D7.1 – Living Lab Protocol
WP7 – Living Labs

27 July 2017

URBAN EUROPE

EXECUTIVE SUMMARY

[One page summary]

Version Log			
Issue Date	**Rev No.**	**Author**	**Change**
12-05-2017	0.2	GP	First draft including main structure and partial texts
19-05-2017	0.3	GP	Integrates comments and adjustments after JS and TM feedback
13-07-2017	0.6	GP, TM, TA	Partial restructuring and drafting of content. Amsterdam and Brussels paragraphs added. Two annexes included.
27-07-2017	1.0	GP	Completion of deliverable text draft; integrations of TM comments

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List of Abbreviations

Abbreviation	Description
WP	Work Package
RRI	Responsible Research and Innovation
LL	Living Lab

Partner Abb.	Description
VUB-IES	Vrije Universiteit Brussel – Institute for European Studies
BLP	Blue Planet AC
UU	Universiteit Utrecht
RES	Resourcefully
SVT	University of Bergen, Centre for the Study of the Sciences and the Humanities

1 Introduction

The PARENT Living Labs are meant to be an innovative instrument to ensure continuous participation of the stakeholders in the co-development of the PARENT platform and PARENT final recommendations. This brings Living Labs (LL) very close to a methodology for the collaborative construction, or co-design, of innovation through the involvement of users and stakeholders in real-life testing and deliberation. This protocol has the objective to outline elements of a common approach for the LL in PARENT cities (Amsterdam, Bergen, and Brussels).

The document identifies and defines the practical aspects that concern the organization and implementation of LL in the local contexts. This protocol relies on the works done in other areas of PARENT. In particular, it puts into practice the principles set forward about social acceptability (WP3), it elaborates further the considerations on the values and needs tied to gamification (WP4), and it directly relates to the developments of the pilots (WP6). Furthermore, it recognizes that differences in local conditions and relations will shape the approach taken. In the following sections, we aim to explain common considerations and steps necessary to launch and conducting the LL.

1.1 Overview of related and supporting documents

The following documents can be helpful for the preparation and organization of LL in PARENT. Content material present in these documents and relevant for the LL, will be reported and integrated into this deliverable for practical purposes:

- Deliverable 1.1 – *Mapping the stakeholders.* It includes an initial mapping of the main stakeholders identified for the cities hosting the pilots;
- Deliverable 3.2 – *Social Acceptability protocol for Living Labs*. It includes general considerations and practical annexes on how to organize LL in accordance with the main principles of RRI (Annex 1, D3.2) and how to lever on LL to foster and study social acceptability (Annex 3, D3.2);
- Deliverable 4.1 - *Qualitative appreciation of values, needs and preferences of stakeholders*. It elaborates general considerations on the complexity of designing for gamification while considering stakeholders' values and needs;
- Deliverable 6.1 - *Pilot Protocol*. It provides an overview for the developments of the pilots and their road-map.

1.2 Pursuing convergence through the protocol

This protocol provides guidance for what concerns: who should participate to the Living Labs; how to conduct the Living Lab meetings, and how to manage the overall process. However, the paramount aspects which this protocol aims to convergence on and make as uniform as possible among the three cities are:

- **Timing** (running the meetings and reporting on them): to ensure a good fit between the pilot developments and the LL in the three cities as well as a timely circulation of

the knowledge generated by these meetings among the other PARENT partners and cities;

- **Content**: to ensure that, despite local differences in the three cities, a set of common topics are addressed in all three cities through the Living Labs;
- **Reporting**: to ensure that the knowledge generated and gathered through the Living Labs can be assimilated and compared as homogeneously as possible.

2   Considerations on Living Labs

2.1   Principles and foundations

According to PARENT's description of work: *Living Labs are meant to be an innovative* ***instrument to ensure continuous participation of the stakeholders*** *and of* ***seeking their views*** *in developing both the PARENT prototype (WP5) and PARENT final recommendations (WP9).* According to the guidelines laid out in D3.2, LL will pursue their scope with social acceptability principles at their foundations. In brief, they shall:

- relate to real-life and concrete experimentations;
- involve a diverse set of stakeholders;
- empower stakeholders with regards to the experimentation;
- focus their interest on real, concrete and situated concerns.

