TRAIL Living Labs Survey 2011:
A survey of the ENoLL living labs

Maurice Mulvenna, Suzanne Martin,
TRAIL Living Lab, University of Ulster, Northern Ireland, UK

Donal McDade, Social Market Research Limited
Eileen Beamish, Social Research Centre Limited

Álvaro Oliveira, Anna Kivilehto, ENoLL

Email for correspondence: trail@ulster.ac.uk
Web: trail.ulster.ac.uk
Please cite this report as:

# TABLE OF CONTENTS

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>ABOUT TRAIL</td>
<td>7</td>
</tr>
<tr>
<td>ABOUT ENOLL</td>
<td>8</td>
</tr>
<tr>
<td>INTRODUCTION</td>
<td>10</td>
</tr>
<tr>
<td>DOMAINS OF ACTIVITY</td>
<td>11</td>
</tr>
<tr>
<td>AREAS OF FOCUS</td>
<td>13</td>
</tr>
<tr>
<td>TERRITORY</td>
<td>14</td>
</tr>
<tr>
<td>MEMBERSHIP &amp; STATUS</td>
<td>16</td>
</tr>
<tr>
<td>USERS</td>
<td>18</td>
</tr>
<tr>
<td>USER ENGAGEMENT</td>
<td>19</td>
</tr>
<tr>
<td>USER INVOLVEMENT</td>
<td>20</td>
</tr>
<tr>
<td>TECHNIQUES FOR USER ENGAGEMENT</td>
<td>21</td>
</tr>
<tr>
<td>TRANSLATING RESULTS</td>
<td>23</td>
</tr>
<tr>
<td>EVALUATING LIVING LABS</td>
<td>24</td>
</tr>
<tr>
<td>USER EXPERIENCE</td>
<td>25</td>
</tr>
<tr>
<td>STAKEHOLDERS</td>
<td>27</td>
</tr>
<tr>
<td>GOVERNANCE</td>
<td>29</td>
</tr>
<tr>
<td>STRATEGIC PLANNING</td>
<td>30</td>
</tr>
<tr>
<td>SUSTAINABILITY</td>
<td>32</td>
</tr>
<tr>
<td>RELATING TO OTHER LIVING LABS</td>
<td>33</td>
</tr>
<tr>
<td>FINANCIAL SUPPORT</td>
<td>35</td>
</tr>
<tr>
<td>CONCLUDING REMARKS</td>
<td>37</td>
</tr>
<tr>
<td>NOTES</td>
<td>38</td>
</tr>
</tbody>
</table>
# TABLE OF FIGURES

- Figure 1 - Living lab distribution (Source: ENoLL) .......................................................... 10
- Figure 2 - Area or domain best describes the activity of your living lab ............................... 11
- Figure 3 - Respondent breakdown by ENoLL wave ............................................................... 12
- Figure 4 - Living Lab Focus ................................................................................................. 13
- Figure 5 - Technology use .................................................................................................... 14
- Figure 6 – Territory area ....................................................................................................... 15
- Figure 7 - Territorial scope ................................................................................................. 16
- Figure 8 - Living lab memberships ....................................................................................... 17
- Figure 9 - Legal status ......................................................................................................... 18
- Figure 10 - End user numbers ........................................................................................... 18
- Figure 11 - End user engagement ....................................................................................... 19
- Figure 12 - Techniques for user involvement ...................................................................... 22
- Figure 13 - Translating needs ............................................................................................. 23
- Figure 14 - Evaluating end user involvement ...................................................................... 25
- Figure 15 - End user experiences ....................................................................................... 26
- Figure 16 - Accessing training ............................................................................................ 26
- Figure 17 - Stakeholder involvement .................................................................................. 27
- Figure 18 - Governance ...................................................................................................... 29
- Figure 19 - Governance and end users ............................................................................. 30
- Figure 20 - Strategic planning ............................................................................................ 30
- Figure 21 - Strategic plan review ....................................................................................... 31
- Figure 22 - Strategic plan duration ..................................................................................... 32
- Figure 23 – Number of links to other living labs ................................................................. 34
- Figure 24 - Frequency of links with other living labs ......................................................... 34
- Figure 25 - Access to funding ............................................................................................ 35
- Figure 26 - Source of funding ............................................................................................ 36
TABLE OF TABLES
Table 1 - Living Lab Waves.................................................................12
Table 2 - Survey response across the application waves .......................13
Table 3 - ENOLL Membership grades..................................................17
Table 4 - End user involvement stages...............................................20
Table 5 - End user involvement issues...............................................21
Table 6 - Accessing advice and assistance .........................................25
Table 7 - Stakeholder commitment ....................................................28
Table 8 - Stakeholder relations..........................................................28
Table 9 - Sustainability........................................................................32
About TRAIL

The University of Ulster’s TRAIL (Translating Research And Innovation Lab) living lab supports research and innovation activities across several key research disciplines including business, information & communication technologies, occupational therapy, art, health care, media studies research, social care and clinical medicine. Based at the University of Ulster, TRAIL is focused on supporting this diverse set of stakeholders as we develop new technologies, research perspectives, processes and integrated service solutions that deliver real value to our users in the North of Ireland, UK and further afield across Europe. We established TRAIL in 2007 as the first living lab in Northern Ireland. TRAIL is focused on assisting people in the development of user-centred techniques to develop and improve services and products.

TRAIL has been particularly interested in assisting ageing, rural dwellers, supporting them in their homes leading fulfilling lives in the heart of their communities. For example, our Northern Periphery Programme project, called MyHealth@Age contributed towards defining health and wellbeing needs of the ageing population on peripheral and remote communities on the northern margins of Europe, specifically Sweden, Norway and Newry, Northern Ireland. MyHealth@Age aims to identify products and services that help to make it possible for older people to feel safer and live a more active and healthy life.

Another example of TRAIL engaging with local communities is evidenced by the PARTERRE project, which is creating participative demographic engagements at grass roots level to tackle key community issues. Such issues include community perspectives on interface violence, provision of healthcare, higher level education access and developing innovation capabilities in local enterprises.

TRAIL’s vision for engagement with local communities is founded on the evidence that providing grass roots communities and enterprises with tools to engage people in the creative design of solutions to the problems that they face often inspires their thinking and results in outcomes that better match the needs of the community. It’s also more fun!

Historically, such innovation in engaging with people has been characterised as a linear process, driven and controlled by the industrial developers of products for the marketplace. However, it is evolving from a linear model towards a network model involving partners supporting innovation, often focused on cycles of innovation activity. These partnerships of interaction can take many forms but one model that is increasingly being used is a triple-helix model of engagement, where the three types of stakeholders are industry, government and academia, often also called academic-public-private partnerships.

