protect the County's unique heritage and physical environment.

Both practice and research partners – Nigel Riglar from Gloucestershire County Council, and Daniel Keech from University of Gloucestershire – think that the LL provides an excellent opportunity to better understand and enhance the social impacts of the expected growth and the linkages between the existing urban areas and the wider rural areas. Both partners acknowledge the cutting-edge value of their partnership within the LL and believe that the joint work will enable long-term social and economic changes, producing tangible results. Daniel Keech emphasises that *"from an academic perspective, the LL will be a way to generate social, rather than technological innovations"*.

4.2 Fostering social and economic development

The fostering of social and economic development is the predominant concern in **Ljubljana Urban Region** (Slovenia). The Regional Development Agency of Ljubljana Urban Region, the practice partner in this LL, is focussing on engaging relevant stakeholders in local food supply chains and aims at raising the level of food self-sufficiency in the region. The underlying idea is that the promotion of the consumption of locally produced food in public institutions as well supporting the creation of new, locally-oriented food businesses will ultimately contribute to the development of the region as a whole. The Agency is also actively joining forces with various actors, namely municipalities, local action groups, experts, Chamber of Agriculture and Forestry and other policy makers in order to facilitate exchange of good practices, identify the roles of different stakeholders, and to elaborate common goals, criteria and activities. First efforts were already recognised: Ljubljana has been awarded a special mention at the Milan Pact Awards 2017 in the category 'Food supply and distribution'.

In November 2017, the first project event with regional stakeholders was organised in cooperation with the Municipality of Ljubljana. It featured farmers and caterers in kindergartens, schools, hotels and restaurants in the region. Farmers presented their products in an informal atmosphere where many contacts were established and wishes for further cooperation were expressed.

Tatjana Marn, representing the practice partner in the region, feels that the work in a LL provides direct access to the most recent academic studies as well as to the latest discussions about urban-rural relationships. She expects that the joint work will result in the elaboration of a monitoring system not only for the local food supply chains but also for other processes taking place between rural and urban areas.

"I am grateful to Oikos, and other research partners, for constantly reminding us to take into account particular spatial characteristics, sense of identity, interlinking processes and cultural aspects specific for the territory we are working in. Empowered with this knowledge, we intend to act with more confidence and determination when trying to support these processes and initiatives that improve our quality of life. Our goal is to balance different interests and reconcile them in spatial development strategies and projects"

Tatjana Marn, Regional Development Agency of Ljubljana Urban Region, SI

Key actors in the LL of the **Metropolitan Area of Styria** (Austria) expect that the joint work will contribute to deepening the linkages between the City of Graz, the regional centres Voitsberg and Köflach, and the surrounding rural municipalities, and that this will in turn foster social and economic development. The practice partner, the Regional Management of the Metropolitan Area of Styria, has many years of experience in the region with diverse projects on enhancing rural-urban interactions.

The research partner, the Austrian Federal Institute for Mountainous and Less-favoured Regions, will contribute its long-standing and profound expertise in rural research, and in integrating social, environmental and economic dimensions in forthcoming project work.

Together, the practice and research partners aim to analyse the status quo in the Metropolitan Area of Styria, to identify endogenous potentials and to promote further cooperation and knowledge exchange between local and regional actors. Kerstin Hausegger-Nestelberger from the Regional Management team of the Metropolitan Area of Styria, expects that *"as an interface for coordination, communication and cooperation in regional development, intercommunal and city-regional cooperation are important topics in our daily work. The participation in the ROBUST project allows us to further enhance the connections between urban, peri-urban and rural areas."*

The LL team is engaging in the improvement of public infrastructure provision in the region. One particular measure is the launching of a citizen-service-card aimed at improving the provision of multi-modal mobility systems, waste-management and community services like libraries. Overall, the team is committed to applying a regional perspective in mobility surveys as well as in strengthening urban-rural networks. The socio-economic research component in the LL is expected to provide the foundation for boosting inter-municipal approaches and to achieve joint goals.

A particular source of inspiration for the team in Styria is the creative potential that characterises the region. Regional institutions are using this potential in order to realise new and innovative business models. The team is exploring innovative ways to foster young entrepreneurship and to more effectively utilise given resources. Vacant buildings, for example, are being turned into locations for new businesses and meetings. Furthermore, the City of Graz has gained international recognition as the European Cultural Capital in 2003 and it now aims at extending this dynamic to the surrounding area, involving all municipalities of the region in cultural activities.

In **Tukums Municipality** (Latvia), the development of effective infrastructure is strategically important for supporting existing businesses as well as developing new businesses. The LL in Tukums will contribute to policy guidance for decision-makers on how to improve the flow of human resources and goods between rural and urban areas. It will also provide new policy mechanisms to better coordinate the main areas of territorial development including entrepreneurship, infrastructure, local food systems and culture, with the ultimate goal being the fostering of social and economic development in the region.

Sandra Šūmane from the Baltic Studies Centre, the research partner in Tukums, shared an outlook on how the work is organised in their LL: *"Tukums municipality and Baltic Studies Centre build on, consolidate and expand their previous successful practice-research collaboration. We see the LL as a collaborative platform for discussing and jointly developing solutions that address the needs and opportunities of Tukums region regarding sustainable food provision, public infrastructure for improved intra-regional mobility, and better coordinated and rich cultural life"*.