In practical terms, Living Labs are comprised by a stable pool of participant stakeholders, engaged and recruited locally in the three cities, to monitor and provide feedback on the main cornerstones of PARENT platform and pilots. The pool of local stakeholders is identified and built by responsible PARENT partners in Amsterdam, Bergen, and Brussels. Annex 1 of Deliverable 3.2, outlines a series of guidelines for the organization and implementation of LL following the above principles.

Core scope of the LL in each city will be the execution of three workshops. These will overlap the main phases of the pilots: beginning, central stage, and ending (as simplified in Figure 1 below). These events will be occasions for addressing topics such as privacy concerns, acceptance, intrusiveness, sustainability, features relevance and other ethical or societal issues that relate to the PARENT platform.

2.2   LL and relation to PARENT platform and pilots

As "Living Labs" and "Pilots" are often mentioned together, but relate to two different ensembles which interact with PARENT platform at different levels, we provide here a small clarification.

Pilots refer to the testing of PARENT platform which is planned in two stages and through the recruitment of actual households as end-users. Participants to the pilots (i.e. households) will receive a sub-metering device and basic platform functionality (Stage 1). Later, a variety of community building activities and engagement techniques, including gamification and technology add-ons will be included. Pilot participants will be encouraged

to use and interact with these (Stage 2). Modes of recruitment and interactions with participant households are defined in PARENT D6.1.

Living Labs act similarly to a steering committee or an advisory board for the platform, its development and its usage in the Pilots. They are constituted by actors, also referred to as *stakeholders*, which know the local contexts where pilots will take place and are knowledgeable about energy, in the broad sense. Participants to LL and Pilots can (partly) overlap, but they are not, in their entirety, the same group of participants. Furthermore, while LL will convene three times at different points in time of the Platform and Pilot development, the Pilots will run continuously and permanently until their planned closure.
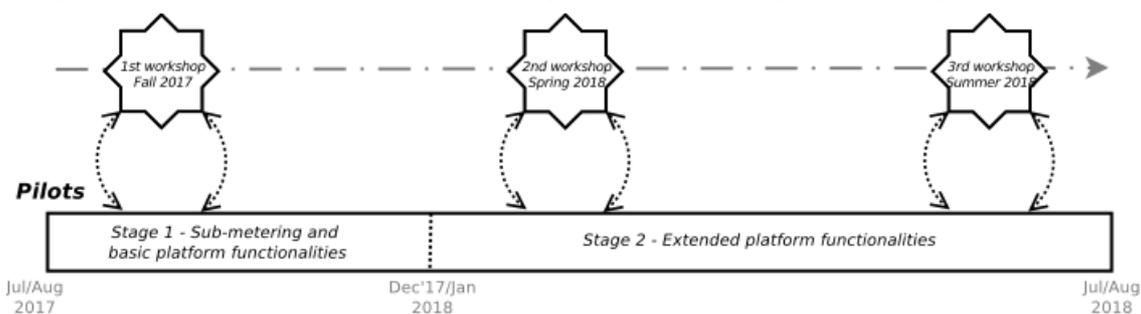

Figure 1 Simple overview of relationship between Living Labs and Pilots in PARENT.

LL will also *support* outreach, engagement and awareness activities in PARENT, by facilitating, for instance, recruitment of participant households in pilots, circulation of newsletters or project news and results. PARENT adopts a general and unified approach to LL in the three cities of Amsterdam, Bergen and Brussels, meaning that it provides general guidelines on the preparation, execution and composition of LL. However, given the nature of this approach which is highly situated in local contexts, the specificities of LL (*e.g.* typology of stakeholders participating in LL; concrete topics to be addressed in workshop; details of the format for workshop) will be handled by PARENT partners located in the given cities.

3 Living Labs

3.1 Timing

Each city hosting a pilot in PARENT will run three LL meetings. These meetings will happen close to pivotal moments of PARENT pilot and platform developments, as it is exemplified in the following Table.