This model and its variants works well within the concept of network economy, facilitating ad hoc or permanent partnerships as required, focused on problem solving and commercial exploitation of intellectual property and know-how arising from the partnerships. The most interesting facet of these kinds of models for engagement is the active participation of academia, cementing a role for entrepreneurial universities such as the University of Ulster in innovation activities that are becoming increasingly influenced by network economy concepts.

TRAIL’s experience in working with local community-based initiatives supported by UK or European research and innovation funding, is that the engagement is welcomed by the community at all levels but that a key value in the engagement is to the university building further opportunities for collaboration and development.
About ENoLL

The European Network of Living Labs (ENoLL) is the international federation of 274 benchmarked Living Labs in Europe and worldwide. Founded in November 2006 under the auspices of the Finnish European Presidency, the network has grown in five ‘waves’ up to this day. The ENoLL international non-profit association, as the legal representative entity of the network, is headquartered in Brussels.

Since the Finnish EU- Presidency in 2006, EU-Presidencies have promoted European Network of Living Labs (ENoLL) as a new human-centric, bottom-up, demand and user-driven element of European research and innovation system with following themes:

- European-wide open, demand and user-driven innovation ecosystems such as European Network of Living Labs as an element of European innovation strategy;
- Cross-border regional collaboration of open innovation ecosystems such as Living Laboratories as a part of regional growth, economic and innovation policy;
- Transforming the former technology-driven centres of excellence into demand and user-driven regional research for innovations centres that benefit of living laboratory Research and Development and Innovation (RDI) designs and methodologies;
- Integration of Future Internet and test beds with Living Laboratories as means for experimentation in RDI in open human-centric innovation ecosystems;
- Internationalization of innovation ecosystems from the viewpoint of SMEs and the international mobility of RDI personnel of European firms, regions and universities; the idea was to develop financial and other incentives for promoting circulation of university and corporate researchers in European RDI ecosystems as a part of European innovation strategy;
- ‘Smart Cities’ as centres for user-driven open innovation, using Future Internet technology in a user-friendly way to enable a truly knowledge-based society, further developing linkages of user-driven RDI in Living Labs and Future Internet-based development in test beds; and
- Regional cross-border collaboration in open RDI ecosystems.

Of the current 274 ENoLL Members, 228 are within the European Union and 46 from the rest of the world, including the 10 in the wider EEA, 17 in Latin America (Colombia and Brazil), 8 in Africa, 7 in Asia (China and Taiwan), 3 in North America, and 1 in Australia. The 6th Wave of Membership Applications is launched in October 2011 in Poznan (Poland) in conjunction with the Future Internet Week.

Following a strategy of globalization of the Living Labs movement, ENoLL has concluded several strategic Memorandum of Understanding agreements (MoUs) with key organizations including:

- Beijing City Administration Information System and Equipment Center (CAISEC);
- Ubiquitous Network Industry and Technology Development Forum (UNITED, the Chinese Future Internet and IoT initiative);
- Food and Agricultural Organization of United Nations (FAO);
- LLiSA (Living Labs in Southern Africa);
- Asian Smart Living Summer School; and
- World Bank. ¹

Through these MoUs, ENoLL is building a portfolio of activities, initiatives, exchanges, and pilot experiments throughout the world, building international networks and offering exceptional opportunities to European Small-to-Medium Enterprises (SMEs) and the broader EU RDI community. Furthermore ENoLL is strongly involved in initiatives in China, Brazil and on the African continent to support the establishment of sustainable living lab networks in these regions.

¹ MoU with the World Bank completed final negotiation in September 2011 and signature expected in October 2011.
The living lab movement is emerging globally as a tool for economic and social development at the local and regional scale, giving great opportunities for rural, urban and regional development, both to large companies and to SMEs innovation, leveraging their sustainable competitiveness, and finally giving a new role for public authorities in promoting and facilitating innovation. Thus, today the European Network of Living Labs is a widely recognized and accepted pillar of the European Innovation System.

“The European Network of Living Labs (ENoLL) today is the results of a series of ambitious objectives that have been reached and even surpassed, motivating the community and its members and providing a platform and dynamic network for living labs globally.

For a number of years, 2006 onwards, these objectives primarily concerned smaller group of members committed to living labs and open user-driven innovation. Now, ENoLL has become a significant network, establishing position event globally. Along the way ENoLL has also enlarged its scope of activities and more importantly services to its members with the newly established office in Brussels.

Today our ambition is no less than to set world wide standard in open and user-driven innovation, while staying true to our core values of bottom-up processes and embracing the openness of our community.”

Alvaro Oliveira, Alfamicro, 
President of the Association, Chair of the Council, Founding member of ENoLL

"This non-profit network is the first of its kind. It brings together innovation professionals with large groups of citizens/users - across geographical administrative organisational and cultural borders - in joint innovation actions to address people's every day needs and desires as well as major global challenges."

Mikael Börjeson, 
CEO CDT Sweden, Botnia Living Lab (Sweden) ENoLL Council member, Founding member of ENoLL
Introduction

The survey was designed to establish basic information about the living lab phenomenon, which was 'born in the USA' but developed in Europe and beyond under the aegis of the European Network of Living Labs (ENoLL). As of October 2011, when the survey was completed, there were 274 living labs in existence. The geographic spread of living labs is shown in Figure 1.

![ENoLL after 5th wave](image)

Figure 1 - Living lab distribution (Source: ENoLL)

The survey was launched on 20 June 2011 and sent via email message to the contact details of 195 living labs, drawn from those extant 212 living labs from the first four waves where contact details could be ascertained and verified. While the survey was anonymous, 93% of respondents gave their details in return for receipt of the survey analysis and a toolkit on living labs, developed by TRAIL living lab. The survey was sent again in 4 July, 1 August and on 1 September 2011 to those on the shortlist of living labs who had not yet responded. The final number of living labs who responded to the survey was 56 out of the total of 195 (as of September 2011), representing 28.7% response rate. The percentage response numbers are rounded to one decimal place so may not sum to exactly 100 in all cases.

The following sections provide the results of the survey.
Domains of activity

The initial question (Figure 2) asked the labs to say which area or domain best describes the activity of their living lab. The responses were based upon the classification used by ENoLL, encompassing Digital Cities, E-Manufacturing, Energy Efficiency (aka Smart Energy Systems), E-Participation, Future Media and Content Delivery, Health and Wellbeing, and Tourism.

First of all can you say which area or domain best describes the activity of your living lab?

