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**Abstract:**

This document consists of a report covering the lifecycle of the work developed around the organisation of several Innovation Workshops along the duration of the CLINES project. There were three Innovation Workshops planned ahead, and the CLINES consortium has eventually managed to deliver five Innovation Workshop events.

The present deliverable will cover the motivation of this task, the materials and knowledge applied, the developed methodologies to be deployed during the Workshops, the topics covered as drivers for the innovation problem solving accomplished, the main outcomes of each of the instalments and the final conclusions.

**Keyword list:** Innovation Methodology, Workshop, Smart City Challenge, Networking

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# 1 **Executive Summary**

This document consists in a report covering the lifecycle of the work developed around the organisation of several Innovation Workshops along the duration of the CLINES project. There were three Innovation Workshops planned ahead, and the CLINES consortium has finally managed to deliver five Innovation Workshop events.

The present deliverable will cover the motivation of this task, the materials and knowledge applied, the developed methodologies to be deployed during the Workshops, the topics covered as drivers for the innovation problem solving accomplished, the main outcomes of each of the instalments and the final conclusions.

## 2 Introduction

This deliverable is intended to provide a thorough report on all the work developed around tasks T3.2 and T3.3 described within WP3, and around the final goal of organizing several CLINES Innovation Workshops during the project lifecycle.

The idea behind these joint innovation workshops is bringing together a variety of stakeholders from regional and international levels and both focusing on innovation of embedded systems technology and also on innovative applications within selected resource efficiency areas, with the focus on Smart City issues or challenges.

As from the Description of Work: “There will be three workshops, where the outcome of the partnership will increase the coordination of transregional innovation investments in key enabling technologies and ensure an efficient development, exploitation and dissemination of the ICT applications, models, methods, and solutions across all the regions.”

With this goal in mind, the CLINES consortium needed to plan how to accomplish the organization of the Innovation Workshops, but without diminishing other derived and relevant objectives like the following:

- Come up with an attractive event so as to enjoy variety of interested participant companies
- Cover the intersection of some of these topics:
  - Smart City application domain
  - Embedded Systems technology as enabler
  - Foster transregional networking to facilitate the creation of business opportunities
  - Disseminate successful cases and showcase open innovation practices
  - Focus on participants: what they bring, what they show, what they learn and put into practice

It is clear that the challenges of this task are not simple, and that a slight failure on some of these factors can put into risk the implementation of the workshop itself. So, the CLINES consortium agreed to start small and simple and try to grow more complex and comprehensive with time and experience. This was the approach when thinking about which objectives to be covered during the first Innovation Workshop, when CLINES had almost triggered its first steps and results.

For this first instalment of the Innovation Workshops, we did not have in mind an Open Innovation Methodology yet, not a full view on how open innovation could be applied in such kind of event either. So, we decided to start with the organization of an Innovation Workshop, focused on company networking, CLINES ambitions introduction and a showcase of innovative ideas involving Smart City applications and embedded technologies.

From the first CLINES Innovation Workshop, and the valuable feedback from the participants, we tried to come up with lessons learnt that allowed us to state the basics of how the format of a CLINES Innovation Workshop would look like. This way, we developed a methodology for the following two editions of the workshops, based on Open Innovation and trying to cover the side objectives already described.

By the time we had developed three Innovation Workshops, the last two following the same process and methodology, we realized we could even accomplish one more effort in the direction of completeness: develop an alternative format and method for the event, in such a way that we could then compare both and extract some outcomes from the experience.

Of course, there is neither one unique, nor two good/optimal methodologie(s) to be used in such type of workshop, so that we would consider our work complete; but this way we understood that several methods based on renowned open innovation techniques could guide our process with companies so as to extract good conclusions and feelings about the results obtained. There is the sense of practice and experience with

different group dynamic techniques with the participants, that make us think that a change was required and we believe the test and implementation of it came in hand for the completion of the whole task.

As a briefing, it could be stated that the objectives of the CLINES innovation workshop series was to create ideas and rapid prototypes, guided through Open Innovation processes, for Smart City innovations utilizing embedded systems technology that have the potential of being developed into innovative applications capable of meeting pressing societal challenges and create new growth opportunities in sustainable manners. Furthermore, the workshops brought together key stakeholders from regional and international levels in each of the regions represented by the project.

### 3 Defining the approach towards the CLINES Innovation Workshop

As introduced, by the time CLINES started organising its first Innovation Workshop, it was about month 4-5 of the project. Up to that point in time partners' work had been focused on the identification of strengths and complementarities among the participating regions (SWOT analysis), so we did not have a clear idea yet on Innovation Methodologies or how to apply them for a stable version of the CLINES workshop format.

One of the first decisions agreed upon for this task was to rotate the workshop location among the participating regions, looking for a regional distribution of the upcoming events. This way, each of the instalments would be mainly oriented to a specific region (the hosting one) but we would always claim and facilitate for participants traveling from the rest of countries represented in the project through the work of the clusters and dissemination among their members and associates.

It was important to trigger the series of Innovation Workshops in a way that allowed us to grow a bigger and more complex format in two relevant directions for the project: (i) the innovation methodologies and (ii) the creation of business opportunities. The CLINES consortium was aware that these two objectives were not at hand in such an early state of the project, and so it was decided that this first Innovation Workshop was going to be mainly focused on the following groundwork goals:

- **Networking:** we believe that a key attraction for the targeted audience is the opportunity to make business connections with peer companies, both in their same sector or region, and mostly in a different domain or country. Companies, and especially SMEs, do not enjoy many occasions to perform networking actions by themselves, or they would need to spend part of budget doing so. That is a good reason why networking should be a relevant claim for them to participate in this kind of event
- **Showcase of technologies for the Smart City:** one of the insights shared by the CLINES consortium is that many companies work on products or solutions, the technology of which could be applied to a Smart City application in a smooth transition, but they are not able to see the link or the way of performing such a transition/expansion without a clear opportunity or business analysis. So, the idea behind this goal for the first CLINES Innovation Workshop was to bring different success stories where an Embedded Technology based idea would become an application for the Smart City materialised by a company. These kind of presentation would trigger technical or business discussions among participants, favouring also their networking
- **CLINES ambitions dissemination:** this was going to be the first physical event organised by the CLINES project, and so it was important for the completion of our project objectives to disseminate what the most relevant achievement of the CLINES project would be at the end of its lifetime, which tools we had in mind to accomplish that task, also claiming for the feedback and collaboration of stakeholders (the workshop participants among others) in the way

The approach to be followed from here towards the upcoming Innovation Workshops could have been summarised within this motto: *“Let us try the organisation of an Innovation-driven event, where the*

*participants' feedback will help us develop on a more elaborated format and hands-on innovation Workshop format for the following editions along the project lifetime".*

This approach would also gain us some time and experience to work on the development of an Open Innovation methodology for the stable version of the CLINES workshop (process described in the following sections of this report).

## 4 Methodology development

During the evolution of the CLINES strategy towards defining a comprehensive view on the Open Innovation paradigm, it was not clear to the consortium which was the correct (or even the one) methodology to follow along the project duration. With the overall goal of defining a methodology that could support the successive workshop editions, we found out that several available techniques would fit our objectives and expectations. Furthermore, we wanted to establish a valuable link between the development of the Innovation Workshops and the CLINES associated task of defining a framework based on Open Innovation for the participating regions.

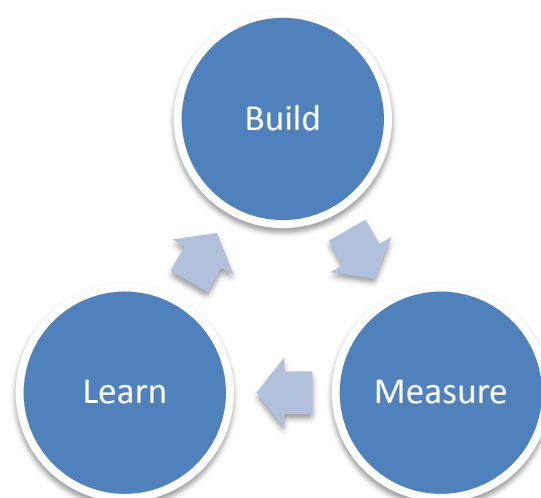
Provided this was our environment, we first started working under the paradigm of the Lean Methodology (described in section 4.1) and developed what we called CLINES Workshop format #1. Along this path, we were able to deploy two Innovation Workshop editions according to format #1, and collect valuable feedback to redefine and reshape this first methodology approach.

After some experience working with this kind of Innovation based events, we decided to extend our work and outcomes, by developing a second methodology that would give form to the CLINES Workshop format #2. This way we reinforced our compromise on exploring several Open Innovation approaches and were able to test and compare obtained results through the fourth and fifth editions of the workshops.

### 4.1 Methodology for Workshop format #1

The CLINES generic workshop was developed based on several well-known methods and methodologies for such endeavour.

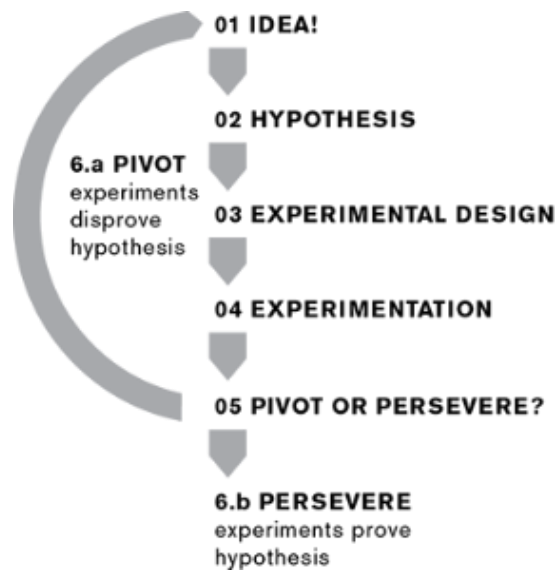
The Lean Methodology (Blank, 2005) (Ries, 2011) was used as an outset to develop the generic workshop format (see figure 2).



*Figure 1: The Lean Methodology in brief*



As such, the researchers build a prototype of the generic workshop and tested it on a select group. The result of the test was measured using qualitative methods (semi-structured interviews) to learn whether the selected format should be pivoted or persevered. This process can be divided into more detailed step (see figure 3).



*Figure 2: Detailed Lean Methodology*

In total, this “learning loop” consisted of three different events; a pre-workshop in Aalborg in September 2014, an Innovation Workshop in Aalborg in June 2015 and another Innovation Workshop in Munich in October 2015; each experiment had several learning points to which the research team changed some elements of the working “workshop” prototype (see figure 4).



*Figure 3: Learning loop of the generic workshop format for clines*

The final generic workshop format is designed to be very flexible, as it can be done in either one or two “tracks”, called the *Unlimited Knowledge Application* and *Business Model Screenplays*. What separates these tracks are the innovative methods and methodologies used (these will be described in the following). Furthermore, each track can be focusing on the same or different innovation challenges within the CLINES focus areas, i.e. Smart Living, Smart Mobility and/or Smart Environment.

#### **4.1.1 The Workshop format #1 in detail**

The generic format for the CLINES innovation workshops follows these 8 steps:

1. Introduction and Smart Networking
2. Creativity phase and challenge presentation (see guidelines)
3. Brainstorming (focusing in on the challenge)
4. Stakeholder analysis
5. Value Proposition analysis
6. Rapid prototyping (using different methods);
  - a. Product Box/Poster Drawing
  - b. Storyboards/Screenplays
7. Pitching/presentations
8. Knowledge sharing

This is visualized in figure 5.