Tier	Period	Connection to pilot and platform
1st LL Meeting	Sep/Oct 2017	Opening of pilot – Platform in Stage 1
2nd LL Meeting	Feb/Mar 2018	Release of enhanced functionalities – Platform in Stage 2

| 3rd LL Meeting | Aug/Sep 2018 | Closing of pilot (Platform in Stage 2) |

Table 1 Indicative time-line for the execution of Living Labs.

Interim reports for each LL meeting tier will be produced and assembled in the respective LL report deliverable (D7.2-4). Annex 2 (D7.1) – *Living Lab reporting template* provides a tool for the creation of the interim reports.

In support of the creation of the final evaluation report (D7.5), interim reports for the last meeting tier will assess the overall experience of the Living Labs with the use of Annex 2 (D3.1) – *Checklist for Social Acceptability of Living Labs.*

Contents and scope tackled by the LL meetings is clarified in the next sections.

3.2   Scope and content of meetings

The content presented in Table 2 supports PARENT partners in identifying suitable topics in connection to the composition of their own LL and the specificities of their Pilots. For what concerns "the examples of topics and scope of inquiry", the table it is not intended to be exhaustive, but rather suggestive of the knowledge directions to pursue[1].

Level of discussion	Description	Examples of topics and scope of inquiry
Platform: features and gamification	This level discusses and inquires the (online and offline) features of the platform as designed to **support reduction of energy consumption**. It tries to understand what are the platform's potential impacts on the user base and how can these be improved. This level does not necessarily limit to the platform as tested in the pilots, but it can extend to tackle further visioning, exploitation and scalability aspects.	*Social acceptability* • How do participants perceive and evaluate the gamified features? • How does the 'message' conveyed by the gamified features (e.g. competition, collaboration) relate to energy behaviors improvements? *Ethical aspects* • Do the platform features support the pursuit of energy targets that are considered important by stakeholders? How? *Legal aspects* • How is privacy protected by the platform internal design? • How do participants perceive and evaluate privacy as protected by the platform? *General* • How can a similar platform be made sustainable in the local context? • …

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[1] Annex 3 of Deliverable 3.2 includes more suggestions for possible questions and it can be used as a toolbox which additional questions can be retrieved from.

Pilot: engagement and social dynamics	This level focuses on the pilot as **an engagement process for the use and testing of the platform**. It discusses the social dynamics and interactions connected to pilot participants and it tries to tackle emerging problems (e.g. lack of answers to data gathering or of participation to events), to understand strengths and to improve upon weaknesses.	*Social acceptability* • How can participants' engagement be sustained or improved over time? • What kind of expectations emerged from participants (with regards to the pilot experience in general) and how can PARENT act to mitigate or satisfy them? *Ethical aspects* • In terms of inclusion and exclusion of participants, what considerations can be drawn with regards to the Pilot experience (e.g. limitations, strength, discontent…)? *Legal aspects* *General* • What kind of (technical or non-technical) problems did participants encounter with regards to the pilot experience? How were these problems solved or how can they be avoided in future? • …
Energy in local contexts	This level discusses **energy as a locally situated matter**. It tries to understand the specificities that configure energy (and energy-related issues) differently in each city.	• What are the main concerns perceived by citizens and by energy stakeholders in terms of electric energy? • In terms of energy culture, awareness and attitudes, what can be said about the local context? • Are there strategies, policies or clear trends that pursue citizen engagement for the fulfilment of energy (or environmental) targets? How do they compare to PARENT and what can PARENT learn from these? • Are there cases of 'smart services/platforms' available in the local context? If yes, what kind? What are their goals and how do they differ or replicate PARENT platform? • …

Table 2 Scheme of possible topics and levels of discussion for the LL meetings.

3.3   Implementing Living Labs in practice

This section includes practical indications for the preparation and running of Living Labs, at their general process level and in their three meetings.

Each of the three cities will use and adapt these indications as they fit best the local conditions.

3.3.1   Identify relevant stakeholders for LL

LL starts with the **identification of and engagement with** relevant local stakeholders. Examples of possible local stakeholders who can be identified locally and invited for LL are:

• Institutions (*e.g.* local municipalities, energy agencies, data protection agencies);

- Energy market actors (e.g. local DSOs, local retailers, SMEs for renewable technologies);
- Non-governmental organizations working in the energy/environment sector;
- Consumer associations that operate in connection to energy and energy market;
- Consumer groups or organizations.