![Pie chart showing domain distribution](chart.png)

- **Digital Cities**: 12.5%
- **E-Manufacturing**: 1.8%
- **Energy Efficiency (aka Smart Energy Systems)**: 3.6%
- **E-Participation**: 5.4%
- **Future Media and Content Delivery**: 8.9%
- **Tourism**: 1.9%
- **Health and Wellbeing**: 26.8%
- **Other**: 39.3%

**Figure 2 - Area or domain best describes the activity of your living lab**

It was interesting to note that ‘other’ was the response with the highest value. This may indicate that the classifications used in ENoLL are not representative of the domains in which the living labs practice, apart from the domain of ‘Health and Wellbeing’ selected by over a quarter of respondents. However, respondents had to choose a single domain to describe their activity and perhaps those living labs who operate across several domains selected ‘Other’ instead of picking the most representative domain in which they work.

Several of those who selected other, said that they have “activities in many domains: gaming, future media, intelligent transportation, health, digital cities”, or classified themselves as “Regional and Territorial”. Several domains that were given by living labs but were not in the ENoLL classification included: “Agriculture”, “agro industry”, “Digital Inclusion, Sustainable Development, Environmental Policies and Practices”, “Elearning and Mobile learning”, “Rural collaboration and support to SMEs”, “Rural territory development - Social innovation”, “eService provisioning for marginalised communities”, “housing”, and “innovation techniques for organizational cultural transformation”.

ENoLL welcomed applications to join its network, managed as ‘waves’ of applications that are scheduled to coincide with major European events:

- November 2006, Finnish EU Presidency: ENoLL "First Wave" launch event in Helsinki
- October 2007, Portuguese EU Presidency: ENoLL "Second Wave" launch event in Brussels
- November 2008, French EU Presidency: ENoLL "Third Wave" launch event at ICT2008 in Lyon and 2008 consolidation of the network
- March 2009, Spanish Presidency, “Fourth Wave” launch event in Valencia, Spain
- December 2010, at Future Internet Week, “Fifth Wave” launch event in Ghent, Belgium

The sixth wave event is held in Poznan, Poland in October 2011. Table 1 sets out the schedule of ENoLL waves.
Table 1 - Living Lab Waves\(^2\)

<table>
<thead>
<tr>
<th>Wave</th>
<th>Launch Date</th>
<th>Number Joined</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>11/2006</td>
<td>19</td>
</tr>
<tr>
<td>2</td>
<td>10/2007</td>
<td>32</td>
</tr>
<tr>
<td>3</td>
<td>04/2008</td>
<td>68</td>
</tr>
<tr>
<td>4</td>
<td>03/2009</td>
<td>93</td>
</tr>
<tr>
<td>5</td>
<td>12/2010</td>
<td>62</td>
</tr>
<tr>
<td></td>
<td>Total</td>
<td>274</td>
</tr>
</tbody>
</table>

The survey next asked (Figure 3) in which wave the respondent joined when they applied to ENoLL for living lab status.

When you applied to ENoLL for living lab status, which wave was this?

[Figure 3 - Respondent breakdown by ENoLL wave]

Of course, there were larger pools from which more successful applications could be drawn pro rata in waves 3 and 4, but these responses, when normalised to the total numbers of living labs per wave illustrate a strong response across each wave apart from the last fifth wave which is under-represented in the survey as our survey launched before the fifth wave information was available (Table 2).

\(^2\) http://www.slideshare.net/anagrobles/some-enoll-slides-for-aal-forum
Table 2 - Survey response across the application waves

<table>
<thead>
<tr>
<th>Wave</th>
<th>Total</th>
<th>Responses</th>
<th>% Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>19</td>
<td>5</td>
<td>26%</td>
</tr>
<tr>
<td>2</td>
<td>32</td>
<td>10</td>
<td>31%</td>
</tr>
<tr>
<td>3</td>
<td>68</td>
<td>14</td>
<td>21%</td>
</tr>
<tr>
<td>4</td>
<td>93</td>
<td>20</td>
<td>22%</td>
</tr>
<tr>
<td>5</td>
<td>62</td>
<td>4</td>
<td>6%</td>
</tr>
</tbody>
</table>

Areas of focus

When asked if the focus of their living lab (Figure 4) related to research and/or development of a product, service or both product and service, the majority of respondents (62.5%) selected both.

Figure 4 - Living Lab Focus

The majority of the remainder of respondents cited service only (28.6%). That most selected both product and service is perhaps not surprising, but for so many living labs to respond with service only is unusual, given the anecdotal evidence that living labs provide product only developers with access to users in domains such as, for example, vehicle design. One respondent indicated that they carried out work in the area of documentation of cultural identity, disconnected entirely from product/service development. On reflection, it is perhaps surprising that only a single respondent chose to offer an answer that didn't correspond to the framework of product/service selection.

The majority of respondents described the product or service that they support (Figure 5) as mainly relating to new technology (82.1%) as opposed to traditional (17.9%).
This response was expected as the majority of living labs focus on the use of Information and Communication Technology (ICT) to facilitate engagement with users and to help to translate user needs into idea and best practise for product and service development.

**Territory**

The architect and academic, William J. Mitchell, created the concept of living labs. Mitchell, based at MIT, was interested in how city dwellers could be involved more actively in urban planning and city design. The ideas of citizen involvement in the design process was subsequently taken up and developed further in Europe by various research communities, primarily ENOLL. So it was interesting to explore how living labs positioned themselves across the urban versus rural dimension. As can be seen from the answer to the first question, several living labs classify themselves as regional or ‘territorial’ in nature, that is, they offer horizontal services across different vertical areas of society and business. Some living labs also characterise themselves as rural, while others identify themselves as urban or city-focused.

When asked if the activity of their living lab was focused on an urban or rural area or neither (Figure 6), the largest percentage – almost half of the respondents - answered ‘neither’ (48.2%).
It is interesting to note that only 12.5% answered ‘digital cities’ in response to the question of which area or domain best describes the activity of their living lab, while three times as many (37.5%) gave ‘urban’ as their answer to this question. A significant minority answered ‘rural’ (14.3%).

In a related question (Figure 7), when asked if the activity of their living lab was specific to their region, their country or was international in scope, a clear majority selected ‘Regional’ (58.9%), while 33.9% selected ‘International’ and only 7.1% chose ‘National’.
The responses to this question revealed what was believed only anecdotally beforehand, which was that living labs primarily operate at a regional level. This may be related to their genesis at a regional level, often within academic and research organisations, which will be examined in subsequent sections in this report.

Only a relatively small number selected ‘National’, indicating perhaps the minimal role in the development of living labs by national governments in Europe and beyond.