4.3 Renewing proximity relations

The **Lisbon Metropolitan Area** (Portugal) is a notable European agglomeration characterised by a concentration of population, activities, knowledge and international connectivity infrastructure. The LL in Lisbon focusses on the potential of the area to offer diversity and to create a space where urban, suburban, peri-urban and rural values and realities coexist with mutually beneficial relations between them.

The key actors involved in this LL see its added value in its effectiveness as an 'instrument' of governance that is grounded in real-place and real-actor issues. The joint aim is to explore relations and to foster rural-urban synergies in a space where intensive flows of people, market goods and public services lead to a multi-use and multi-functional pattern. A fundamental part of this process is gaining a better understanding of the importance of knowledge and of the relevant local and global networks and processes.

Both the university and policy partners share a common vision that the Lisbon Metropolitan Area LL shows the potential to generate insights from an experimental governance point-of-view. This is possible through new knowledge that will be arise from collaborative processes of discussion, stimulation and reflection amongst a multitude of actors. Ultimately, this will be done through a transdisciplinary approach, including integration of policies and actors in order to create ownership of integrated responses for territorial challenges at the rural-urban interface.

Mid-Wales (Wales, UK) is currently experiencing significant changes and faces a number of challenges. Historically identified as a space of agricultural production, transformations in this sector – including reduced profitability and the implications of Brexit – render the future uncertain. Coupled with the challenges associated with accessibility, a restricted transport infrastructure and delivering services within often remote rural communities, the LL is seen as a real opportunity to explore these issues with key local actors. Importantly, it also provides a context through which to examine the significant role Mid-Wales plays as a provider of food and recreational services as well as a centre of important cultural connections. Bringing together rural and urban interests at a national level, key sites and events have an important function in affirming identity and social cohesion - as well positioning Wales within a global economy. The LL therefore represents a real opportunity to explore how food and cultural services are (and can be) situated within development strategies which are attentive to both economic and social needs.

Carwyn Jones-Evans of the Welsh Local Government Association and Jesse Heley, Aberystwyth University, both recognise the potential of the LL to sharpen the focus of research on the politics and policies of Mid-Wales: *"With a great deal of attention being rightly played to the role of urban centres in the South of Wales in driving economic development as part of City-Region frameworks, and strong regional growth deal initiatives from the North of Wales, the LL provides a real opportunity to explore the function of Mid-Wales as a vital cog in national food systems, as well as its evolving role as a space of cultural exchange"*.

Agriculture and food play a key role in shaping identity and culture in the **Province of Lucca** (Tuscany region, Italy), where a strong attachment to landscape and territory and a marked sensitivity towards sustainability are present. Consequently, many initiatives are taking place locally. *"Despite the favourable context, city administrations, civil society, farmers organisations and businesses take initiatives in a fragmented fashion, without a global strategic vision on the objectives to be achieved. What is needed is, in fact, a shared territorial project."* says Massimo Rovai, who works at the University of Pisa and lives in Lucca. The President of the Province, Luca Menesini, shares this view and supports a policy process that enables a systemic approach to food and to exploiting the synergies between sustainable food systems, cultural connection and ecosystem services.

The LL will be built upon this diverse "foodscape" and support the provincial administration in a visioning and planning process for a local policy for food. It will help shape and substantiate an integrative policy process that develops horizontally by integrating agriculture, planning, education and health departments, and vertically by aligning the region, province, and municipalities. The LL necessitates developing an agenda that enables the collaboration between academics and the

participating institutions to guarantee the effectiveness of the process. The Province of Lucca will coordinate the LL, supported by academic partners, and will additionally involve municipalities that are dealing with the different themes. A governance model was previously developed in a pilot phase with two municipalities: Lucca and Capannori. It will now be extended to other municipalities in the region. The collaboration officially begins in May 2018 with a formal event during which the municipalities of Capannori and Lucca, and the Province of Lucca, will sign the Milan Urban Food Policy Pact. This will serve to formalise the commitment of the public administrations towards the realisation of a local food policy.

The LL in the **Municipality of Ede** (The Netherlands) is to contribute to the development of an integral food policy that aims to address, in a coherent way, the major food-related challenges in the region. As this is a new approach for this municipality, the LL will focus on gaining a better understanding of sustainable urban food policy development, implementation, goals and processes. The joint aim is to improve the perspectives and marketing opportunities for farmers in the region, and to acknowledge farmers' contributions to the provision of rural and environmental amenities.

Henk Oostindie from the ROBUST coordinating team at Wageningen University, and Lara Sibbing from the Municipality of Ede emphasise that LLs provide a unique and very practical opportunity for policy-makers, administrations and researchers to collaborate closely and yield win-win results. Henk Oostindie expects that in the case of Ede, the LL *"will align ROBUST activities to the ongoing municipal implementation of and experimenting with the national Environment and Planning Act"* as well as enhance *"integrative capacity building from a rural-urban interaction and interdependency lens"*.