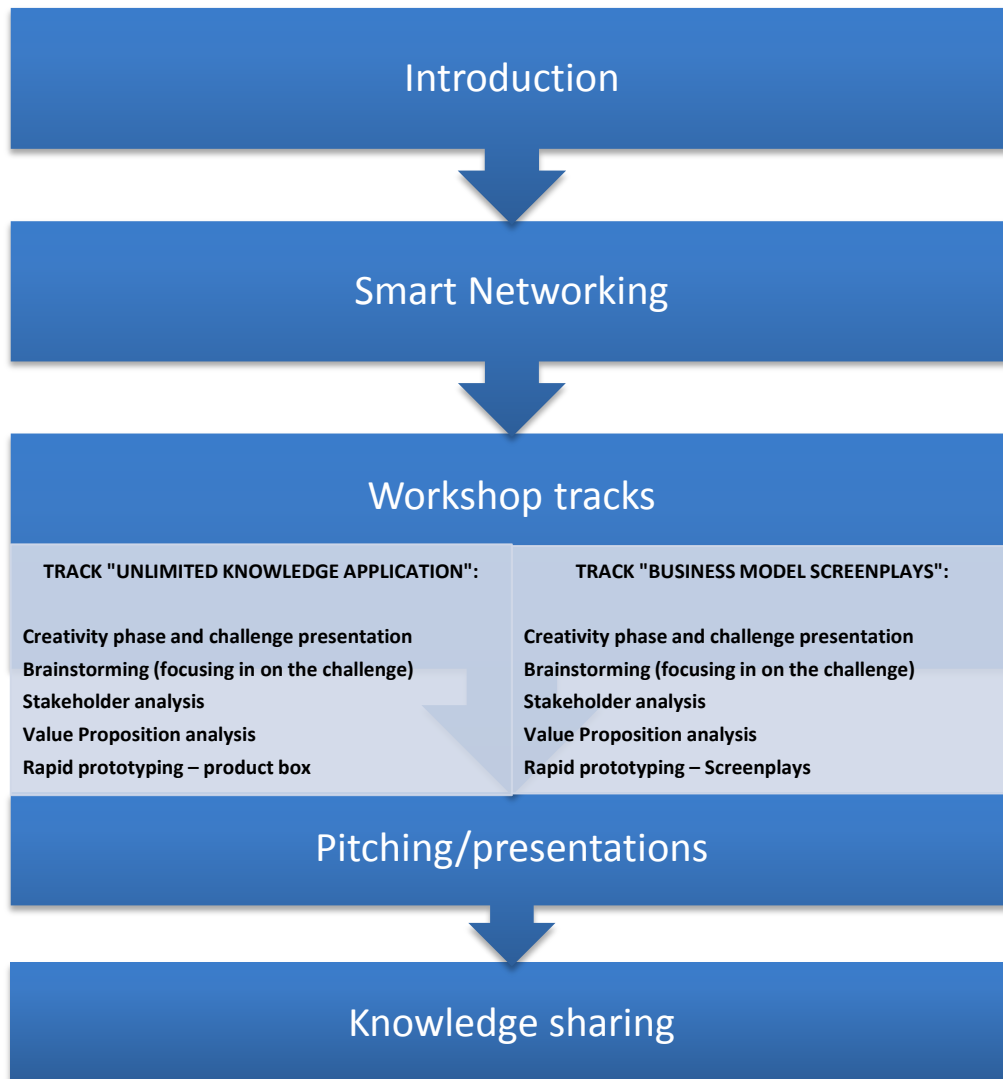


Figure 4: The structure of the clines innovation workshops

Time	What	Format/tool	Objective (purpose of this step)	Who
	<p><b>Introduction:</b> Open the workshop with a short welcome.</p> <p>Present the CLINES project briefly (5 min. max), why are we here, present the challenge-owners and the facilitators etc.</p>	Presentation	To make a common understanding between the participants and matching of expectations	The workshop moderator
	<p><b>Smart Networking:</b> People are put into small groups and discuss the following themes: a) What is your perception of the Smart City concept and the impact on society? b) What is your experience</p>	The creative platform methodology	<p>A smart way to get people to talk together with people they do not know about workshop related topics. We use methods from the creative platform.</p> <p>We make them form 3-persons groups with people they do not</p>	The workshop moderator or the facilitators

	with Smart Cities from your professional (or private) life? c) How to do expect to contribute today?		know beforehand.  All groups do the same think in parallel and they all only have one task focus.  Because everyone is doing the same thing in parallel, there is no experienced judgment.  The questions are designed so that people make use of all knowledge available.	
	<i>After this exercise, the facilitators present the workshop format and split participants into the two different workshop tracks</i>	-	We want to get started with the workshop challenges as soon as possible, with the most energy and with minimal friction	The workshop facilitators
	<b>Workshop track A and/or B – see the individual descriptions below</b>			The workshop facilitators
	<b>Pitching/presentations</b>  Everyone is gathered in the biggest room and we see the videos that have been produced as well as hear product box pitches in plenum.			
	<b>Knowledge sharing</b> Between each presentation, we give the participants 30 seconds to write down ideas on they with their professional competence/company/ organization can contribute to a business model for the presented concept	<b>Open Space Technology</b>	We want the participants to start forming small consortiums in the end of the workshop and start networking  We ask the participants to go to the concept they felt most drawn by during the presentation and tell what it is they can contribute with to make it even stronger and successful	The workshop facilitators

Figure 5: The structure of the CLINES innovation workshops guide

#### 4.1.2 Purpose and methodology of the workshop track “Business Model Screenplays”

The workshop is structured around narrative filmmaking (McClellan 2007), where the business model narratives are transformed into structured storytelling in a movie. The researchers have tried this workshop the first time at Business Model Buzz 2013 and the method was then improved and tested again in the following Business Model Buzz 2014 workshop.

The workshop is built to stimulate the process of using story telling as a tool in communicating a business model structure – focusing on how the company delivers value (to the relevant stakeholders), and what it takes the company to deliver this value proposition. The narrative in a structured storytelling process therefore becomes an effective tool in communicating a business model structure.

#### **4.1.2.1 Business Models as stories**

In order to start working with clarifying the business model of a company or an organization, one can start off by asking a series of questions that can help to map out the specifics of a business model. These questions can be applied regardless of which business model framework one chooses for structuring and visualizing the business model during the process.

(Osterwalder & Pigneur, 2010) propose a set of questions – based in their nine building blocks – from which companies can seek inspiration to analyse, design or innovate their business models. These questions do not lead to a story by themselves. As such, we need to combine the structure of (Denning, 2004) with these business model development questions. This would mean giving the business model design questions a context from which to work.

The workshop use the Osterwalders Business Model Canvas to create the narrative, and combine this with the storytelling approach, creating a business model narrative that focus on the key value proposition asking; could we find new customer segments, and how could we demonstrate the value in their perspective. Stories are seemingly simple but actually complex structures that exist all around us. Basically, it is a linguistic expression and a cultural tradition developed over thousands of years. We all know what stories are, as they are universal and have been an inevitable part of human culture and evolution. “The universality of narrative is further testimony to its being an ancient cognitive phenomenon. Literate or not, all known cultures, past and present, practice storytelling” (Sugiyama, 2001).

Stories contains structural features, where most definitions of narrative and stories include time or sequencing and storyline or plot, giving stories a structure that makes sense and a storyline that presents “goals, cause and effect, initiatives and actions, and intended and unintended consequences” (Cunliffe, Luhman, & Boje, 2004).

The storytelling framework used in the workshop is based on (Baker & Greene, 1977) points out some elementary elements a story should embrace:

- A single theme, clearly defined
- A well-developed plot
- Style: vivid word pictures, pleasing sounds and rhythm
- Characterization
- Faithful to source
- Dramatic appeal
- Appropriateness for listeners

#### **4.1.2.2 Structure of the workshop track**

To start the workshop a number of different examples are presented to inspire the participants’ creativity and understanding of the possibilities to use video as narrative output. Then the participants are instructed in the process;

1. Create a storyboard with the business narrative (Facilitator guides with questions)
2. Use creative assistants to create props and scenography
3. Produce the movie

### 4.1.2.3 The “Business Model Screenplay” track in action

Time	What	Format/tool	Objective (purpose of this step)	Who
	<p><b>Introduction</b> The workshop format is introduced; Create a movie in XX hours – The main purpose in this context is to create a dialog across the participants and illustrate a problem and a potential solution to this through a movie.</p>	Presentation	<p>To align the expectations</p> <ul style="list-style-type: none"> <li>- Dialog/networking is the core</li> </ul>	
	Present Case	Presentation	<p>Present</p> <ul style="list-style-type: none"> <li>- In general</li> <li>- A precise defined task</li> </ul>	Case representative
	Divide the participants into groups			
	<p>Part one: Frame the story The groups discuss the theme of the case, and frame the story.</p> <p>The participants are instructed by the facilitator according to the case</p> <p><i>“The producer and screenwriter prepare a film <a href="#">pitch</a>, or treatment”</i></p>	Group work		Participants / Facilitator
	<p>Part two: Create the characters.</p> <p>The main characters and other characters are identified through a stakeholder analysis</p> <p><i>“Know the main characters”</i></p>	Group work		Participants / Facilitator
	<p>Part three: Creating the storyboard</p> <p><i>“Once all parties have met and the deal has been set, the film may proceed into the pre-production period. By this stage, the film should have a clearly defined marketing strategy and target audience.”</i></p>	Group work		Participants / Facilitator
	<p>Part four: Creating props, and preparing the filming</p> <p><i>“A property, commonly</i></p>			Participants / Facilitator

	<i>shortened to prop (plural: props), is an object used to create/visualize your movie. In practical terms, a prop is considered to be anything movable or portable on a stage or a set, distinct from the actors, scenery, costumes and electrical equipment”</i>			
	Part five: Filming the movie			Participants / Facilitator
	Tech guys perfect the movie			Movie instructor / Facilitator
	Premiere - the debut, first public presentation of the movie			

Figure 6: Business Model Screenplay process in detail

### 4.1.3 Purpose and methodology of the workshop track “Unlimited Knowledge Application”

The workshop is structured around The Creative Platform (Byrge & Hansen, Enhancing creativity for individuals, groups and organizations: Creativity as the Unlimited Application of Knowledge, 2014) (Byrge & Hansen, 2015). The Creative Platform is a paradigm for unlimited application of knowledge in processes. It is practiced by a creative process in groups. Through the creative process humans develops an ability to be themselves - thus freeing them from limitations of disciplinary (academic/professional), social or cultural character.

The basic element of a creative process is the idea. An idea is a unique situation-specific representation of knowledge - and the process consists of ideas - on ideas - on ideas until the solution in the form of a product, project, procedure, an appointment, idea concept, a professional understanding or course of action is a reality. The Creative Platform is an approach for teaching creativity and/or running creative processes. It is the idea of an ideal mental workplace for interdisciplinary, inter-social and intercultural groups. On the platform it is possible for professionals from all kinds of disciplines and cultural backgrounds to unlimited apply their knowledge for solving a common task/problem. Therefore The Creative Platform is a learning environment, where people apply their knowledge unlimitedly to create new knowledge constructions in terms of ideas for products, services or new perspectives on their thinking.

The core of The Creative Platform is about engaging in the experience of creatively creating something together with other people. This notion builds on the premise that only through total engagement it is possible to let go of the dominating patterns of thinking that are bound by disciplines, social structures and cultural traditions.

#### 4.1.3.1 Six phase model

The process on The Creative Platform and the work done on it always follow the same phases - no matter what the purpose might be:

- 1) Preparation for facilitating the process, composition of participants, physical frames and writing down a minute-by-minute program of the process
- 2) The Red Carpet is a ritual in which participants get onto The Creative Platform and have the motivation, concentration and confidence to engage in the process

- 3) The problem/task is presented briefly and without professional/academic input of any kind
- 4) Idea development is where knowledge is applied unlimited in a creative generation and development of solutions for the problem/task
- 5) Professional/academic input is brought into the process when we have found a direction/an idea that we want to develop further
- 6) The Blue Carpet is a ritual in which participants are taken down from The Creative Platform and will be prepared for the ordinary world again

### 4.1.3.2 3D Cases

The process includes a number of 3D Cases. These cases or exercises provide a change in behaviour and thinking of the participants needed on The Creative Platform. The 3D cases are context independent. A process consists of alternating 3D case - working on task/problem - 3D case - working on task/problem, and so on. Therefore the 3D cases are only used to create a specific behaviour and thinking that is needed for the following work on task/problem – a bit like training before doing.

### 4.1.3.3 Principles

The entire process of The Creative Platform including 3D cases, the work on task/problem, the 6-phase model and everything else - are uncompromisingly following four fundamental principles:

- Everyone has the same kind of thinking and behaviour at all times (parallel thinking)
- One should only focus on the task (task focus)
- There should be no experience of judgment (no experienced judgment)
- Stimulating the use of all kinds of knowledge (horizontal thinking)

### 4.1.3.4 The “Unlimited Knowledge Application” track in action

Time	What	Format/tool	Objective (purpose of this step)	Who
	<p><b>Creativity phase and challenge presentation</b></p> <ul style="list-style-type: none"> <li>- Set the game rules of workshop part 1 according to the creative platform methodology</li> <li>- Introduce the red carpet with 3D cases (games) to get familiar with the creative platform way of thinking</li> <li>- Presentation by the challenge-owners with the participants generating ideas simultaneous (only 10 min. max) - First: what do we have now/current solution(s). Let the challenge-owners provide an example of how it is now, but not for more than 10 min.</li> </ul>	<p>The creative platform methodology and presentation</p>	<p>The creative platform is built on the following principles to enhance creativity and unlimited knowledge application:</p> <ul style="list-style-type: none"> <li>- Same focus at the same time - one focus at a time (parallel thinking)</li> <li>- Focusing on the task and nothing else (task focus)</li> <li>- No experience of judgment (no-experienced judgment)</li> <li>- Use of all knowledge available (horizontal thinking)</li> <li>- Game rules are important; no phones, watches, tables etc. as they are barriers to creativity</li> <li>- The red carpet is used as an energizer to get people thrilled</li> <li>- We use 3D cases to first train some actual creativity exercises and get familiar to the creative platform before using the same principles with the challenge in focus</li> </ul>	<p>The workshop facilitators and the challenge-owners</p>