The European Commission provide implicit support to living labs by, for example, facilitating many living lab activities at practical as well as policy levels. The Commission also provide tangible explicit support, primarily in, for example, the incorporation of living lab methods and techniques in RDI calls for funding. This support by the Commission may be the reason for just over a third of the living labs indicating that they operate at ‘International’ level (33.9%), where international perhaps translates as ‘transnational activities’ between European organisations who have already formed partnerships through RDI funded activities.

**Membership & status**

The survey then asked a question about membership of existing organisations (Figure 8) and the selection of possible answers was drawn from a list provided by ENoLL. Respondents could select more than one answer.

The overwhelming number of respondents indicated that they were members of ENoLL in one of its various grades of membership (87.5%). These included ‘Effective members’ (17.9%), ‘Associate members’ (12.5%) and ‘Adherent members’ (57.1%). The difference between these membership grades, according to ENoLL, is given in Table 3.
Table 3 - ENOLL Membership grades

<table>
<thead>
<tr>
<th>Grade</th>
<th>Description</th>
<th>Annual Cost</th>
</tr>
</thead>
<tbody>
<tr>
<td>Effective</td>
<td>Organizations which are legal entities that represent a Living Lab which was duly selected according to the ENOLL selection process. These members constitute the ENOLL General Assembly.</td>
<td>€5,000</td>
</tr>
<tr>
<td>Associate</td>
<td>Organizations which are involved in the object and activities of the association, which are not selected according to the ENOLL selections process</td>
<td>€5,000</td>
</tr>
<tr>
<td>Adherent</td>
<td>Organizations that represent a Living Lab, which was duly selected according to the ENOLL selection process, and have no voting rights in the General Assembly</td>
<td>€500</td>
</tr>
</tbody>
</table>

The responses also included organisations such as the ‘Co-Creation Association’, the ‘Design for Emotion Society’ and ‘Panlabs’, which elicited a single respondent (1.8%) in each case.

Figure 8 - Living lab memberships

The EIT ICT Labs organisation has two grades of membership including ‘Core’ and ‘Associate’ with 7.2% of respondents selected EIT ICT Labs. EIT ICT Labs is one of the several Knowledge and Innovation Communities selected by the European Institute of Innovation & Technology (EIT), an EU body established in March 2008.

A small number indicated no memberships (8.9%) while those who selected ‘Other’ (16.1%) gave the following organisations of which their living lab was a member: AIN Advanced Innovation Network: Continua Health Alliance, Intelligent Community Alumni Association, MIT Network of Fab Labs and Future Centres, National networks (Finland) and Social Spaces for Research and Innovation.

The living labs were then asked about the legal status of their lab (Figure 9). It was anticipated that academic and research organisations may host many living labs and that this would be reflected in the answer to this question. While 28.6% gave ‘University’ as a response, 30.4% of respondents indicated that the public sector hosted their living lab, breaking down as ‘Government’ (10.7%) and ‘Other Public Sector Organisation’ (19.6%). The unexpected response was that 16.1% of living labs have a legal status as ‘Private Sector Organisations’. This segment, on further analysis, reflected living labs across different countries in Europe as well as across differing domains.

3 Administrative fee was introduced in 2011
The majority of those who gave ‘Other’ (25%) as an answer for the legal status of their lab were labs formed as public-private-academic partnerships, under the triple-helix model outlined in the introductory section of this article.

**Users**

When asked approximately how many end users were involved in their living lab (Figure 10), there was a broad range of responses.

Twenty-three living labs indicated that they involved 1-100 users (41.1%), while fifteen indicated the involvement of 101-1,000 users (26.8%) and eighteen indicated over 1,000 users involved in their labs (32.1%). One respondent indicated that they involved 1.4 million users, which may be feasible in this age of research using social media, but such figures should be treated with caution.

The respondents were asked about the gender mix of users but there were no imbalance in their responses, with 83.9% citing ‘Roughly equal numbers’ of male and female users while 8.9% cited ‘Mostly male’ users and 7.1% cited ‘Mostly female’ users.
When asked if particular groups of users were over represented or under represented, 53% said that ‘All groups’ were represented, while 46.4% said that ‘some [were] over/under represented’. When those who answered that there was over or under representation were asked why, there was a broad range of answers, including, for example: “Mainly we deal with e-health solution, therefore we maintain a database with more than 500 potential end users of such services. The composition of the user group is based on the general health status of the given area, which is not representative on a wider scale.”, “Sometimes clients need such specific criteria users that we have to recruit them outside the user pool, but after that they register to our pool. Elderly people are harder to get involved than younger.”, “When we are dealing with participation, we are talking about citizens. They are a large, heterogeneous group and of course, the ‘activists’ are overrepresented.”, “We focus on user with disabilities, elderly and users with chronic diseases.”, “our end users are organisations, not single citizens”, “Elderly people are over-represented, which is desirable in our case”, “one project is about testing adaptive technology, which requires testing by people who have suffered a stroke or have other motoric problems - so a very specific target group and predominantly older people. Another project is testing a smart metering system - here the participants are well mixed with reference to gender, age, economic power but are strongly interested in the environment”, “Tends to be a male bias in ICT”, “Although participation is open, marginalised social groups tend to need special encouragement for participation”, and perhaps most insightful “we have gifted youth but not marginalized youth, we have career changers but no retired people, we have politicians but no foundation directors, we have under-employed but no unemployed, etc.”.

Those who said that all groups were represented had comments such as: “Our main target groups are independent of sex, age or nationalities”, “the focus of the living lab is the complete city”, “We have direct users participating in events and lots of indirect users worldwide on the Internet - on all continents. We do not have statistics about … age, gender”, and “we take care to work in all parts of the community”.

User engagement

The next question put to the survey respondents asked how easy or difficult it had been to engage with end users (Figure 11), and 55.3% answered that it was easy or very easy while 44.7% answered that it was difficult or very difficult.

**Generally, how easy or difficult has it been to engage with end users?**

![Figure 11 - End user engagement](image)
Those who answered ‘Very easy’ commented: “Because our product and service is using the cutting-edge technologies, and the users are eager to join and use it”, “It has been easy as we had links with colleagues who had done work in the area, and were available to introduce us to the end-users/community and inform us of the social structure. Since then our two-way interaction and hosting of events with the community has been going well.”, “we work through two respected institutions, the local convention and visitors bureau and the state university”, and “open innovation community reached by mail and website”.

Those who answered ‘Easy’ commented, for example: “They are very engaged and it was easy to engage them because they were very motivated”, “We have end users through for instance festivals, and also via twitter / facebook / torrentfreak / etc. Easy when you know how to attract the target group”, “People are very attracted by this new technology”, “Access is through community groups”, “People are generally interested in participating in developing their future living surroundings, products and services”, “The end users are not the problem: the problem are the organisations that should use the user information and take them seriously” and “Many older people is highly interested in participating in evaluation and offer actively their participation”.