"Instead of just talking, we are actually doing it! This is not always easy. Especially finding the right balance between the bigger picture through more theoretical concepts and, on the other side, the practical urgencies that governmental partners encounter in their daily work. For us, the value of ROBUST lies in trying to match these two sides. Precisely, because this is a challenging exercise, we have already learnt a lot. This learning process will strengthen both science and policy"

Lara Sibbing, Municipality of Ede, NL

5 OUTLOOK

Progressing towards novel and more adapted territorial development models requires new ways of knowledge production and decision-making. In order to be relevant for decision-makers, research approaches need to transcend disciplinary and institutional boundaries (Brewer, 1999). All ROBUST partners interviewed for this article underline that the eleven LLs can actually achieve this, and can in this way magnify a range of innovative research impacts.

Partners also appreciate that ROBUST has five Communities of Practice that aim at facilitating the sharing, exchange and comparison of experiences, findings and solutions between LLs. The five Communities of Practice correspond with different thematic domains of functional rural-urban relations: new businesses and labour markets, public infrastructure and social services, sustainable food systems, cultural connections, and ecosystem services. We expect that the discussion of the experiences and findings from the LLs in the Communities of Practice will generate new insights of which can then feed back into individual LLs. We also expect that this reciprocal process will foster co-

learning and provide important insights into the transferability, replicability and scalability of particular solutions, approaches, strategies or arrangements.

However, adopting the methodological approach of a LL alone will hardly be sufficient in unifying all actor's interests. A key challenge will therefore be that the partners involved in each LL continue their commitment to the multi-actor approach that has been adopted. This means, above all, that actors in LLs continue to be open-minded and willing to learn from each other. Whether ROBUST will succeed in this will be seen in the further development of project work. Nigel Riglar of Gloucestershire County Council is optimistic, claiming that *"the ROBUST project already has all the hallmarks of a successful EU project. When you bring great academics together in partnership with practitioners committed to improving the linkages between their rural and urban places, you discover new insights on the challenges driving innovations in policy and practice."*

"The dynamic interaction between LLs and CoPs makes ROBUST a really innovative but also challenging multi-actor project. Different actors do not only interact and collaborate in a particular place, but also across places to learn about and from other contexts. It should, if all goes well, really help to advance our understanding – through learning-by-doing – what is context-specific and what can be applied, perhaps after some modifications, in other contexts"

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REFERENCES

- [1] Brewer, B. (1999) Perception and Reason. Oxford: Oxford University Press.
- [2] Defila R., Di Giulio A. (2018) Non-certified Experts, Stakeholders, Practitioners, ... What Participants Are Called Defines Transdisciplinarity. <https://i2insights.org/2018/03/13/transdisciplinarity-participants/>.
- [3] EIP-AGRI (2018) Multi-actor Projects: Scientists and Farmers Creating Solutions Together. <https://ec.europa.eu/eip/agriculture/en/about/multi-actor-projects-scientists-and-farmers>, accessed on 14.04.2018.
- [4] Fischer, J. (2016) Transdisciplinarity in a Messy World. 2 January. Ideas for Sustainability. <https://ideas4sustainability.wordpress.com/2016/01/02/transdisciplinarity-in-a-messy-world/>, accessed on 26.04.2018
- [5] Friedrich, P., Karlsson, A., Federley, M. (2013) Boundary Conditions for Successful Urban Living Labs. SubUrbanLab.
- [6] Juujärvi, S., Lund, V. (2016) Enhancing Early Innovation in an Urban Living Lab: Lessons from Espoo, Finland. *Technology Innovation Management Review*, 6 (1), 17-26.
- [7] Leminen, S., Niitamo, V. P., Westerlund, M. (2017) A Brief History of Living Labs: From Scattered Initiatives to Global Movement, Conference Proceedings 5th Open Living Lab Days, 42-58.
- [8] Šūmane, S., I. Kunda, K. Knickel, A. Strauss, I. De Los Rios (2018) Local and Farmers' Knowledge Matters! How Integrating Informal and Formal Knowledge Enhances Sustainable and Resilient Agriculture. *Journal of Rural Studies*, Vol. 59, April 2018, 232-241.
- [9] The European Network of Living Labs (ENoLL) (2018) <http://enoll.org/about-us/>, accessed on 09.04.2018.
- [10] Van Oost, I. (2017) The European Innovation Partnership (EIP) Agricultural Productivity and Sustainability: Speeding Up Innovation. Transmango Conference, Leuven 29.11.2017 <https://www.biosfere.be/wp-content/uploads/2017/12/Transmango-conference-Leuven-Inge-Van-Oost.pdf>, accessed on 11.04.2018.

- [11] Voytenko, Y., McCormick, K., Evans, J., Schliwa, G. (2016) Urban Living Labs for Sustainability and Low Carbon Cities in Europe: Towards a Research Agenda. *Journal of Cleaner Production*, 123, 45-54.
- [12] Zardo P, Barnett A.G., Suzor N., Cahill T. (2018) Does Engagement Predict Research Use? An Analysis of the Conversation Annual Survey 2016. *PLOS ONE* 13(2), e0192290, accessed on 20.04.2018.