			<ul style="list-style-type: none"> <li>- The challenge-owners are not allowed to present for more than 10 minutes because it creates a mind pattern which can be a barrier for creativity</li> </ul>	
	<p><b>Brainstorming (focusing in on the challenge)</b></p> <ul style="list-style-type: none"> <li>- Give the participants 5 min. to do individual brain writing</li> <li>- More 3D cases without the participants talking to each other about their ideas</li> <li>- Start generating ideas together in pair of 2 using the same method as before (person analogies) (8 min.)</li> <li>- Change partners and do another round</li> <li>- Conceptualization in groups of 3 persons, put all post-its up on the wall</li> <li>- Pick an idea</li> <li>- Co-develop ideas in pairs of 2 persons and visualize</li> <li>- Create larger groups consisting of 4-5 persons at maximum</li> <li>- Combine ideas to a concept</li> <li>- CLINES stimulus are given by the facilitators</li> </ul>	<p>The creative platform methodology</p>	<ul style="list-style-type: none"> <li>- We do individual brain writing to clear peoples mind and to get the most common ideas and things out of peoples mind</li> <li>- We use stimulus from person analogy cards to come up with more original ideas</li> <li>- All participants are doing the same thing in parallel</li> <li>- We let the participants pick an idea/input by their heart because passion is important for making an impact later on</li> <li>- We give them CLINES specific stimulus to force them to rethink their concepts and to get them to incorporate certain Smart City topics, if they have not already thought about it</li> </ul>	<p>The workshop moderator or the facilitators</p>
	<p><b>Stakeholder Analysis</b></p> <p>Questions:</p> <ul style="list-style-type: none"> <li>- Identify the stakeholders that could be involved in the solution (2+2+4)</li> <li>- Identify the direct and indirect stakeholders (1+1+2)</li> <li>- Identify potential stakeholders (1+1+2)</li> <li>- Relate them to each other (2+2+8)</li> </ul>		<ul style="list-style-type: none"> <li>- Identification of stakeholders in and around the concept is important to capture all aspects about the concept</li> <li>- We force them to work first individually and empty their brains (2 min.), then discuss their inputs with a partner from the group for 2 min., and lastly discuss in the whole group for 4 min. (the time intervals can be changed accordingly). It is important that we are very strict with the time and give them collective exercises to uphold the creative platform methodology, especially one</li> </ul>	

			<p>task one deadline, no experienced judgment and parallel thinking. Because everyone is forced to think individually first, no one opt out and everyone is heard. Also, time constraints are important factors for creativity as well as keeping the momentum going.</p> <ul style="list-style-type: none"> <li>- For the direct and indirect we give the participants 1 min. to brainstorm individually, 1 min. to discuss in pairs, and 2 min. in the whole group</li> <li>- In the exercise where the groups are asked to relate all these stakeholders to each other, we have a pre-printed poster with the challenge in the middle and the quad helix on the sides</li> </ul>	
	<p><b>Value Proposition analysis</b></p> <p>Questions:</p> <ul style="list-style-type: none"> <li>- Who should we see as recipient for this concept/solution?</li> <li>- What needs does he or she has to be solved? + Which needs are to be solved? (2+2+4)</li> <li>- What does he or she like to avoid? + What is resource-intensive, where are existing solutions deficient, what are the main problems and challenges? (1+2+3)</li> <li>- What will make him or her extra happy? What does he or she expect? How are current solutions particularly good? What would make his or her life easier? (1+2+3)</li> <li>- Outline a clear customer need</li> </ul>	<p><b>The creative platform and value proposition design</b></p>	<p>We use a series of opening questions and then move into the right-hand side of the Value Proposition Canvas by discussing, from the potential customer perspective: 1) the Job-to-be-done, 2) Pains that need to be avoided, 3) gains that make the customer extra happy about a certain solution. We finish off by forcing the groups to outline a clear customer need</p>	
	<p><b>Product Box</b></p> <ul style="list-style-type: none"> <li>- Now you need to sell your solution/concept to the rest of us. Imagine</li> </ul>	<p><b>The creative platform methodology and product box (service design tool)</b></p>	<p>The product box sides MUST at a minimum include the following:</p> <ul style="list-style-type: none"> <li>- Name and slogan; what does it do?</li> <li>- Product perspective: what</li> </ul>	

	<p>that you need to sell it to all the participants at the workshop</p> <ul style="list-style-type: none"> <li>- Make a short video of each of the 4/5 sides of the box</li> </ul>		<p>are the characteristics of the product, what are the ingredients</p> <ul style="list-style-type: none"> <li>- Who is the product for? And what does the product do for the user? Think of pains, think of gains</li> <li>- Other relevant sides to include might relate to the stimuli presented by the challenge owners</li> </ul>	
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Figure 7: the unlimited knowledge application process in detail

## 4.2 Methodology for Workshop format #2

With the aim of developing an alternative methodology for the Workshop and defining a second format, we investigated other techniques traditionally used for group discussion dynamics and similar kind of hands-on innovation and problem solving events.

We consulted literature and innovation based practices where the process, challenge discussion and problem solving seemed similar to the Smart City challenges defined for triggering the CLINES Workshop. We decided to develop and apply two different techniques, with the intention to work with each of them for the two Workshop tracks respectively. These techniques used as the basis for the Workshop format #2 were: The World Café and a variation of the Rich Pictures (both documented in the following subsections).

Of course, we also had in mind the requirement of shortening the duration of the workshop, so we stated to define Workshop format #2 as a half-day journey.

### 4.2.1 The World Café

The World Cafe refers to both a vision and a method of dialogue. It evolved out of conversations and experimentation one day at the home of consultants Juanita Brown and David Isaacs (Brown & Isaacs, 2009).

World Café Conversations are an intentional way to create a living network of conversation around questions that matter. A Café Conversation is a creative process for leading collaborative dialogue, sharing knowledge and creating possibilities for action in groups of all sizes.

The challenges of life in the 21st Century require us to find new ways to access the wisdom and intelligence inherent in groups both small and large. The need for collaboration, insight and coordinated action has never been greater. Café Conversations are one way that communities, businesses, governments, and people from all walks of life are using to create a common purpose, share knowledge, make more intelligent decisions, and call forth life-affirming action together.

The methodology of the World Café is simple: the environment is set up like a café, with tables for four, tablecloths covered by paper tablecloths, flowers, some coloured pens and, if possible, candles, quiet music and refreshments. People sit four to a table and have a series of conversational rounds lasting from 20 to 45 minutes about one or more questions which are personally meaningful to them. At the end of each round, one person remains at each table as the host, while each of the other three travel to separate tables. Table hosts welcome newcomers to their tables and share the essence of that table's conversation so far. The newcomers relate any conversational threads which they are carrying -- and then the conversation continues, deepening as the round progresses. At the end of the second round, participants return to their original table -- or move on to other tables for one or more additional rounds -- depending on the design of the Café. In subsequent

rounds they may explore a new question or go deeper into the original one. After three or more rounds, the whole group gathers to share and explore emerging themes, insights, and learnings, which are captured on flipcharts or other means for making the collective intelligence of the whole group visible to everyone so they can reflect on what is emerging in the room. At this point the Café may end or it may begin further rounds of conversational exploration and inquiry.

In World Café, the formulation of powerful questions is a fundamental art and skill. Questions like "What's important to you about this situation, and why do you care?" and "What are we not seeing (or talking about) that is vital to our progress?" can open up new possibilities and energy. If you (as planner or host) don't know what question(s) are right for a particular Café, you can ask as a first round question "What question, if answered, could make the greatest difference to the future of the situation we're exploring here?"

The seven design principles of World Café can be summarised as follows:

- Set the context
- Create hospitable space
- Explore questions that matter
- Encourage everyone's contribution
- Cross-pollinate and connect diverse perspectives
- Listen together for patterns, insights, and deeper questions
- Harvest and share collective discoveries

There is much to know about each of these principles -- wisdom that is contained in a remarkable book on the subject -- (Brown & Isaacs, *The World Café: Shaping Our Futures Through Conversations That Matter*, 2005).

#### **4.2.1.1 What is it used for?**

The World Café process is particularly useful in the following situations:

- When you want to generate input, share knowledge, stimulate innovative thinking, and explore action possibilities around real life issues and questions
- To engage people--whether they are meeting for the first time, or are in established relationships--in authentic conversation
- To conduct in-depth exploration of key strategic challenges or opportunities
- To deepen relationships and mutual ownership of outcomes in an existing group
- To create meaningful interaction between a speaker and the audience
- To engage groups larger than 12 (we've had up to 1200) in an authentic dialogue process

#### **4.2.1.2 What is it not for?**

The Café is less useful when:

- You are driving toward an already determined solution or answer
- You want to convey only one-way information
- You are making detailed implementation plans
- You have fewer than 12 people (better to use a more traditional dialogue circle, council or other approach for fostering authentic conversation)

### 4.2.1.3 The Principles of The World Café

The key to creating a successful World Café conversation is employing the seven guiding principles, which when used in combination fosters courageous conversations and collective intelligence. We only name these principles here, but we include a more detailed description of them and useful guidelines to implement a World Café in the Appendix section.

1. Clarify The Context
2. Create Hospitable Space
3. Explore Questions That Matter
4. Encourage Everyone's Contribution
5. Connect Diverse Perspectives
6. Listen Together and Notice Patterns
7. Share Collective Discoveries

### 4.2.2 Rich Pictures

**Rich pictures** were particularly developed as part of Peter Checkland's Soft Systems Methodology for gathering information about a complex situation (Checkland & Scholes, 1990). The idea of using drawings and pictures to think about issues is common to several problem solving or creative thinking methods (including therapy) because our intuitive consciousness communicates more easily in impressions and symbols than in words. Drawings can both evoke and record insight into a situation (Systems thinking and practice: Diagramming). Rich pictures are drawn at the **pre-analysis stage**, *before* you know clearly which parts of the situation should best be regarded as process and which as structure.

Rich Pictures can help to identify open loops or redundant checking at an early stage, whereby major issues will show up relatively easily (Jisc InfoNet: Rich Pictures). It is a widely used technique for better understanding the cultural and political context of organisations in management consulting or in computer software development. This approach is considered to be a paradigm breaking technique that could help participants to develop fantasies that may help them to generate novel ideas. These kinds of techniques use unrelated stimuli and forced association so as to encourage and facilitate creative management thinking and innovation. They also help participants to use all their senses and to express themselves using other modes of communication such as drawing, dreaming and role-playing (Proctor, Hua Tan, & Fuse, 2004), (McFadzean, 1998). Below follows an example of a rich picture that was utilised during a telephone helpline situation.

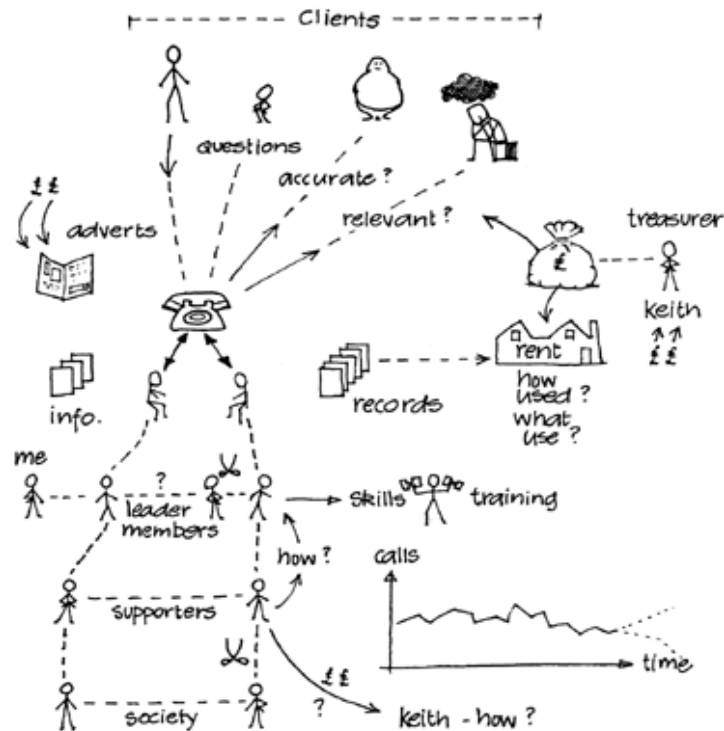


Figure 8: Part of a rich picture of a telephone helpline situation [2]

Rich pictures (situation summaries) are used to depict **complicated situations**. They are an attempt to encapsulate the real situation through a no-holds-barred, cartoon representation of all the ideas covered already, layout, connections, relationships, influences, cause-and-effect, and so on. In addition to these **objective notions**, rich pictures should depict **subjective elements** such as character and characteristics, points of view and prejudices, spirit and human nature. If you are working with a client you should try to draw these notions from the actors themselves, at least initially, rather than focusing on your own interpretation of the situation (Jisc InfoNet: Rich Pictures).

It is a very useful technique, which could actually make work enjoyable. This technique primarily focuses on:

- Providing help to answer the question of **“who” owns this problem**. Who is accountable for it? An individual, or is it shared? Once people know this, their responsibility is clearer. They may be there to generate ideas. You, as the owner, may have the casting vote on disagreements, since you have to go away and do something.
- Making people think of different **solutions to a problem**.