Those who answered ‘Very difficult’ commented: “because it implies very heavy and specific procedures” and “It's required to evolve them and make them feel as part of the project. Often, it's hard to get them to participate”.

Those who answered ‘Difficult’ commented, for example: “Our situation in a developing country”, “It is always difficult to find right persons which are enthusiastic and willing to take part of living lab work. It's a matter of attitude!”, “Because it requires special competences, process understanding, empathy and trained ethnographer to do it right”, “We needed to get in contact with the family doctors first, and act according to the privacy and information security act of the EU”, “Lack of local government recognition”, “we are not offering operational services and users do not see the clear advantages”, “People in the health sector have really busy schedules and the benefits from being active in wide-ranging innovation efforts are difficult to perceive in the short term”, “recruiting people in the first instance is comparatively easy … but engaging people over a sustained period of time is more difficult and people lose interest after about 3-6 month despite 'informed consent' statements that people signed, they didn't really understand what taking part in a project and trialling something means - so managing expectations and briefing people has to be done in much more detail” and “Cultural diffidence towards collaboration”.

User involvement

Within the concept of living labs there are different stages at which end users can be involved. The respondents were asked (Table 4) for each of the different stages to indicate if their living labs involved end users.

Table 4 - End user involvement stages

<table>
<thead>
<tr>
<th>End user involvement stages</th>
<th>Yes</th>
<th>No</th>
<th>Not at this stage</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Researching the idea for the product or service</td>
<td>41</td>
<td>6</td>
<td>9</td>
<td>56</td>
</tr>
<tr>
<td>Developing the idea for the product or service</td>
<td>46</td>
<td>2</td>
<td>8</td>
<td>56</td>
</tr>
<tr>
<td>Designing the product or service</td>
<td>33</td>
<td>7</td>
<td>16</td>
<td>56</td>
</tr>
<tr>
<td>Improving the product or service</td>
<td>46</td>
<td>2</td>
<td>8</td>
<td>56</td>
</tr>
<tr>
<td>Refining the product or service</td>
<td>47</td>
<td>3</td>
<td>12</td>
<td>56</td>
</tr>
</tbody>
</table>

These responses indicate that the involvement of end users in the majority of typical living lab state is high. However, at 58.9%, the involvement of end users in the design stage is
unusually low relative to the other responses. The design stage is the stage with the highest number of respondents selecting ‘Not at this stage’ (28.6%) indicating that perhaps the design stage was an area in which there was a lack of experience, competence or understanding in a relatively large number of living labs.

When asked (Table 5) to think about the process of involving users and to answer how easy or difficult specific aspects of user involvement had been, interesting patterns emerged.

**Table 5 - End user involvement issues**

<table>
<thead>
<tr>
<th>Aspects of user involvement</th>
<th>Very easy</th>
<th>Easy</th>
<th>Difficult</th>
<th>Very difficult</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Getting users interested</td>
<td>13</td>
<td>32</td>
<td>8</td>
<td>3</td>
<td>56</td>
</tr>
<tr>
<td>Getting end users involved in a practical way</td>
<td>5</td>
<td>21</td>
<td>23</td>
<td>7</td>
<td>56</td>
</tr>
<tr>
<td>Communicating the concept to end users</td>
<td>7</td>
<td>12</td>
<td>23</td>
<td>2</td>
<td>56</td>
</tr>
<tr>
<td>Getting end users to see the benefits</td>
<td>4</td>
<td>7</td>
<td>24</td>
<td>2</td>
<td>56</td>
</tr>
<tr>
<td>Involving all end users rather than specific groups</td>
<td>3</td>
<td>5</td>
<td>20</td>
<td>14</td>
<td>56</td>
</tr>
</tbody>
</table>

A clear majority (80%) indicated that getting users interested was ‘Easy/Very easy’ while for getting end users involved in a practical way or communicating the concepts to end users a slight majority (54% and 55% respectively) answered that it was ‘Difficult/Very difficult’. When asked about getting end users to see the benefit, 54% answered that this was ‘Easy/Very easy’, while involving all end users rather than specific groups was seen as ‘Difficult/Very difficult’ by 61%. These responses seem to indicate what one would expect, that superficial interaction with end users is relatively easy to do while more involved or complex interactions are somewhat more difficult.

**Techniques for user engagement**

When asked what techniques they have used to involve end users in living labs (Figure 12), 44.6% of respondents said ‘Both quantitative and qualitative’, while a similar percentage (46.4%) said ‘Mainly qualitative’. It was interesting to note that only one respondent (1.8%) said ‘Mainly quantitative’. These responses seem to indicate that while a substantial minority of living labs use a broad range of techniques drawn from both quantitative and qualitative area, an almost equal minority of living labs focus exclusively on mainly qualitative techniques. However, when the number of users involved by those living labs that answered ‘mainly qualitative’ was examined, 62% answered that they involved fewer than 1,000 users while 38% answered that they involved over 1,000 users (with two ‘mainly qualitative’ living labs saying they involved more than one million users). It is difficult to see how a living lab could interact with substantially more than 1,000 users with qualitative techniques such as in-depth interviews, workshops and other interactions that are time-consuming to facilitate and even more time-consuming to codify and analyse afterwards. It is likely that several living labs are over enthusiastic in their reporting of user numbers.
The 7.1% who answered ‘Other’ cited a variety of techniques that were indeed either quantitative or qualitative in nature and one said that they didn’t use any techniques as the living lab was in the process of being established.

When asked why they had chosen the techniques that use, there were a broad range of comments from those who answered ‘mainly qualitative’ including: “For every research we need people (patients) with different specification determined in a clinical investigation plan. End user selection had to be done according to the plan, with the help of family doctors and clinical professionals”, “the target are SMEs, it is important to present the problems in their scenarios”, “At a first stage, more information regarding solution has been obtained from qualitative techniques. Nevertheless we’re currently designing quantitative metrics”, “Because it is an open group, no scientific hypotheses”, “because of the target groups. They are more active if there’s an emotional interchange”, “it’s all about face to face relations - nothing can do better”, “We use photographs, cultural probes, narratives, facebook-groups, observation ...We don’t want do ‘academic’ and serious research with users: we want interaction, rich stories and insights. We believe that there you can find those seeds for innovation. We want to avoid ‘in-depth’ interviews or some other artificial situations. This probably makes us bad academics but very good Living Lab actors” and “the human presence it's the best way to involve the users”.