A first set of stakeholders to include in LL are included in PARENT Deliverable 1.1. As the project evolves and new relationships are formed in the local context, it is also possible to include additional stakeholders. Moreover, it is relevant that representatives or selected participants from the PARENT pilots participate to the LL workshops.

3.3.2   Invite stakeholders in joining LL

Invitations to stakeholders for **joining LL** should be made by partners responsible for the LL. The invitation to join should clarify and be transparent about:

- The type of **expected contribution and effort** requested of the stakeholders:
    o Participation to the three workshops is the main and minimum effort expected when joining PARENT LL;
    o Other valuable contribution that stakeholders can provide relate to: recruiting participant households for the pilot; disseminating news or other material from the project; refining the final project assessment.
- The **potential benefits and the added value** for stakeholders to join the LL (some examples used in Bergen invitation):
    o It grants them with first-hand knowledge about topics that can be relevant for each stakeholder – from user experiences on technological platforms for energy management, to concerns connected to their broader social acceptability;
    o It represents a valuable opportunity to network with other local and international stakeholders that have interests in the topic of smart metering technologies and the services thereby enabled;
    o It gives the opportunity to stay updated and informed about the developments of PARENT projects throughout its whole period of activity;
    o It gives visibility to each stakeholder about their involvement on value sensitive topics such as the social acceptability of new emergent technologies for home energy management;
    o It allows each stakeholder to develop experiences in the collaborative environment of an international project with a strong local and national focus.
- Improve the mechanics, logistics and practical aspects of the workshops:
    o What will be the general purpose of the workshops?
    o When (approximately) will the workshop take place?
    o Where will they take place?
    o Who will take part?

3.3.3   Formalize composition of LL

In order to provide legitimacy and recognition to stakeholders' contribution to LL, publicly advertise the existence of such LL and their composition. For instance, update flyers to include info about LL; include information in PARENT website's pilot page, publish a news item in institutional web-page or dissemination channels.

Note: clarify, individually with each stakeholder, whether they participate in LL as individuals or they represent their institutions; whether or not they can/want to be publicly acknowledged; whether or not you can/should use their logos.

3.3.4   Organizing and running

A few practical considerations shall also be kept in mind for the actual execution of the meetings

- To allow stakeholders participating in the meeting more easily, exact dates for the meetings shall be decided as early as possible and invitations sent well before those dates. For instance a preliminary 'save the date' announcement can be circulated 3-4 weeks before the meeting, and a reminder (which should include more details on the event) 2-3 days before the meeting
- For the actual execution of the meeting it is important that the facilitators/organizers also decide in advance the reporting procedure for the meeting (e.g. will the meeting be audio recorded? Is one recorder enough or two are necessary? Who does note-taking (if necessary)? Is an extra informed consent necessary?)
- Dedicated material for the meeting might be adequate to facilitate the discussions and coordinate the activities of the meeting. In this case, it is important to prepare this material in advance and decide which ones can (or should) be circulated prior to the meeting (e.g. detailed agenda; project reports summary) and which ones should be available to the participants during the meeting (e.g. presentation handouts, platform architecture's sketches, papers, post-its).
- Venue preparation is another important aspect that should be considered before the meetings. Can the location accommodate the expected number of participants? Are there enough chairs or tables? Is the organization of space adequate for the intended type of meeting (shall people move around to collaborate? Will they discuss in groups or in plenary?)

4   Considerations on Living Labs and local conditions

The execution and comparison of Living Labs in three European cities is of great added value to the project. As also clarified in D6.1, the direct engagement with the local substrate and conditions of the three cities allows PARENT to gather direct and situated knowledge that comes from real-life testing and conditions. This calls for a flexible approach that is flexible in adapting to such local conditions – as much as possible. The pilot and living lab protocols

(D6.1, D7.1) together with their related reports (D6.2-5 and D7.2-4) will allow to produce a final evaluation report (D7.5) that reflects on similarities and differences.

Hereby, we highlight the distinctive trait of each Living Lab in its respective city.