#### 4.2.2.1 How to implement the Rich Pictures Technique within an organisation

(Proctor, Hua Tan, & Fuse, 2004), (McFadzean, Enhancing creative thinking within organizations, 1998)

This is an approach that can help participants look at problems from a totally different perspective and it can change the patterns of thinking within the group. Rich pictures can be used as follows:

- The group members are asked to write and develop a **brief statement** of the problem on a **flip chart**

- The facilitator then asks each individual to **draw two pictures**. The pictures may be **metaphors for the situation**, for instance a vehicle or an animal. The first drawing should be a picture of how the participant would like to see the situation in the **future**. The second picture should be a drawing of how the participant sees the **present** situation
- Each participant is asked to **describe the picture of the present first**. Not only should he or she describe the picture but also the properties of the objects drawn and why they were drawn that way. Next, the individual should **describe the picture of the future**, again including the properties and the relationships of the objects
- From the descriptions given by the participants **new ideas can then be generated**.

The technique enables a group to see what each member's perception of the problem is and what he or she would like in the future. Such a picture can very effectively show a vast amount of information, such as patterns, relationships and properties. It can easily be shared with the other group members and they can all see the problem in its entirety at a single glance.

The technique can draw out a lot of information that would not necessarily have been revealed using more conventional techniques. In addition, the participants can see instantaneously the differences between the picture of the future and the picture of the present. The stimuli developed from these pictures can then be linked back to the problem [9].

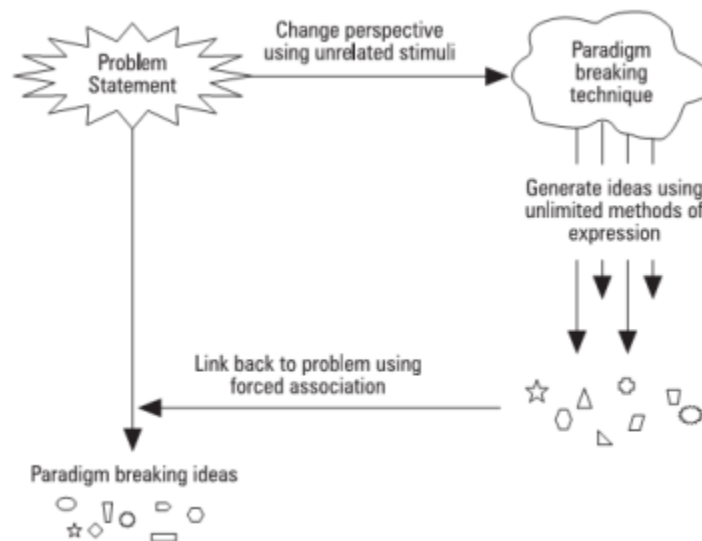


Figure 9: Rich Pictures as Paradigm Breaking Technique. Source: (McFadzean, *Techniques to enhance creative thinking*)

If the group **‘doesn’t know where to begin’**, then the following sequence may help them to get started (Jisc InfoNet: Rich Pictures):

- First look for the **elements of structure in the situation** (these are the parts of the situation that change relatively slowly over time and are relatively stable, the people, the set-ups, the command hierarchy, perhaps);
- Next look for **elements of process within the situation** (these are the things that are in a state of change: the activities that are going on);

- Then look for the **ways in which the structure and the processes interact**. Doing this will give you an idea of the climate of the situation. That is, the ways in which the structure and the processes relate to each other.

#### 4.2.2.2 What are the success factors when applying the Rich Pictures Technique?

(Jisc InfoNet: Rich Pictures), (McFadzean, Creativity in MS/OR: Choosing the Appropriate Technique, 1999)

Below is a list of **factors** that will play a determining role in the successful implementation of the rich pictures technique:

- An issue of crucial importance is the fact that the group needs to be persuaded of the technique's effectiveness before participating, because many people feel inhibited and embarrassed about their poor drawing skills.
- The facilitator needs to convince the group that pictures do not have to be works of art as long as they make sense to their creators and can easily be described to the group.
- The facilitator needs to be skilled at teasing information out of the participants as they describe their pictures. There are times when participants leave out information because the facilitator has failed to ask the correct questions.
- To help interpret a situation, choose symbols, scenes or images that represent the situation. Use as many colours as necessary and draw the symbols on a large piece of paper. Try not to get too carried away with the fun and challenge to your ingenuity in finding pictorial symbols.
- Avoid too much writing, either as commentary or as 'word bubbles' coming from people's mouths (but a brief summary can help explain the diagram to other people). Only fall back on words where ideas fail you for a sketch that encapsulates your meaning.
- The group should not seek to impose any style or structure on your picture. Place the elements on their sheet wherever their instinct prompts. At a later stage they may find that the placement itself has a message for them.
- Avoid thinking in *systems terms*. That is, using ideas like: 'Well, the situation is made up of a marketing system and a production system and a quality control system'. There are two reasons for this. The first is that the word 'system' implies organized interconnections and it may be precisely the absence of such organized interconnectedness that lies at the heart of the matter: therefore, by assuming its existence (by the use of the word system) the group may be missing the point. Note, however, that this does not mean that there won't be some sort of link or connection between the graphics, as mentioned above. The second reason is that doing so will channel them down a particular line of thought, namely the search for ways of making these systems more efficient.
- Make sure that the picture includes, not only the factual data about the situation, but also the subjective information.
- Look at the *social* roles that are regarded within the situation as meaningful by those involved, and look at the kinds of behaviour expected from people in those roles. Whenever conflicts appear, they should be indicated.



- Finally, include yourself in the picture. Make sure that your roles and relationships in the situation are clear. Remember that you are not an objective observer, but someone with a set of values, beliefs and norms that colour your perceptions.

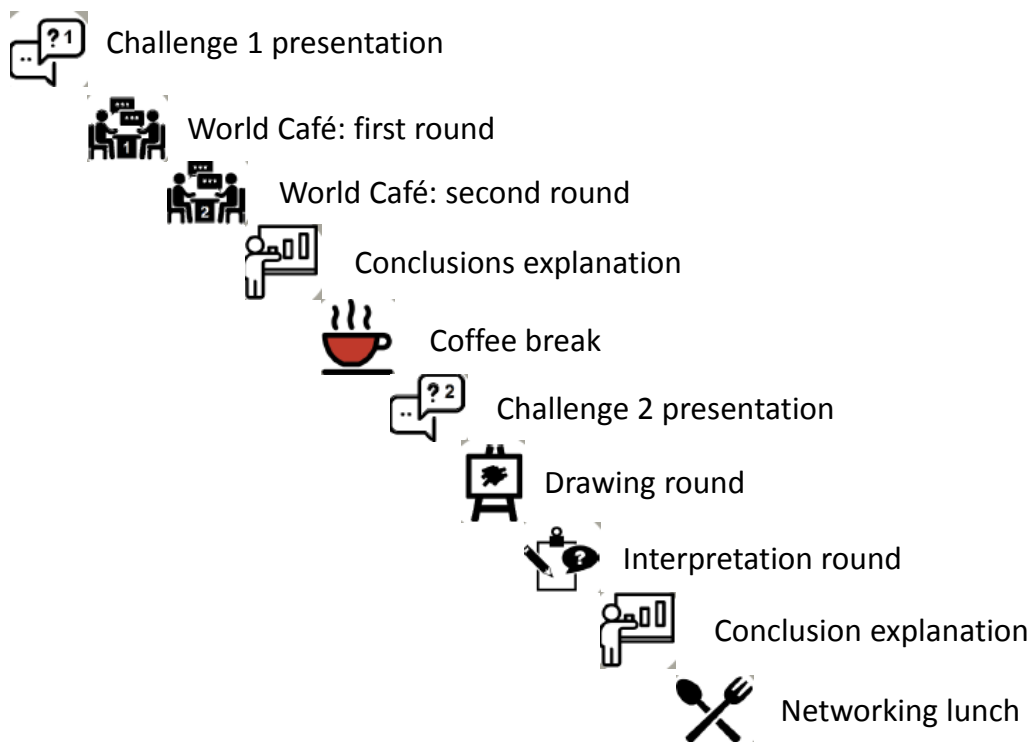
### 4.2.3 The Workshop format #2 in detail

It is relevant to notice that the CLINES Workshop format #2 was thought and developed to be held during a long-morning session, but trying not to exceed that time restriction in order to retain attention at full from the assistants, and not to leave “dead time slots” in between.

Thus, format #2 is presented as a packed set of continuous short sessions, but with the idea of using some of them as well as informal discussion or for entertainment along with the people gathered together. It was one direct intention to bring together homologues from several companies but complementary market sectors so as to trigger networking, but without necessarily speaking about technical or work-related issues.

To develop Workshop format #2, the presenter or coordinator must bear in mind an open and very active mind so as to pass on enthusiasm to the group. Other than that, anyone can perform and coordinate one of these editions with a session of one-morning training and a bit of innovative team-spirit.

The following sketch represents the flow of the overall Workshop format #2.



It is important to start by introducing a couple of ice-breaking games about collective intelligence, so that everyone’s mood is activated with a common thinking and prepared for open discussions. Some illustrative games implying outsider thinking are available via many resources, a simple one could be the following:

“Laura’s earring fell inside a cup full of coffee, but she managed to get it back dry and without wetting her own fingers... How could she do so?”<sup>1</sup>

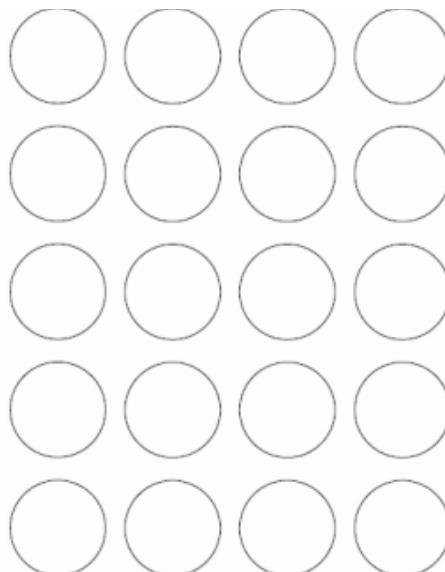
When explaining the process along the morning session, some breaks are going to be required in between the slots represented in this sketch.

- There will probably be an opening introduction about the framework of the workshop: the CLINES project and its context, the purpose of the activity the overall agenda for the day...
- Before starting with the first round of the World Café technique, the presenter should detail how the groups are going to be formed and which are the main roles within each of the tables, who is going to move from one table to another, and who remains seated for the second round, who keeps the discussion ongoing and not stuck, the requirement of not censoring any opinion, etc.
- Of course it is a must to keep strict timing so as to be able to accomplish the agenda on time, so someone needs to be supervising the group tables in order to assure productive time-slots
- To drive the Conclusions explanation, it is very useful that the presenter also triggers some questions along with each group’s outcomes presentation
- During the coffee break, people should feel comfortable talking to each other, after the first stage of the event, where opinions on neutral discussion topics brought about by Challenge 1 may have formed connections among them. The break should not be focused on the challenge though, just to make a real parenthesis
- After the presentation of next Challenge, the presenter would provide details about the Drawing-Interpretation technique and how to structure the two rounds

In the same line that some creative thinking can be triggered through a couple of simple games, it is worth to establish some inner connection with the drawing abilities of the participants before starting the drawing round. This way, the group can perceive that no professional drawing is required and can also identify how ideas could be expressed and well captured by simple (or sophisticated) drawing.

For this purpose, there is one simple exercise that could be stated to the groups:

- One Paper sheet is delivered to each group/table with the following template grid:




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<sup>1</sup> Solution: the cup was full of coffee, in grain format, not liquid

- They are requested to quickly (3min) draw whatever they want using the circles in the paper; they can also use words to support their pictures

The outcome of this exercise provides an overall view on the kind of “thinking-in-to-pictures” each group might deliver in the end: some will respect the circle line as a limit and never draw outside, some will draw bigger items by unifying several circles, some might use wording and others just pictures...

Furthermore, once each group can see what others did with the circle grid, they can open their minds to new possibilities as well. This can drive a good environment to start with the drawing round and provide some clues for them to interpret other table’s drawing afterwards.

There will be time for the explanation of the common pictures to deliver some conclusions on the second challenge.

For the conclusion explanation of both challenges, it could be useful that the workshop participants have some clue on which criteria should they take into account when assigning priorities to all the ideas discussed or commented by anyone. We defined some criteria, just with the goal of providing a possible qualitative classification, but not intended to limit their outcomes:

- Technical viability: do the implied technologies exist as of today? Are they talked about as a future tendency but no available developments exist? Are there any other solutions/products which already implement those technologies? Do you have in mind several companies that could implement the solution in practice?
- Economic viability: could the investment/costs of this solution put to risk its market feasibility? Is there a clear market niche for this proposal? Do competitors already exist in this area with equivalent solutions? Is there a high entrance barrier associated to this sector?
- Innovation ratio: is it a ground-breaking idea? Is there no equivalent product/solution out in the market as of today? Could a competitor easily “copy” and produce the proposal? Does the solution imply emergent technology? Does the solution require technological research around a non-explored area?
- Replicability: is this a proposal that could be replicated in different cities, countries, cultural environments? Do you foresee any local, regional or cultural conditioning?