Those who answered ‘Both quantitative and qualitative’ to the same questions gave a range of insightful comments including: “It is the ‘nature of our living lab’. We need to do testing and other practical things but also some email-surveys etc. to activate all of our participants”, “We don't have favourite tools. Depending on the task at hand we go for what works”, “we have used focus groups to get qualitative feedback but also create a feeling of community. our participants really enjoyed being able to talk about the project to others involved. this method gets the project to clarify statements and ask follow up questions. we have used surveys to get a response from many more users and get a quantitative statement to put the qualitative statements into context”, “Both are needed in order to collect data and are also part of user centred design practice”, “We have used both techniques because they allow to characterize and understand in greater detail the behaviour of end users and nonusers. Moreover, drawing conclusions from the application of both techniques facilitates the design, dissemination and communication activities” and “to get a complete picture quantitative and qualitative methods are necessary”.

In order to gin some insight about the indicators used by the living labs, the respondents were asked which indicators were used to measure the impact of their living lab. Many respondents (23%) said that they were not currently using any indicators, primarily because their lab had not yet set these up.

Several labs responses included business like comments such as: “Profit”, “commercial success, number of ideas, industry involvement”, “returning customer, confirmed subscriptions to our partnership, revenue increase to customers, feedback collected through
word of mouth”, and in one case it was clear that the indicators of project funding organisations were being used “Will be subject to ERDF rules - jobs/SMEs supported” and “number and amount of external funding”. Several responses related to intellectual property indicators, including: “Number of spin-outs, patents, products”; however, it was revealing that such indicators were cited by a small number (less than 4%) of respondents.

Many labs cited more academic measures of performance including: “number of master theses, number of papers...”, and a large number also cited general measures from academia, business and society, for example: “research output of the postgraduate researchers involved; - buy in and interest level of the community to the initiative; - interest of surrounding communities, government, and industry in our work”.

However, the most common indicator cited by the respondents related to the engagement with end users: “Number of cases, number of end users, number of Living Lab projects”, “Number of tests performed, Number of external customers, Number of end-users engaged”, “The number of projects, and the number of users involved”, “user satisfaction”,

Several living labs used “qualitative questionnaire administered every year to our clients” as a way of capturing indicator data, while others included the press coverage as a part of their portfolio of indicators: “impact within the community by press coverage, acceptance; in the research community by publication” and “Increase in members, PR impact, number of new projects launched, number of users involved, number of new proposals from users”.

There were several living labs that provided more subtle examples of measurement of performance: “if the service/product is taken as part of everyday life, if there has been a change in working processes” and “New technologies developed. They can be technological (users or manufacturers developed) and social”.

Translating results

In order to understand more about the processes involved in engaging with users, the respondents were asked (Figure 13) how easy or difficult they found it to translate results or feedback from end users into actual service or product change.

![Figure 13 - Translating needs](image)

A clear majority of living labs (60.7%) answered that the translation process from end users to products or service change was difficult or very difficult, while 39.3% said that it was easy or very easy. While the response was expected in that a majority found it difficult or very difficult;
it could be considered surprising that as high a percentage as 40% said that it was easy or very easy to carry out this fundamental process.

When those who said that it was difficult or very difficult to translate results from users to product and service changes were asked why, their comments included: “In e-participation field there are administrative processes involved and they are hard to modify because they need a very strong political determination”, “Because Living Lab’s work ends at feedback, then it is only company’s matter, how it uses the results. Sometimes we don't know at all, how our results relate to products”, “Users provide very valuable insight about needs and existing problems. But the complexities of other stakeholder’s involvement, technical barriers, regulatory requirements and the like are usually absent from their input”, “Users is sometimes clueless about what already exists, ” It is time consuming and required careful attention to detail and transcription, interpretation of results, for example”, “Barriers by others, other than the users”, “culture change required in organisations” and “It has been difficult as the feedback from the community is translated into services by researchers from the universities, who are usually more interested in obtaining a degree than the essence of Living Lab”.

It was interesting to note that some respondents found that the reason was a kind of ‘lost in translation’ effect, for example: “it can be hard to get constructive and instructive comments from users that are not used to giving feedback and analysing a service working with small numbers in focus groups gives rich data but what if those statements are not reflected by the survey majority technical developers have own ideas and feasibility of request might not be given within a project timeframe and budget”, “End user and engineers are not talking the same ‘language’ i.e; it is not always easy to understand what end user means and vice versa”, “there is a need of translation, the language used is different when discussing with an expert or a layman”, “Translation from end user to specialists” and “End users and developers are not speaking the ‘same language’.

Those who said that it was easy or very easy to translate results from users to product and service changes included comments such as: “During 6 years we have made efforts to improve channels of communication with end users. In that sense, we have established sessions of training by video-conferencing on community issues. In fact, these are inputs to improve the design and implementation of training services, and the project management. Also, the level of appropriation of ICTs has increased, allowing the identification of changes to include in the on-going design services”, “They are very clear when expressing their needs or feedback”, “researchers have learnt to understand the language and speech of end users very good”, “generative and strategic dialogue is part of the process and easily adapts to the next phases”, “In a direct dialog it becomes easy” and “new products have been well received in the community”.

It is interesting to note that some living labs tackled the ‘lost in translation’ effect mentioned above by tackling it head-on, for example: “By involving the developers in the user-activities it is more easy to transfer the user feedback”, “If the feedback is captured in a structured manner then there is usually a clear way how to translate it into service/product improvement”, “Because the users and the designers are the same group”, “…because we gather users’ feedback in a way that allows us to modify the service easily taking in mind this opinion. We try to guide the feedback sessions in a practical way”, “We are currently doing research on this translation phase. When the analysis of user feedback is done collaboratively, it is not that difficult” and “Once they get to involve in the project it's more easy to get the results and the feedback”.

Evaluating living labs
The survey then asked several questions examining if living labs found it useful to have access to practical advice and assistance in several areas (Table 6). On average, around three-quarters of respondents answered that they would find it useful to have access to advice and assistance in a variety of areas including ‘Getting users interested’, ‘Getting end users involved in a practical way’, ‘Communicating the concept to end users’, ‘Getting end users to see the benefits’ and ‘Involving all end users rather than specific groups’.
These topics were the same as those that were explored in an earlier question asking if the living labs thought it was difficult or easy to engage with users. In that question a majority of respondents answered that it was easy or very easy to get users interested and also to communicate the concept with end users. So while a majority of respondents thought that this was the case, they also felt that they needed assistance in these areas. In summary, regardless of whether respondents felt that user engagement in particular areas was easy or difficult, they continued to value practical advice and assistance, indicating perhaps that there is not enough of such advice and assistance easily available to those who manage, run and work in living labs.