4.1   Amsterdam

In the municipality of Amsterdam, the PARENT Living Lab is located in a centre of sustainability where various projects regarding sustainable local energy are implemented. The Amsterdam living lab is named: 'Amsterdam City Energy Lab' with the following aims:

1. The 'Amsterdam City Energy Lab' is supporting and co-developing innovative products for a transition to a sustainable energy system in the city in the broadest sense;
2. 'Amsterdam City Energy Lab' realises its objectives by realising and demonstrating smart solutions for energy generation, storage and use in an urban environment. Activities relate to real energy flow management through Energy Management Systems (EMS), supported by modelling and forecasting of all production, consumption, storage or demand side management.

In the 'Amsterdam City Energy Lab' various projects regarding renewable energy generation and optimisation, energy storage, energy autonomy, grid optimisation, are taking place, all focussing at realising the required CO_2 emission reduction in the city.
In PARENT the 'Amsterdam City Energy Lab' is the centre of information for the established Prosumer community, here the technology is stored, the first installations take place here and information sessions with the prosumers are coordinated and held here or in the neighbourhood.

'Amsterdam City Energy Lab functions as an advisory board for the project developments, a heterogeneous group of local energy stakeholders are receiving information about PARENT developments and can provide their feedback and expertise on the project topics developed in this pilot. Local energy stakeholders participating represent various types of entities: the municipality, individual prosumer participants, the grid operator, NGOs, SMEs, and consumer associations. Practically, the Amsterdam City Energy Lab has a central place in the Amsterdam PARENT prosumer pilot.

4.2   Bergen

In the city of Bergen, the Living Lab is conceived in a similar way to a steering group or an advisory board, where a heterogeneous pool of energy local stakeholders will receive information about PARENT developments and provide their feedback and expertise on the identified topics. Local energy stakeholders represent different types of entities: municipality, grid operator, NGOs, SMEs, and consumer associations. Practically the Living Lab will take the shape of three half-day round-table meetings.

4.3   Brussels

Similar to Bergen, the Living Lab in Brussels is a steering group or an advisory board. Invitations will be sent to local energy stakeholders, including the grid operator, energy/environmental services of the region of Brussels, energy/environmental services of

the participating municipalities of Forest and Watermael-Boitsfort and citizen/consumer groups in the participating municipalities. A select number of pilot participants will also be included in the Living Lab. The aim of the Living Lab is to (a) raise awareness of the project and possible synergies between stakeholders and (b) evaluate the pilot platform and activities. It will take the shape of three half-day round-table meetings.

5   Conclusions

This deliverable provides practical guidance for the organization and implementation of Living Labs in the three cities of PARENT: Amsterdam, Bergen, and Brussels. Main goal of the protocol is to promote convergence among these cities about the timing, content, and reports of the LLs, while allowing enough flexibility to tailor the LL meetings to the local conditions.

The protocol identifies the three periods for the three meetings and it provides a frame for organizing their contents scope. These revolve around three levels (platform; pilot; energy) and four topics (social acceptability; ethical aspects; legal aspects; general aspects). A reporting template has been also produced for usage after each LL meeting.

More generally, the protocol clarifies the relationships between the activity of the LL and the Pilots and make practical suggestions on how to identify and engage the relevant stakeholders and prepare the actual meetings.

Annex 1 – Informed consent for LL

The following informed consent form might be useful for the collection of data during the Living Lab meetings for instance, by means of video or audio recordings and pictures. If the participants of the Living Lab are also enrolled in the pilot (and therefore have already signed an informed consent), this might not be required. However, Living Labs might include participants that exceed beyond the recruited sample of the pilot. In this case, the informed consent might be used.

The form needs to be tailored for the specific conditions where appropriate.

Consent Form – PARENT Living Lab

Release of the informed consent for the participation and use of data in "<CITY> Living Lab meeting" of the PARENT project[2]

I, the undersigned, _____, confirm that I have been informed about the general purpose and methodology of the PARENT project and, in particular, of the "Living Lab meetings".