After the second stage (work for challenge 2) is finished, the workshop will close with a brief summary of what was achieved during the day: main contributions to the CLINES project, to the challenge presenters (administrations), to the brainstorming of common project-ideas, to networking and business model creation, etc. And finally an informal lunch is served to round up the long session and allow participants to relax, talk about the experience and share some feedback all in all.

## 5 Workshop editions

### 5.1 *First CLINES Innovation Workshop: Brussels*

Around February-March 2014 the CLINES consortium decided to organise this first edition of the Innovation Workshop in Leuven, co-located with one of the annual DSP Valley big events, the B2B Forum, the focus of which is pure business networking. As *Networking* was one of our key objectives for this first instalment of the CLINES Workshop, we believed it was an optimal situation to make it coincide with the B2B Forum organised by DSP Valley and co-locate both events to trigger synergy between one another.

The CLINES Workshop was organised as a full day event, the previous day of the B2B Forum in the same location, to facilitate logistics for the participants.

Herewith, the extract from the CLINES website with the announcement and registration link for the event:

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#### ***CLINES innovation workshop on Embedded Systems for Smart Cities***

**Location:** Business Faculty Brussels, Sint-Lendriksborre 6, 1120 Brussels

Friday June 13, 2014, 9:00 – 16:00

The first innovation workshop of the European CLINES Project on Embedded Systems for Smart Cities will take place in Brussels on Friday 13rd June 2014. The workshop will feature (inter)national speakers from industry, academia and government, highlighting concrete realizations and opportunities (business, funding) in the Smart Cities domain. We will also offer the participants an exclusive guided tour of the Living Tomorrow showroom in Brussels, which gives a concrete idea of important aspects of a Smart City of today and tomorrow.

This is the agenda for the event:

- 8:30 – 9:00 Welcome & registration
- 9:00 – 9:30 CLINES project & intermediate results presentation (**Geert Adriaens**, DSP Valley)
- 9:30 – 10:00 Smart Cities and Horizon2020 (**Dimitrios Sofianopoulos**, Policy Officer, DG Energy, (European Commission))
- 10:00 – 10:45 Innovation Challenges for Smart Cities, a Belgian Perspective (**Freddy Vandaele**, (Senior Business Development Manager Agoria, Building Technology & Smart Cities))
- 10:45 – 11:15 Coffee break
- 11:15 – 12:45 International testimonials on Smart City Innovation, related to Embedded Systems Technologies (including demo material)
  - 11:15 - 11:45 **Fernando Presa**, CEO Nexmachina (Spain) on iQMenic, an IoT & M2M Devices; Management Platform for Smart Cities
  - 11:45 - 12:15 **Volker Hessel**, Siemens Infrastructure & Cities (Germany), on the perspective of a large player in the Smart Cities field
  - 12:15 - 12:45 **Daniel Lux**, CEO Seluxit (Denmark) on the Seluxit IoT Platform for Smart Cities
- 12:45 – 13:45 Lunch
- 14:00 – 15:00 Guided tour at Living Tomorrow (nearby, walk (15')/drive (5'))

- 15:15 – 16:15 Open session (one-on-one meetings and/or subgroup discussions on innovation and international collaboration for Smart Cities) & cocktail

To **register**, please use this online form:

<http://www.dspvalley.com/upload/event/clines/Registrationform.html>

We show here a couple of pictures from the venue with the presenters:



Figure 10: Photos from presenters during the first CLINES Workshop

The event was successfully delivered and participants were able to provide their feedback. Main conclusions extracted from informal comments, but also from questionnaires were extracted as follows:

- Positive comments:
  - The space and installations were excellent
  - The quality of presentations was remarkably good
  - All of them wanted to repeat and would willingly participate in following editions
- Negative comments:
  - *“Little interaction” among participants, “too unidirectional, more “close to a training journey than an innovation workshop”*
  - *Lack of information about the rest of participants and their businesses*
  - *Business behind the Smart City should be specifically addressed*

These learnings lead us to the following “dogmas” for the development of the upcoming Innovation Workshops:

- We should provide a creative and inspiring environment for innovative forms of learning and experimentation
- The workshop should be action-based and participants will be actively engaged in sessions and interactive discussions to solve problems which address specific Smart City topics
- Participants should be doers instead of only listeners
- A range of methods should be involved in the process, e.g. creativity and innovation games, scenarios, role-play, etc.
- The innovation workshop should emphasize interaction and networking among participants (e.g. longer breaks with the time to network)
- We search for quality instead of quantity in terms of participants

## 5.2 **Second CLINES Innovation Workshop: Aalborg**

The CLINES Innovation Workshop in Aalborg in June 2015 had the following innovation dilemmas as focus points (see appendix for marketing material);

- a) Smart Care at Home
- b) The Intelligent Resort

The Business Model Screenplay methodology was used for the Smart Care at Home track with Center for Welfare Technology (<http://www.cfv-nord.dk/>) as a case/challenge provider, while the Unlimited Knowledge Application methodology was used for The Intelligent Resort track with Skallerup Seaside Resort (<http://www.skallerup.dk/>) as a case/challenge provider. Both organizations actively participated in the Innovation Workshop.

The general process of the workshop can be seen in

Figure 5: The structure of the CLINES innovation workshops *guide*. The specifics of the two workshop tracks can be seen in Figure 6: Business Model Screenplay process in detail and Figure 7: the unlimited knowledge application process in detail respectively.

There were 40 participants attending the workshop, including the facilitators. Most of the participants were from Aalborg and the Northern Region of Denmark.

### 5.2.1 **Outcomes of the Workshop**

On both workshop tracks, several new ideas/solutions were developed during the 8-hour event.

For the researchers there were a lot of lessons learned from this first workshop. Some elements in the experimental design of the workshop format needed to be changed. The key learning points of the workshop were:

- The challenges/dilemmas are extremely important. The description should be very clear and it should be both easy understandable for the participants but also complex enough to actually do an innovation workshop around it. For example; the challenge framed by Skallerup Sea Resort was almost too specific and not complex enough
- There should be a stronger focus on a product/service in the solutions developed during the event
- Ownership for the solution(s) is important
- The dilemmas has to become an innovation challenge

- The “structured networking” in the beginning of the workshop worked beyond expectations. New partnerships was established at the event and also after the event; however, there seemed to be a need for even more “structured networking” and knowledge sharing at the end of the workshop
- The Business Model Screenplay track worked very well; both groups managed to create a video during the day and showing the films in the end was a nice ending
- The Unlimited Knowledge Application track came up with good solutions as well, but the presentations of these were a bit long and not as impressive and specific (to the point) as the films developed in the other track. Furthermore, the first part of the process in this track was too long, making time an issue in the end.

## 5.2.2 Participant evaluation

The development process of the generic workshop format was based on the abovementioned key learning points, as well as the subsequently CLINES partner meeting and a participant evaluation survey. The participants were asked 15 questions about the event; e.g. their overall satisfaction with the workshop, the level of creative solutions developed, the level of new contacts they got, whether they setup meetings based on this workshop, the level of the facilitators, the process, and the outcome. The researchers used Likert-type scales for all questions, forcing the respondents to specify their level of agreement or disagreement on a symmetric agree-disagree scale for a series of statements. Thus, the range captures the intensity of their feelings for a given item.

Out of the 40 participants the researchers managed to get 21 responses from the survey, which was considered a solid number.

Based on the evaluation, the overall objectives and goals of the innovation workshop seemed to be met. Only the question about to what extent the challenges were specific enough to really do some work and development about them, were not as positive as the rest of the evaluation questions. This was in line with the observation and learning the facilitators did at the workshop.

## 5.2.3 Changes to the format #1

Based on the abovementioned learning points, some elements of the workshop format was changed and a fully detailed workshop “recipe” was developed to make all the important learning points as well as the steps in the workshop (what to do before, during and after the workshop) visual and replicable for all partners in the project (see appendix). The most important changes in the format were:

- Guidelines/recommendations for selecting and describing the innovation challenges was developed
- Both the Business Model Screenplay and the Unlimited Knowledge Application methodologies were adjusted to have a stronger focus on forcing the participants to develop a product or service and describe this in the final outcome
- To prevent the final presentations of the Unlimited Knowledge Application track from being too long and unfocused, the process was changed so the groups should create a small “commercial” of the developed solution to be shown in plenum
- The final section of the workshop were changed from only presentations to also include a trade exhibition, where each solution should have “a booth”, imposing the participants to network and hopefully have even more professional discussions, and form new partnership or small consortiums

### 5.3 **Third CLINES Innovation Workshop: Munich**

Prior to the CLINES Innovation Workshop in Munich, it was decided that the researchers should do the facilitation of the workshop together with BICCnet. As a result, several meetings were held to discuss the workshop format, and the specifics of the innovation challenges.

This was the second instalment of the CLINES Workshop format #1, and as such, based on the "Unlimited Knowledge Application" approach, a set of slides was produced so that a non-familiar presenter could follow along without hesitation. These slides were kind of a manual, and with an investment of about 2h, could be adapted to act as guideline for a specific workshop challenge. This made it easy to implement the methodology in a different region, with roughly one-day of training.

The CLINES Innovation Workshop in Munich in October 2015 had the following innovation dilemmas as focus points (see appendix for marketing material);

#### Urban Districts in Buenos Aires

How to enhance an urban district technologically that it is so attractive for the working people that they want to live there?

The challenge was presented by Carlos Pirovano from the City Administration of Buenos Aires, who is responsible for the "Distritos Creativos", areas which need to be focused and made attractive again.

The session was held in English, which turned out not to be a limitation for the participants in their creativity.

#### Lamp Posts in Munich

How can they use sensors to provide new services to citizens?

The challenge was presented by Wolfgang Glock from the City of Munich. The City realised having a huge potential infrastructure with the thousands of lampposts already installed (and slated for an update), and looked for ways to make them more useful for citizens.

The Business Model Screenplay methodology was used for the Urban Districts on Buenos Aires track with the City of Buenos Aires as a case/challenge provider, while the Unlimited Knowledge Application methodology was used for the Lamp Posts in Munich track with the City of Munich as a case/challenge provider. Both organizations actively participated in the Innovation Workshop.

The general process of the workshop can be seen in

Figure 5: The structure of the CLINES innovation workshops *guide*. The specifics of the two workshop tracks can be seen in Figure 6: Business Model Screenplay process in detail and Figure 7: the unlimited knowledge application process in detail respectively.

There were nearly 50 participants attending the workshop (see appendix), including the facilitators. International participants came from the regional government of Basque Country, Belgium, as well as international students currently with research institutions in Munich. To accommodate them, the Buenos Aires challenge was held in English. The rest of the participants were from local companies in the IT or data analysis field, as well as from utilities.



### 5.3.1 Outcomes of the workshop

On both workshop tracks, several new ideas/solutions were developed during the 8-hour event. Some of the developed outcomes can be found at:

<http://bicc-net.de/nachrichten/artikel/ergebnisse-des-innovation-workshop-smart-city/>

The two top solutions developed for Buenos Aires are documented in publicly available videos:

Video: Moving for Love:

<https://bicc-net.wistia.com/medias/xbg8pmhjc0?embedType=iframe&videoWidth=640>

Video: Day in the New Life:

<https://bicc-net.wistia.com/medias/oy2rfnxhs5?embedType=iframe&videoWidth=640>



One of the suggestions developed in the Lamppost challenge is to use the posts as safety hubs, enabling emergency calls, providing medical assistance, as well as guidance. These suggestions have been taken up by the City of Munich in the scope of their (H2020) lighthouse project (which started being implemented shortly after the workshop).

In the annex, you will find some of the solutions from the Lamppost challenge. A full documentation (also of intermediate steps) of the solutions developed has been emailed to all the participants of the workshop.

Apart from the ideas, the workshop was a success for the methodology of Unlimited Knowledge Application: The challenge was chaired and convened by Christian Thiel from BICCnet, who, before CLINES, did not have contact with Innovation Workshops. Having observed the previous two Innovation Workshops in CLINES, he and the BICCnet team got an extensive briefing on the methodology by AAU researchers. Also, a general presentation was produced that detailed the workshop process, guiding the workshop chair step-by-step. The general template (108 pages) proved to be easily adaptable to the specific challenge. A supporting chairman was present to assist in time management. Because of the detailed preparation, the workshop went very well and smooth, with powerful results.

The conclusion is that the methodology for Unlimited Knowledge Presentation and accompanying material developed in CLINES are very well transferable to challenges and Innovation Workshops in other regions.

After this workshop, some learning points were concluded in order to get more precise results with this workshop format in the future:

- Before presentations, photos of the Product Boxes from the Unlimited Knowledge Application track should be taken, as participants will take them home with them because they like the result
- The Box-Presentations needed a new twist, since looking down to read from the box does not make for awesome videos

However, some comments, both from the participants among project partners and from external audience too, provided a couple of insights that made us think about bigger implications:

- The format #1 took all day, and this is not something a company can do on a frequent basis. The variety and number of interesting events organized is getting to a point that companies need to restrict and select very well to which they can devote time and effort, normally according to their expected usability or outcome. They recommended to shorten the Innovation Workshop duration so that less commitment was demanded
- There were slightly too many no-activity time breaks in between the guided time periods. The intention to make space for longer breaks (networking intended) turned into a feeling of “lost time” for several participants. This reinforced the idea of looking for concentrated activity time, and maybe unifying a specific time slot for networking

These two bigger issues, together with the intention to extend and complete the task of the Innovation Workshops within WP3, we decided to go for the development and test of an alternative methodology, also based on Open Innovation techniques but looking for a different (shorter) Innovation Workshop format.