Respondents were then asked about evaluation processes or procedures employed to learn how users view their experience of being involved in their living lab (Figure 14).

In total, 73.2% of respondents answered that they did have some form of evaluation process in place, ranging from surveys to meetings or including both formal and informal processes, while 26.8% had no processes in place. This was perhaps a surprising result in that, more than other entities, living labs would be expected to ask their users about the experience given that the philosophy of living labs is all about engagement and evaluation.

**User experience**

For those respondents who did ask for feedback from users, the users’ feedback (Figure 15) was overwhelmingly positive or very positive (91.1%) with only 1.8% giving negative feedback.
The living labs were then asked if they would find it useful to have access to evaluation and research training to assist with evaluating user involvement (Figure 16). While a significant minority answered that they didn't know if they would find it useful to have such access, 58.9% answered that they would find it useful to access evaluation and research training to assist with evaluating user involvement and only 17.9% said that they didn't need access to such resources.

So, while (from earlier) 73.2% of respondents answered that they did have some kind of formal or informal evaluation process in place, a majority still would like access to support for evaluation and research training to assist with evaluating user involvement. This indicates that living lab respondents perhaps would benefit from techniques such as peer
benchmarking with other living labs or access to training resources in order to understand better the practical aspects of evaluation of users.

**Stakeholders**

The survey then asked if organisations including government, other public sector organisations (e.g. Local Council), universities, private sector organisations and the European Commission were involved in the delivery of their living lab (Figure 17). This question partly relates to the earlier question asking about the legal status of the living labs where around two-thirds answered that their living lab was governed by a public sector organisation of some kind, but the primary purpose for asking respondents this question was to learn about the degree of penetration of triple-helix partnerships in the stakeholder mix for living labs operational activities.

![Figure 17 - Stakeholder involvement](image)

The responses indicate that universities and private sector organisations are well embedded in the activities of living labs. The high value for ‘Other public sector organisations’ and the low value for ‘Government’ reflects the answers given earlier in relation to the question on the territorial specificity of the living labs, where almost two-thirds of living labs answered that they operated at a regional level while only 7.1% operated at a national level—perhaps more evidence that living labs are a phenomenon that operate more at a regional level, often with local councils. The significant impact by the European Commission in this question’s responses indicates that the living labs are to some extent ‘children of the commission’, for reasons discussed earlier, where the European Commission continues to support ‘transnational activities’ between European organisations who have already formed partnerships through R&D&I activities.

A significant minority (23.2%) answered that some other form of organisation was involved in the living lab activities and of this number a majority cited Non-Governmental Organisations (NGOs). Other answers included: “Festivals; film and music; artists”, “Third sector bodies”, “Voluntary sector” and “community members as volunteers and residents”.

The living labs were then asked (Table 7) to say, for their region, how committed they would say organisations including ‘Government, Other Public Sector Organisations, Universities, Private Sector Organisations, European Commission and Charities within their area’ were to the concept of living labs.
It was interesting to note that 33.9% of respondents reported Universities highest as ‘Very committed’ with the European Commission scoring second with 26.8%. About half of respondents said that most organisations were ‘Somewhat committed’. Charities were the exception to other organisations in this question, with the responses indicating that their engagement with living labs was somewhat lacking. This was an interesting finding as anecdotal experience lends support to the idea that charities are often ‘grass root’ organisations that may act as gateways to users in areas relating to, for example, health and social care, and therefore living labs could be expected to work hard to engage with such kinds of organisations. Aside from charities, a clear majority of the other organisations are reported as either very committed or somewhat committed to the concept of living labs in the respondents' areas.

In a closely related question (Table 8), the respondents were asked if their living lab had found it easy or difficult to develop relationships with ‘Government, Other Public Sector Organisations, Universities, Private Sector Organisations and European Commission’. It was interesting to note that 33.9% of respondents said that they had not tried to develop a relationship with the European Commission. This may indicate that while there is a significant number of living labs who use Commission support to fund their R&D&I activities and engage with end users, there is also a significant number of living labs who have no track record of support or engagement of any kind with the Commission.

It was also interesting, albeit perhaps not so unexpected, that 23.2% of respondents answered that they had not tried to develop relationships with government. This response reinforces the analysis that living labs are a regional phenomenon and many national governments (there are exceptions) are quite disconnected from living labs and do not have
well-developed policy frameworks relating to living labs, or indeed, arguably more broadly to support user or citizen participation.

A significant minority of respondents, ranging from a quarter to a third, said it was difficult to develop relationships across all the organisations. However, a clear majority answered that across all organisations, they found it easy to develop relationships. This confirms that living labs generally have relationships across the triple-helix mix of organisations and have found it easy to develop these relationships.

**Governance**

The main governance procedures associated with living labs were explored and 51.8% of respondents said that a management committee or board governed their living lab while 42.9% said that individuals governed their lab (Figure 18).

![Governance Chart]

**Figure 18 - Governance**

That most living labs who responded has considered governance and either formally put in place a board or acted as individuals to govern their lab was refreshing, indicating that some thought had been given to the longevity of living labs by those who manage them.

Respondents who answered that a board was in place to govern their living lab were then asked if end users were represented on their boards (Figure 19).
A slight majority (55.2%) of living labs that had a board in place did have end user representation on their boards while 44.8% did not. Again, this was refreshing showing that the ‘user-driven-ness’ of many living labs was being seriously contemplated and end users given formal roles in their governance.

**Strategic planning**

Living labs were asked (Figure 20) several questions relating to strategic planning for their development including about any strategic plans that they may have in place.

Only 12.5% of respondents indicated that they did not have any strategic plans for their living lab while 44.6% did have plans in place. A significant minority (42.9%) answered that they currently did not have one in place but were developing plans. The reason for a relatively small number of living labs having plans in place is perhaps a reflection of the immaturity of the living lab phenomenon with 274 living labs being formed since the first wave of labs were
announced less than five years previously in November 2006. The fact that over 40% of living labs are still managed by individuals perhaps explains that, while there is a desire to have plans in place, it is difficult for them to manage as individuals to put these successfully in place.

Those respondents who answered that they had a strategic plan in place were then asked (Figure 21) how often that plan had been reviewed. Just over half of these respondents (52%) said that the plan was reviewed more than twice, with 16% saying twice and 24% saying once. 8% said that their strategic plan had not been reviewed.

![](image1)

**Figure 21 - Strategic plan review**

Respondents who had a strategic plan in place were also asked if the strategic plan was time bound (Figure 22).
Five respondents (20%) said it was not time-bound, while the 20 remaining respondents with a strategic plan gave various time ranges for their plans, from a shelf life of less than one year (8%) through 1-3 years (48%) to 3-5 years (24%).