With regards to this "*<CITY>* Living Lab meeting" held at *<place>*, on the *<date>*, I understand that:

- The meeting will be recorded by means of *<audio/video/digital recording>*;

- PARENT researchers will take notes about the developments and contents of the meeting;

- Data (*i.e.* notes and *<audio/video/digital recording>*) generated during the meeting will be stored and processed for the purposes of the research only, and will not be shared with third parties outside the PARENT consortium;

- Outcomes of these meetings might be integrated within the material produced by the project and in this case my anonymity will be preserved.

I am aware that *<PARENT Partner>* is controller for the data generated during the meeting. Contact person for the unit is/are *<Full contact details of at least one>*. I am aware that I am free to reach this contact in the case of questions relating to the use of data and about any queries relating to my participation in the PARENT project.

With regards to all the above, I agree to participate to the "Living Lab meeting" and consent to the use of the data.

_____   _____   _____
Name of participant   Place, date   Signature
(or legal representative)

_____   _____   _____
Name of person taking consent   Place, date   Signature
(recipient)

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2   PARENT grant agreement number 646453: http://jpi-urbaneurope.eu/project/parent/

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Annex 2 – Living Lab reporting template

Each iteration of the Living Lab meetings in the three cities will produce a dedicated report deliverable (D7.2 – Report 1 from Living Labs; D7.3 - Report 2 from Living Labs; D7.4 – Report 3 from Living Labs). These reports shall include insights coming from all three cities. To ease and support homogeneous levels of reporting, the following annex provides guidance for producing internal reports that will build up the core blocks of each deliverable.

Each partner leading activities of Living Labs in their respective city, should use this template to deliver their LL meeting report to SVT within one month of execution of the Living Lab meeting.

<CITY> Living **Lab** Report

Report author(s): <name, affiliation>

Report from the Living Lab meeting series in <CITY>

Check-box	Description	Meeting Date	Report Date
.	1st Living Lab meeting		
.	2nd Living Lab meeting		
.	3rd Living Lab meeting*		

* For the interim report of this meeting also include answers to Annex 2 (D3.2) – *Checklist for Social Acceptability of Living Labs* as attachment.

Overview

<Please provide a brief overview – 3/400 words - of this LL meeting. Similar to an executive summary this overview shall give information about the main outcomes and execution of the meeting. (What were the main take-away insights that emerged out of the meeting? Is there anything noteworthy about managing the relationships/running the meeting with participants/stakeholders? ...>

Factual information

Why it was run	*Provide a few sentences clarifying what were the main expectations behind running these meeting (What did you hope to get/know out of it?)*
When it took place	*Date and time of the LL meeting*
Where it took place	*What type of venue was used for the meeting? What kind of room arrangement was there?*
How it was run	*Provide a brief description of how the meeting was conducted (workshop, focus group...) and what the role of PARENT partners was in conducting this meeting*
Who participated	*Provide an overview of participants (number, type, age, gender)*

What level of discussion it addressed (see D7.1)	*Tick the appropriate boxes (more than one possible)* ☐ - Platform: technical features ☐ - Pilot: engagement and social dynamics ☐ - Energy in local contexts ☐ - Other: _____ ☐ - Other: _____
What topics it addressed (see D7.1)	*Tick the appropriate boxes (more than one possible)* ☐ - Social acceptability ☐ - Ethical aspects ☐ - Legal aspect ☐ - Other: _____ ☐ - Other: _____
Comments	*If any, add your comments about the execution of the Living Lab meeting (e.g. notes/ideas for other partners for their own meetings; or reminders for the forthcoming meetings)*

Detailed summary

<Please provide a detailed summary of the meeting, by focusing on the following points>

The general dynamic of the meeting

<Please provide an overview of the meeting and how it unfolded: what were the activities/agenda? How were the interactions among participants?>

The most interesting findings for PARENT

<Please detail the most interesting findings. E.g. the ones confirming/supporting our work, the ones criticizing it; the unexpected suggestions or insights coming from participants>

The issues or themes where participants agreed/converge upon

<Please detail those issues, if any, where participants had relatively homogeneous and converging views>

The issues or themes where participants diverged/disagreed upon

<Please detail those issues, if any, where participants had relatively heterogeneous and contrasting views>

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