Provided that we were still on time to organize a couple more editions of the Workshop series, and that we compromised to devote specific extra efforts for this task, we believed the change in methodology would also provide us with alternative outcomes for comparison and extension of the whole process view.

## **5.4 *Fourth CLINES Innovation Workshop: San Sebastián***

The main objective of this workshop edition was to implement and test the second methodology and format, together with the collection of ideas and innovative proposals around the two Smart City challenges proposed.

The San Sebastián workshop was held at GAIA’s premises and took place with 22 people belonging to a variety of companies, mainly inside the regional scope of the Basque Country. GAIA and TECNALIA performed the dissemination prior to the event so that their targeted contacts and partners could be represented.

### **5.4.1 *Dissemination of the Workshop***

From our previous experiences, and because this workshop format #2 was so focused on conversational outcomes, it seemed extremely important to gather participants enjoying same cultural background and specially sharing language. That is the reason why it was decided to target a Spanish native audience for this edition.

Custom dissemination was published in Spanish on the CLINES website, an except for which is shown in this snapshot:

## COMBINANDO TECNOLOGÍA E INNOVACIÓN ABIERTA

4th CLINES Innovation Workshop  
San Sebastián

**27 Abril 2016 · 9h-15h**

La evolución de las ciudades hacia el concepto de Smart City o ciudad del futuro implica necesariamente la utilización de las tecnologías como herramienta aglutinadora de productos y servicios entre administración y habitantes.

En el marco del proyecto europeo **CLINES**, el próximo **27 de Abril** se celebrará en Donostia-San Sebastián el **4º Workshop de Innovación abierta**, tras los celebrados en Bruselas, Aalborg y Munich. El workshop está especialmente orientado a las empresas interesadas en las Smart Cities y tiene como objetivo identificar necesidades, generar propuestas e ideas rompedoras y proponer soluciones y nuevos productos que mejoren la vida en las ciudades del futuro.

**Si pertenece a una empresa dedicada a la tecnología** desde un espectro amplio: servicios TIC avanzados, tecnologías embebidas, soluciones IoT, productos y soluciones Smart, etc. le **interesa participar para abrir nuevos horizontes y oportunidades de negocio**.

El Workshop consistirá en la presentación de dos retos por parte de:

- **Diputación Foral de Gipuzkoa**: Cómo incrementar y mejorar la participación ciudadana a través de las TIC
- **Fomento de San Sebastian**: El empleo de las TIC para el balance energético y modelos de negocio en la rehabilitación energética de edificios.

**El número de plazas es limitado**, acceda al enlace web indicado debajo e inscribese cuanto antes para reservar su plaza.

RESERVA TU PLAZA

The “Reserva tu plaza” button was leading towards the registration page for the event.

For the presentation of two real challenges that reflected actual problems of the Smart City domain, we contacted and had the opportunity to involve two administration bodies: Diputación Foral de Gipuzkoa, as regional administration, and Concejalía de Impulso Económico del Ayuntamiento de San Sebastián – Fomento de San Sebastián, as part of the San Sebastian Townhall team. Each of them proposed a real challenge to be part of the workshop edition.

### 5.4.2 Workshop implementation

The agenda for the journey was as follows:

8:45-9:00	Registration
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9:00-9:15	Welcome note, Tomás Iriondo, General Director - GAIA
9:15-9:25	CLINES project presentation, Susana Pérez - TECNALIA
9:25-9:30	Structure of the journey, Xabier Uriarte - TECNALIA
9:30-9:40	Presentation of challenge from Fomento de San Sebastián Euken Sese - Fomento de San Sebastián
9:40-9:50	Presentation of challenge from Diputación Foral de Gipuzkoa Joseba Muxica – Dtor. Foral para la Participación Ciudadana Diputación Foral de Gipuzkoa
9:50-11:30	First method. World Café: Challenge from Diputación Foral de Gipuzkoa
11:30-11:45	Coffee Break
11:45-13:30	Second method. Variation of Rich Pictures: Challenge from Fomento de San Sebastián
13:30	Closure of the event, Cristina Murillo - GAIA
14:00-15:00	Networking & Pintxos

Following, we briefly introduced the definition of the two challenges described during the workshop:

- Diputación Foral de Gipuzkoa: How to increment and strengthen the citizen participation and involvement with administration by making use of ICT
- Fomento de San Sebastián: The use of ICT for the energetic balance and new business model creation in the energetic rehabilitation of buildings

It was decided to present both challenges at the beginning (instead of presenting each one and continue directly to work on it), due to some agenda issues with the challenge presenters. This modification did not affect the overall format structure, since a brief reminder of the challenge items were summarized just before each of the work stages.

The general mood of the groups was really well constructed and they were very productive from the very beginning, even stating some questions during the challenge introductions. The first challenge (increment and strengthen citizen involvement with administration initiatives) was developed according to the World Café; whereas the second challenge (use of ICT for energetic balance and new business model creation in building rehab) was developed following the drawing-interpretation technique.

### 5.4.3 Workshop results and conclusions

To give an idea of what were the main results and conclusions from both tracks of the workshop, we will try to summarize here the most relevant outcomes presented during the journey. Extended details about all the obtained proposals and ideas during the workshop are reported in Appendix C: Workshop in San Sebastián (in Spanish). This extended report was also circulated to the administrations involved and all the workshop assistants.

Relevant ideas/conclusions from challenge 1 - Citizen involvement:

- Need to be listened to; it is basic to generate feedback to be able to know what happens, what does the administration do with our contributions: bidirectional communication

- Generate easy, agile, simple, quick and accessible for all channels to collect citizen ideas; channels that invite to participate (e.g. totem-like, with big tactile screen, simple questioning, very visual). "Yes" to apps, but not only; try to avoid duplicity, there is too many apps for everything
- Need to classify information so as not to get overwhelmed by distracting info when people are not interested; provide information according to people's profile, interests, needs etc.
- Apply rewarding systems to incentive participation (analyse kind of prizes, privileged information, discounts, etc.)
- Relevance of having a participating process, standardized to a whole set of administration initiatives. Avoid the sense of not-knowing where to go or how to claim something, how to provide opinion on one topic...
- Provide mechanisms to educate towards co-responsibility between the citizen and the administration; use ICT to promote that we all form the administration

Relevant ideas/proposals from challenge 2 - Energetic balance for buildings:

- Construct a sense of community
- Need for sensor/actuator deployments / use of ICT to analyse data butches / exploit the use of these databases for third parties. Having information may derive in providing recommendations (how to consume better, how to foresee necessities etc.)
- Cloud / IoT concept seems a requirement
- Possibility for the community of selling services to others: communal data on energy consumption, how consumption is distributed along time periods, etc. This could drive a new business model to sustain communities, or partner with a third company involved in the management of these data and associated services
- Define rewards for the energy saving: benefit those who save more
- Promote green energy, renewable initiatives, improve the energetic qualification of buildings

And to illustrate how the process was performed, along with the conclusion and drawing explanations, we include here a couple of representative pictures of the session:



Challenge 1: Ideas/proposals gathered and grouped on the whiteboard



*Challenge 2: One of the drawings reflected by a group*

## 5.5 Fifth CLINES Innovation Workshop: Leuven

### 5.5.1 Context on the Leuven environment

CLINES aims at driving the application of smart systems in urban areas. An urban area is characterized by high population density and infrastructure. They are areas where people live, work and enjoy their spare times. People playing different roles within different (in)formal organizational structures. Smart systems can enable solutions which make living in urban areas more efficient, effective and enjoyable. Smart Systems are key building blocks to connect people and things, gather relevant data and trigger action. Implementing smart systems into an urban area requires collaboration between people with different expertise, background and roles. For this reason, DSP Valley is elaborating on an X-Inno approach which allows for X-ecosystems, X-discipline, X-sector innovation. And this has evolved in a specific environment around the DSP Valley activities around Leuven and its Smart City environment.

This X-inno approach has been bootstrapped under another EC funded project N4H which aimed at bringing the electronics and life science ecosystem together to collaborate on new applications for personalized healthcare. The CLINES project allowed for adopting the N4H approach for a Smart City context and to develop a more generic X-Inno approach.

As the X-Inno approach aims at establishing collaboration between different ecosystems with a different DNA, a set of 6 common guiding principles has to be taken into account when drafting the X-inno approach. These were the basis when defining the Leuven Innovation Workshop:

1. The X-Inno approach has to accommodate for multi-stakeholders, multi-discipline, multi-sector collaboration.
2. The X-Inno approach has to follow a lean and iterative approach allowing for learning by doing and pivoting.

3. The X-Inno approach has to apply creative techniques to co-inspire and co-innovate.
4. The X-Inno approach has to allow for framing challenges, connecting with partners, cross pollinating across partners and to co-create tangible solutions
5. The X-Inno approach can catalyse cooperation or help to coop with market inefficiencies by granting financial resources but the key driver for collaboration must be a sound business case rooted in a concrete market opportunity.
6. The X-Inno approach applies a structured impact measurement & evaluation process.

Within the context of Clines, this X-inno activity relates to the open innovation exercise which is also part of WP3. The workshop in Leuven has been a first attempt to link the results of the innovation workshops to the concept of open innovation. Innovation workshops are tools to facilitate cooperation between stakeholders. A key element in the X-Inno approach is that a sequence of innovation workshops is needed to support open innovation. People have to get acquainted, have to learn (from each) other. Ideas have to mature and this will not happen overnight.

What we did in the Clines innovation workshops was ‘testing’ some formats of innovation workshops. With the workshop in Leuven we tried to initiated (based on the N4H experience) a sequence of innovation workshops which is needed to effectively support open innovation. By doing this we link the innovation workshop with the open innovation approach.

## 5.5.2 Moon-shot Workshop

As mentioned above the X-Inno approach was bootstrapped during the N4H project. This project focused mobilizing competences to solve concrete challenges defined by Flemish SMEs. Those challenges were not positioned into more strategic context prioritizing the societal challenges which could be solved by technology enabled solutions.

For this reason the 5th CLINES Innovation Workshop was positioned as a Moon-shot workshop. This workshop aims at integrating ‘some’ strategic elements into the X-inno approach through a Moon-shot thinking process. Furthermore this Moon-shot workshop was also a first attempt to evaluate the applicability of the X-Inno approach into a ‘Smart City’ context and to define the hurdles in case the X-Inno Approach is initiated through some common strategic and societal challenges.

A moon-shot, in a technology context, is an ambitious, exploratory and ground-breaking project undertaken without any expectation of near-term profitability or benefit and also, perhaps, without a full investigation of potential risks and benefits.<sup>2</sup>

Moon-shot thinking<sup>3</sup> is shooting for the moon. Moon-shots live in the grey area between audacious projects and pure science fiction. They take on global-scale problems, define radical solutions to those problems, and involve some form of breakthrough technology that could actually make them happen. They are 10x improvement not 10%. Peter Diamandis is suggesting a 5 step approach for moon-shot thinking:

1. Create a team (preferably consisting of creative, curious and open minded people ... youngsters)
2. Question everything
3. Generate ideas
4. Catalogue, select and prioritize those ideas
5. Get funding for the best ideas

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<sup>2</sup> Source: <http://whatis.techtarget.com/definition/moonshot>

<sup>3</sup> Source: <http://www.slideshare.net/slidesthatrock/moonshot-thinking-55294428>

This workshop was a first effort to implement ‘Moon-shot thinking’ in a X-Inno Smart City context and aimed at identifying “moon-shot challenges” for our cities: finding ambitious and exploratory project initiatives to improve the future of our urban lives.

A heterogeneous group of professionals was mobilized for this workshop to have input from as much domains as possible: academia, pharma industry, food industry, technology companies, fashion industry, cities, etc. In total about 55 people assisted to this ‘moon-shot’ workshop.