**Sustainability**

The survey asked respondents how sustainable they considered their living lab to be (Table 9). A clear majority of respondents (78.6%) believed their living lab to be sustainable in the short-term of 1-2 years. Over a medium time horizon of 2-5 years, this percentage fell to 57.1%. The fall can be attributed to growing uncertainty over time as the percentage of those who didn't know how sustainable their living lab would be over 2-5 years rose to 28.6% (from 5.4% not knowing about sustainability in the short term of 1-2 years).

**Table 9 - Sustainability**

<table>
<thead>
<tr>
<th>How sustainable is your living lab in the...?</th>
<th>Sustainable</th>
<th>Unsustainable</th>
<th>Don't know</th>
<th>Totals</th>
</tr>
</thead>
<tbody>
<tr>
<td>Short-term (1-2 years)</td>
<td>44 (78.6%)</td>
<td>9 (16.1%)</td>
<td>3 (5.4%)</td>
<td>56 (100%)</td>
</tr>
<tr>
<td>Medium-term (2-5 years)</td>
<td>32 (57.1%)</td>
<td>8 (14.3%)</td>
<td>16 (28.6%)</td>
<td>56 (100%)</td>
</tr>
<tr>
<td>Long-term (more than 5 years)</td>
<td>11 (19.6%)</td>
<td>2 (3.6%)</td>
<td>43 (78.8%)</td>
<td>56 (100%)</td>
</tr>
</tbody>
</table>

The response from living labs for the longer-term of more than 5 years was interesting. While the percentage that believed their living lab would be sustainable over this period was quite low at 19.6%, the percentage that believed that their lab would be unsustainable over the same period was remarkably low, at 3.6%. Over this longer-term period most people simply didn't know how sustainable their lab would be (76.8%). This increase in uncertainty over longer time periods may reflect the relatively precarious position of living labs, that while many are ‘children of the Commission’, their position is not underpinned by national legislation, their governance is a partnership of different interests and they are often regional actors with a regional remit and outlook.
The survey then asked the living labs what they believed were their top three challenges in the year to come. Many living labs provided the same three challenges but in all possible variations. These top challenges were, in descending order of priority: 1) funding; 2) getting more partners and end users (e.g., ‘Get more external customers outside the region’); and 3) expanding activities and embedding user-centric activities in partners (e.g., ‘Grow - to be able to manage more project in parallel’).

In terms of funding, it is interesting to note that most respondents spoke of funding as “project-based” while a minority used more business-related words like “develop business model”, “increase turnover”, “generate business”, “defining living lab’s products, commercialising the service”, “design of a transparent return on investment monitoring and dissemination” and “to increase the income by the end of the year”. This dichotomy on perspectives to funding reveals that some living labs are reliant on a per-project funding model while others seek sustainability with a revenue-generation model developed around their service offerings.

There were some specific comments relating to ENoLL, including: “ENoLL finally starts providing some services to their members”, “ENoLL includes living labs into Commission funded projects more consistently” and “ENoLL promotes specific LLabs in specific situations where funds are available”.

The remainder of the many comments about challenges were varied and some are included here: “be clear on our objectives (we have many different partners and projects)”, “Visibility and recognition”, “Sustainability”, “Define operational and governance structure”, “getting more public awareness”, “university acceptance”, “Get real commitment from the Region” and the endearing challenge to “Grow up”!

**Relating to other living labs**

In terms of their relationships with other living labs, respondents were asked with how many other living labs their living lab had connections (Figure 23). Just over half of respondents (51.8%) said that they had connections with four or more living labs with 26.8% saying that they had links with 1-3 living labs. The general degree of connectedness of living labs must be welcomed. However, It was revealing that 19.6% said that they had no connections with other living labs. On examination of the data, this group of living labs cited ‘communication’ as a challenge over the next year, and one of the living labs that had no connections with other living labs said that they worked with over 100,000 users.
In terms of how often living labs are in contact with other living labs, the responses (Figure 24) indicate that the most common frequency is quarterly (43.2%) with the remainder split between less frequently than that (20.5%) and more frequently with 29.5% saying at least monthly and 6.8% saying at least weekly.

Those living labs that had four or more connections with other living labs had generally more frequent contact with those living labs, indicating that membership of a network brought with it more frequent interactions as a matter of course, perhaps related to the common ‘network effect’.
Those living labs that were in contact with other labs were asked about the main benefit of having contact with other living labs and the overwhelming consensus response was for the benefit of “Sharing experiences and knowledge”, also voiced as “Learning from each other”, “knowledge exchange”, “benchmarking”, “sharing project preparation experience”, “Reciprocal legitimation, exchange of experience”, “Experience exchanges, adopting or discussing best practises, solution replication, discussing ideas, scenarios and solutions, partner involvement” and “We are also a member of the Living Labs in Southern Africa network (LLiSA) which affords us contact with other Living Labs in our region. Through them, we have learnt about best practices that can be used in implementing a successful LL”.

Financial support

The survey asked the respondents (Figure 25) if access to funding had been a problem for their living lab and 83.9% said that it was a problem, with 25% saying it was a minor problem and 58.9% saying that it was a major problem. The reason for the uncertainty in the longer time horizon of 3-5 years and beyond 5 years evident in the responses earlier is perhaps now revealed to be access to funding and therefore the key issue in the future for living labs will relate to sustainability.

**Figure 25 - Access to funding**

The living labs were asked a final question about their main sources of funding (Figure 26). The public sector accounted for 42.9% of funding sources, breaking down to 25% for government and 17.9% for other public sector organisations. Universities accounted for 14.3% of funding with private organisations contributing 10.7%. The European Commission accounted for 19.6% of funding, perhaps representing the support inherent in R&D&I activities from the instruments in the Framework 7 Programme (FP7) and the Competitiveness & Innovation Programme (CIP).
A small number (12.5%) of respondents said ‘Other’ as their main source of funding and several of these labs were actually private companies who used industry support and revenue to fund their activities. The remainder of those labs cited “Regional funding calls”, “European structural funds”, etc., as their funding sources.
Concluding Remarks

The findings from this first major survey of living labs have provided a ground truth of information about their structure, mode of operation, focus of vision and their fears and aspirations.

What is remarkable about the findings is the diversity of purpose and scope of the living labs surveyed. We find living labs to be alive and healthy in 2011, somewhat uncertain about the future but enthusiastic about the challenges ahead to be tackled.

Details of an academic publication discussing the research of this survey in detail and placing the results in context will be made available upon publication in 2012 through the TRAIL website and social media.