**HOW WOULD WE SCREW UP PEOPLE'S LIVES IN THE CITIES IN 10 YEARS?**

**EFFECT ANALYSIS EFFECT MEASURING DESIRED OUTCOME**

**OUR MOONSHOT OPPORTUNITY**

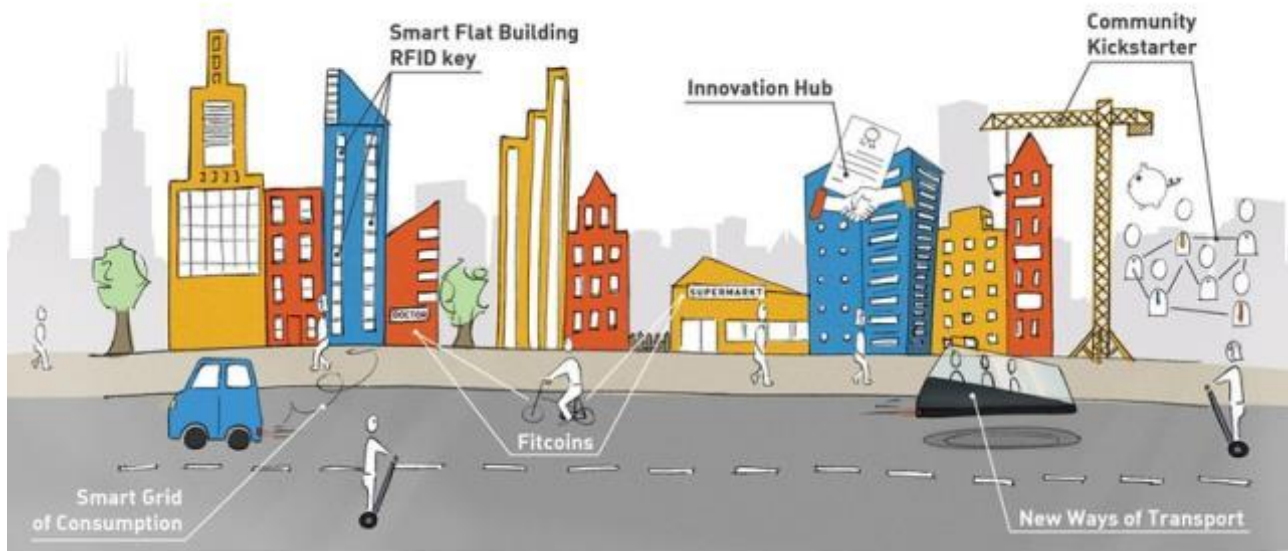
The total group was divided into six teams, to increase output and variety of the ideas.

The participants kicked off the workshop with reverse brainstorming: imagining how we could ‘screw up the lives of the inhabitants of cities in 10 years’. They were given images of possible issues and negative verbs which they had to discuss and combine to find problematic themes. Subsequently, the themes were inverted to a positive statement to reveal the moon-shot opportunity. The groups then proceeded with describing the critical effects if the problem remains untreated, how this can be analysed and how the effects could be measured. Thereafter, the desired outcome, which should relieve the problematic effects, was formulated. They then summarized the problem analysis into a design challenge statement: a scope on the target group, the scope on the solution space and a scope on the desired outcome that should be measured.

Finally, the groups drew out stakeholder map where they identified different clusters of interest (possible partnerships) that could contribute to the design challenge.



### 5.5.2.1 The results



Each of the six groups came up with a ‘moon-shot challenge’. The first group aimed at reducing the cost of our social security by motivating citizens at risk of obesity to adapt a healthy and active lifestyle. They know their initiative is contributing when the citizens meet the guidelines for physical activity and nutrition. Their outcome tries to connect the several actors and instances through a new currency, **the fitcoin**. The fitcoin should generate value by following a healthy lifestyle, which could be exchanged between different actors: supermarkets, personal trainers, doctors...

The second group targeted mental health, wondering how we can empower communities to be self-sustaining and gather around common goals, stimulating creativity and vision. They know they are contributing when they see tangible progress where people start to gather around certain topics.

The outcome can be described as a **community Kickstarter**, where the concept in its most potent form might alleviate government decentralized “operational” projects and spending.

The third concepts also tackles the mental health, by asking how we can make citizens of large cities who feel socially disconnected be able to feel engaged with their communities and happy again. They know they are contributing when they see changes in house prices and joint activities. The group connected several stakeholders and stated that **‘smart flat buildings’** could connect neighbours with similar interests, creating a more positive and tighter social fabric.

The fourth group also challenged mental health, trying to enable people with a distorted work-life balance to have a creative outlet and have a greater satisfaction of their time spending. They know they are contributing when they see less burnouts, stress, and decreased pharmacy visits for stress-related symptoms. Further, they that contribution can be found when we see an increase in entrepreneurial activities. Their idea aims at installing **innovation hubs**, where the emphasis is put on giving people time and knowhow for doing creative work.

The fifth group aims at improving quality of life by inventing and installing **new ways of transport** (or eliminating the need for transport). They state that contributions can be identified when people start to evaluate their life as ‘more happy’. The city of the future provides a better quality of life through alternative ways of transport. Commuters should be able to reclaim valuable time: transportation ultimately eliminates traffic jams. On shorter term, commuters should be able to make their time queuing more profitable, for example by enabling productivity in traffic jams.

The sixth group imagines how we can make low-energy consumption pay off for citizens & organizations? We know we are contributing when energy supply is stable affordable & more sustainable. In this concept – **a smart grid of consumption** - the group aims for complete transparency of production and consumption of all kind of resources (energy, nutrients, etc.). Awareness is the key and first step to tackle any problem. By revealing and democratizing energy production for example, we enable communities to formulate informed ideas for sustainable improvements on various levels. (e.g. water purification system on community level).

In general, there were three large themes that were identified to be of interest for our future urban environment: monitoring and increasing mental health, eliminating or reducing the effects of transportation and energy awareness.

### 5.5.2.2 Next steps

One of the guiding principles of the X-Inno approach is to apply creative techniques to co-inspire and co-innovate. This ‘Moon-shot workshop’ was clearly inspirational and revealing to most of the participants as they witnessed during the networking event after the workshop. In relation to the 5 moon-shot thinking steps suggested by Peter Diamandis, only step 1 to 3 were addressed to some extent in this workshop:

1. Mobilizing about 50 people for a workshop can be a first step to form a team. But upon finalizing the workshop there was no engagement yet of someone who wanted to take ownership of a certain idea. This remains a key challenge.
2. Questions were raised during the workshop but questioning and discussing the urban area challenges must continue. Urban areas are confronted with more relevant challenges than ‘mental’ health, transportation and energy awareness.
3. Ideas are generated and must be further refined to make the concrete enough for implementation. The high level strategic ideas must be translated into smaller and actionable projects.

Through the organization of surveys and follow on workshop the CLINES consortium wants to elaborate on the abovementioned moon-shot ideas, prioritize them and try to mobilize funding for further implementation. How to elaborate on this will also enrich the X-Inno approach and will create a real open innovation environment.

# 6 Appendix A: Workshop in Munich

## 6.1 Promotion Material



## 28 October 2015 | 9:30 – 18:00

### Innovation Workshop Smart City

gate Garching, Lichtenbergstraße 8,  
85748 Garching, Germany

Future cities will be faced with a diversity of challenges which among others will comprise an increase in smartness and an increase in accessibility for citizens. Our „Smart City Innovation Workshop“ was especially designed for the purpose of identifying solutions and products that could be advantageous and helpful in this context.

Our workshop consists of different challenge presentations carried out by municipal representatives: Munich and Buenos Aires (13 million inhabitants in the metropolitan area – ten times the size of Munich). As a matter of fact an individually suitable solution needs to be applied to each city according to its size and infrastructure.

Every challenge has a working group with experts and stakeholders as selected participants. The aim of each selected working group is to identify innovations within the framework of a structured brainstorming process that afterwards enables all group members to present their working results in forms of a movie and a product box.

The Smart City Challenges are as follows:

- Lamp Posts: How can sensors be used in an efficient way to provide new services to citizens? (City of Munich, Dr. Wolfgang Glock; this track is in German)
- Buenos Aires: How to technologically enhance an urban district to make it appealing as a place of residence for the working population? Our guest from Buenos Aires presents and discusses the challenge.

This project is sponsored by the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 320043.

The „Smart City Innovation Workshop“ will bring together experts from different domains to solve challenges that Smart Cities face today. The innovation process – already tested in international workshops – will be chaired by its inventors from Denmark.



**Date:**  
28 October 2015  
9:30 – 18:00

**Venue:**  
gate Garching  
Lichtenbergstraße 8  
85748 Garching, Germany

**Info:**  
[www.bico-net.de](http://www.bico-net.de)







# SMART CITY

28. Oktober 2015 | 9:30 – 18:00 Uhr

## Innovation Workshop Smart City

gate Garching, Lichtenbergstraße 8,  
85748 Garching, Germany

Städte stehen vor vielen Herausforderungen, um „smarter“ und dadurch für ihre Bewohner trotz stark steigender Einwohnerzahlen lebenswerter zu werden. Ziel dieses Innovation Workshops ist es, Lösungen und Produkte zu finden, die sich wirtschaftlich und zum Nutzen der Kommune und der Bürger realisieren lassen, um aus Städten „Smart Cities“ werden zu lassen.

Zwei konkrete Herausforderungen werden vorgestellt von Vertretern der Stadtverwaltungen der Stadt München und der „Mega-City“ Buenos Aires (mit ihren 13 Millionen Einwohnern). Der Unterschied in Größe und vorhandener Infrastruktur wird zu sehr unterschiedlichen Problemlösungs-Ansätzen führen.

Die Teilnehmer sind Experten aus Stadtverwaltung und Unternehmen – sie können in einer entspannten und offenen Atmosphäre über ihre Wissens-Grenzen hinweg denken. Die Ergebnisse des strukturierten Prozesses der Ideenfindung und -ausarbeitung werden als Film und Product Box erarbeitet und vorgestellt.

Die Smart City-Herausforderungen:

- Lichtmasten: Wie können die überall im Stadtgebiet vorhandenen Masten dazu genutzt werden, Dienstleistungen für Bürger anzubieten. Welche neuen Sensoren könnte man dazu montieren?
- Buenos Aires – Wie kann ein Stadtviertel technologisch aufgewertet werden, dass es für die dort Arbeitenden so attraktiv wird, dass sie dort auch wohnen möchten? Unser Experte aus Buenos Aires stellt die Herausforderung persönlich vor.

Der Workshop findet im internationalen Rahmen als Teil des CLINES-Projekts statt: This project has received funding from the European Union's Seventh Framework Programme for research, technological development and demonstration under grant agreement no 320043.

Gemeinsam mit Experten und Entscheidern aus unterschiedlichen Branchen und Smart Cities werden im Innovation Workshop Lösungen für konkrete Herausforderungen von Städten erarbeitet. Eine neue bereits mehrfach erfolgreich erprobte Methode wird von den Erfindern aus Dänemark vorgestellt und eingesetzt.



Termin:  
28. Oktober 2015  
9:30 – 18:00

Ort:  
gate Garching  
Lichtenbergstraße 8  
85748 Garching

Info:  
[www.bicc-net.de](http://www.bicc-net.de)



## 6.2 *Participant Organisations*

DSP Valley vzw  
 fortiss GmbH  
 BICCnet  
 OmegaLambdaTec GmbH  
 Eluminocity GmbH  
 Fraunhofer-Institut für Bauphysik IBP  
 Landeshauptstadt München, HA-III-ITS  
 Götzenberger EDV-Service und -Beratung  
 Cleverciti Systems GmbH  
 Zühlke Engineering GmbH  
 Siemens AG  
 Aalborg University  
 DynaGroup Information Technologies GmbH  
 Kleinhenz Elektronik  
 CDTM Center for Digital Technology & Management  
 Education Centre for Sustainable Growth (ECSG)  
 BMW Group  
 Aalborg University  
 pol Solutions GmbH  
 fortiss GmbH  
 Aalborg University  
 SPRI S.A.  
 innosabi GmbH  
 Technische Universität München  
 GAIA  
 OmegaLambdaTec GmbH  
 Aalborg University  
 Tecnia  
 Semantic Systems  
 City of Buenos Aires  
 SWM Services GmbH  
 VIRALITY GmbH  
 SPRI – Business Development Basque Agency  
 STAT-UP  
 Europoles GmbH & Co. KG  
 Cleverciti Systems GmbH  
 CDTM Center for Digital Technology & Management  
 Siemens AG  
 B2M Software GmbH  
 BICCnet  
 BICCnet  
 Smart Transport Alliance  
 GAIA  
 Munich Center for Technology in Society  
 Osram GmbH  
 Heintzmann IT

## 6.3 *Results from the “Lamp Posts” challenge*

Following are two photos from the final consolidated ideas from two groups in the lamp post challenge – being an output from the canvas step before.

The “product boxes” produced can unfortunately not be shown, since the participants unexpectedly took them home with them after the event.

Lamp Post as Safety Hub



Lamp Post as Data Hub



## 7 Appendix B: The World Café

### 7.1 *The World Café Principles*

#### **Principle One: Clarify The Context**

There is an old saying that if you don't know where you are going any road will get you there. When you have a clear idea of the what and why of your Café then the how becomes much easier. Here are a few questions to ask yourself and those helping you plan:

- What is the topic or issue we want to address or explore?
- Who needs to be invited to participate in this conversation?
- Who represents both the conventional and the unconventional wisdom?
- How long do we have for the inquiry?
- What line(s) of inquiry do we want to pursue? What themes are most likely to be meaningful and stimulate creativity?
- What is the best outcome we can envision? How might we design a path toward that outcome?

#### **Principle Two: Create Hospitable Space**

Most meeting places are sterile, cold, and impersonal. Consider choosing warm, inviting environments with natural light and comfortable seating. Honour our long traditions of human hospitality by offering food and refreshments. Hospitable space also means "safe" space--where everyone feels free to offer their best thinking.

Hospitable space begins with the invitation to attend a Café. Include the theme or central question you'll be exploring in your Café in the invitation. State it as an open-ended exploration, not a problem-solving intervention. Use colour, hand printing, graphics and other ways to make it stand out from the deluge of paper and e-messages we all receive.

When we ask people where they have had some of their most significant conversations, nearly everyone recalls sitting around a kitchen or dining room table. There is an easy intimacy when gathering at a small table, that most of us immediately recognize. When you walk into a room and see it filled with café tables you know that you are not in for your usual business meeting.

Creating a Café ambiance is easy and need not be expensive:

- Stagger the tables in a random fashion, don't set them up in straight rows
- Use round tables that seat no more than five (four is ideal)
- Use plastic red checked tablecloths
- Cover these with two sheets of flip chart paper
- Place a mug or wine glass filled with water-based markers to encourage people to write and draw on the tablecloths
- A small bud vase and a votive candle will complete the table set up
- Have some soft music playing as people arrive
- Be sure to have some food and beverages available

**Principle Three: Explore Questions That Matter**

Knowledge emerges in response to compelling questions. Find questions that are relevant to the real-life concerns of the group. Powerful questions that "travel well" help attract collective energy, insight, and action as they move throughout a system. Try to craft questions that will stimulate a diverse range of thinking. Generating a multiplicity of viewpoints will enrich the dialogue and will result in better collective understanding of the dynamics involved in a system. Depending on the time available, and your objectives, your Café may explore a single question or use a progressively deeper line of inquiry through several conversational rounds.

As we have worked with groups over the years we have asked hundreds of people what makes a powerful question. Several themes have emerged.

A powerful question:

- Is simple and clear
- Is thought provoking
- Generates energy
- Focuses inquiry
- Surfaces assumptions
- Opens new possibilities
- Invites deeper reflection
- Seeks what is useful

David Cooperrider (Cooperrider, Whitney, & Stabros, 2008) has long championed something he calls "appreciative inquiry." The major premise here is that the questions we ask and the way we ask them will focus us in a particular manner and will greatly affect the outcome of our inquiry. If we ask: What is wrong and who is to blame? We set up a certain dynamic of problem-solving and blame assigning. While there may be instances where such an approach is desirable, when it comes to hosting a Café, we have found it much more effective to ask people questions that invite the exploration of possibilities and that connect them with why they care.

One potential pitfall is posing questions that ask about the nature of truth. Philosophers have spent thousands of years arguing the nature of truth and many of the wars in history have been fought over such questions. We are after "shared meaning", which does not mean that we all share the same perspective on what is true, but rather, that each participant has the opportunity to share what is true and meaningful for them. This in turn will allow us all to see our collective situation in a different light, hopefully enlarging our individual views of truth along the way. Our experience has been that questions which focus on "What is useful here?", are more effective at generating engagement on the part of participants and tend to provoke less defensive reactions than questions which focus on "What is true?"

**Principle Four: Encourage Everyone's Contribution**

People engage deeply when they feel they are contributing their thinking to questions that are important to them. Encourage all participants to contribute to the conversation. As Meg Wheatley says "Intelligence emerges as a system connects to itself in new and diverse ways." Each participant in the Café represents an aspect of the whole system's diversity and as each person has the chance to connect in conversation more of the intelligence inherent in the group becomes accessible.

We have found that on occasion it is helpful to have a "talking object" on the tables. Originally used by numerous indigenous peoples, a talking object can be a stick or stone, a marker or salt shaker, almost anything so long as it can be passed among the people at the table. There are two aspects to the talking object. Whomever holds the talking object is the only one empowered to speak. And whomever is not



holding it is empowered to listen. For the speaker the responsibility is to focus on the topic and express as clearly as possible their thoughts about it. For the listeners, the responsibility is to listen with the implicit assumption that the speaker has something wise and important to say. Listen with a willingness to be influenced, listen for where this person is coming from and appreciate that their perspective, regardless of how divergent from your own, is equally valid and represents a part of the larger picture which none of us can see by ourselves.

It is not necessary to use a talking object all the time, but in cases where the topic being explored raises impassioned responses, it can be a very effective way to ensure everyone has the opportunity to contribute, even if they simply choose to hold the talking object and observe a few minutes of silence.

### **Principle Five: Connect Diverse Perspectives**

Ask members to offer their individual perspectives and listen for what is emerging "in the middle of the table". Use the tablecloths and markers to create a "shared visual space" through drawing the emerging ideas. Sometimes the co-created pictures can really be worth a thousand words in showing the relationships between ideas.

A woman we know once remarked: "The most radical thing you can do is to introduce people to folks they don't know." Make sure that members from the first round each go to different tables as the conversational rounds progress. This cross-pollination of ideas often produces surprising results that could not have happened otherwise.

Setting up your Café in conversational rounds and asking people to change tables between rounds allows for a dense web of connections to be woven in a short period of time. Each time you travel to a new table you are bringing with you the threads of the last round and interweaving them with those brought by other travellers. As the rounds progress the conversation moves to deeper levels. People who arrived with fixed positions often discover that after a couple of rounds of conversation they are more open to new and different ideas.

Our experience shows that it's very useful to ask one person to remain at a table to act as the table host. This person will summarize the conversation of the previous round for the newcomers ensuring that any important points are available for consideration in the upcoming round.

### **Six: Listen Together and Notice Patterns**

Listening is a gift we give to one another. The quality of our listening is perhaps the most important factor determining the success of a Café. Whole books and courses have been written about how to listen. One of our favourite analogies comes from jazz great Wynton Marsalis who explains that when jazz musicians get together to jam, whoever is the best listener ends up contributing the most to the music, because they are able to play off of whatever is being offered by the other cats in the band. Café conversations share that jazz element of inviting each person to express themselves authentically, and those who listen skilfully are able to easily build on what is being shared. A few tips for improving our listening:

Ask folks to notice their tendency to plan their response to what is being said, and inquire internally as to how they can best support themselves and others as both speakers and listeners

- Listen as if each person were truly wise, and sharing some truth that you may have heard before but do not yet fully grasp
- Listen with an openness to be influenced by the speaker
- Listen to support the speaker in fully expressing themselves
- Listen for deeper questions, patterns, insights and emerging perspectives
- Listen for what is not being spoken as well as what is being shared

### **Principle Seven: Share Collective Discoveries**

Conversations held at one table reflect a pattern of wholeness that connects with the conversations at the other tables. The last phase of the Café involves making this pattern of wholeness visible to everyone. To do so, hold a conversation between the individual tables and the whole group. Ask the table groups to spend a few minutes considering what has occurred in their Café rounds which has been most meaningful to them. Distil these down to the essence and then have each table share out to the whole group the nuggets which are being discovered at their table. Make sure that you have a way to capture this, either on flip charts, or by having each table record them on large post-it notes, or even their table cloths which can then be taped to a wall so that everyone can see them. After the each table has had a chance to report out to the whole group take a few minutes of silent reflection and consider:

- What is emerging here?
- If there was a single voice in the room, what would it be saying?
- What deeper questions are emerging as a result of these conversations?
- Do we notice any patterns, and if so, what do those patterns point to, or how do/can they inform us in moving forward?
- What do we now see and know as a result of these conversations?

### **World Cafe Questions**

QUESTIONS are a central part of Cafe conversations. Any one of the following list might launch a lengthy process of discovery. The following are the questions that we discovered during Juanita Brown and David Isaac's recent Homestead Cafe:

- Who called you to this Cafe? What role did this person play in your expectations?
- What most attracted you to the idea of participating in this Cafe?
- What natural process might emerge, if we let it happen?
- If there is a deeper reason for us to be here, what is it?
- Can we bring our full essence to this discussion?
- What stands in the way of each of us being fully present in this gathering?
- What social patterns are common to your culture? Does "Cafe" have meaning?
- What other terms work to convey a place where intimate informal conversations might take place? Around the kitchen table? at the "tavern" or "pub" ?
- How do cultural differences impact the way in which bring ourselves fully to the Cafe?
- What are our individual rhythms and ways of learning and knowing?
- At what level do we want the conversations to begin?
- What is possible here? Can we "listen to the source" and bring in something greater than ourselves?
- Is there an individual, a collective and an over-arching "source"?
- If so, would it be helpful to tap into individual sources or collective ones, rather than the ultimate source?
- What draws us together?
- How much does the first person who speaks set the tone for the ensuing conversation?
- What is the impact of "initiating conditions" on the Cafe?

- Can we by-pass some of the trust issues that normally keep us from opening up and move more quickly to deep conversations?
- If so, what processes might best enable us to do that?
- How can Cafe learning contribute to a collective intelligence?
- How can we balance the need for design with the desire for emergence?
- Where is the "both/and" of these two?
- How can we offer hope?
- What is the role of storytelling in our Cafe experiences?
- What are the most simple, elegant designs that might bring us together?
- In what ways are we already connected?
- Where is the "magic" in our self-organizing, in our collective "remembering" in our sense of "coming home"?
- How can we develop a CULTURE OF COMPASSION?
- Our institutions are lagging behind -- what might move them to a shift of consciousness?
- Perhaps we are already moving to a collective consciousness -- if so, how can we make it more visible?
- How can I remain open to grace?
- What role does collective grief -- a shedding of tears of joy as well as sorrow, play in our coming together?
- Can we step into the unknown?
- What images, symbols, key phrases (such as "I have a dream") might cause a shift?
- To what degree might it be possible for me to see the world through your eyes?
- When in life have you waited until it was too late to have an important conversation? What is keeping us from the necessary conversations?
- How well do I know myself?
- What am I hiding?
- Is there a way we can decide to FEEL first and only then speak? What might result?
- Do I give myself permission to be fully myself? If so, when does that occur?
- What is the relationship between self-knowledge and the ability to participate in these conversations?
- Could I ever take a group to a place that I have not already visited?
- To what degree am I being what others expect?
- Does our "expertise" distract us from exploring the essence?
- Collectively, what are we letting go of?
- How comfortable are we with not knowing?
- How can the "quality that has no name" be sourced into hope?
- Can time and healing flow through us?
- How can we share what we are developing through a new model that is not

- bound to traditional conventions of rights, authorship and ownership?
- How do we carry this "spirit" back to the world?
- How can we stay connected?
- Are we already connected in ways we have failed to notice?
- What is the new collective story that we could live into?
- How can we enable/encourage others to move to more fluid relationships?
- What is the role of healing in our gatherings? How can we become a healing community?

### Strategic Questioning

(Hutchinson) wrote this article as a good summary of Fran Peavey's booklet "Strategic Questioning: An Experiment in Communication of the Second Kind," compiled from talks she gave in 1988-1992 (Peavey, 1992).

Strategic questioning addresses the question: *"How can we participate in the creation of change?"*

Strategic questioning assumes that the direction and energy for change is contained in the people involved in the situation, but that it must be brought to the surface and helped to ripen (madurar), individually and collectively. Strategic questions are designed to do that.

So if you want to know what needs doing, ask those involved. If it is your own personal problem, ask yourself. And then listen, deeply. "What will it take for us to begin listening deeply to each other?" (This is a good strategic question, by the way...).

*"We truly listen if we sense ourselves to be in danger. Imagine, for example, that there is a murderer at large and we are alone in bed in the middle of the night and there is a noise downstairs. At times like these, we stop moving, our entire body, inside and out becomes very still until nothing is left but a heartbeat. Even our breathing becomes inaudible. Our concentration is focused totally on the sound. Animals, sensing danger, stop in their tracks and literally prick up their ears to listen.... We need to listen as if our lives depend on it."*

(from "Matsumoto News: A Newsletter by Karen Hagberg; March 1990)

Any strategic question worthy of the name has many possible answers. In any case, if you are asking a strategic question, never assume you know the answer, or you won't hear the real answers when they emerge. You won't give them enough space to unfold fully.

The unfolding of good answers is in many ways more important than the answers themselves. During that unfolding, peoples' relationship to the situation comes into focus and evolves - and the WILL to create change emerges. Any answer's power derives only from the truth and passion that lie buried in the heart of the answerer. The power of the question itself is merely its leverage in releasing that truth and passion into the world.

"There is a real competence that can be learned in schools, but the wisdom, experience and will to make change, as well as to create the environment and culture for change is in all of us."

That's what strategic questioning activates.

The supreme test of a strategic question is the change that ultimately happens as a result of it. A strategic question involves us and all potential answerers "in the innate, spontaneous imagery which organically draws us forward to appropriate realities of the future. Strategic questioning is a context-altering process since the

asking of questions opens up alternatives in a social context, as well as giving the political worker ideas about which strategies are imbedded in the society they are working in."

Some people (including social change workers) see themselves as "more important and powerful and wiser than others," and believe that their job is to inform and motivate everyone else. "The motivation model assumes that I see the appropriate place you (or we) could be and that if only you (or we) move there, that would be an appropriate place for us to be. Whereas I believe that the most appropriate place for us to be is in relationship with each other, acknowledging that you sense reality from your perspective and that a natural confluence in our relationship will bring us to an appropriate place which I, in true humility, don't yet fully know."

This NOT KNOWING is an essential ingredient in strategic questioning. "Most of the questions we were taught in school are questions that deal with information that's already known. 'Why is the sky blue?' 'What is four times four?' A strategic question is a question that brings forth NEW INFORMATION."

"What we know of life is only where we have decided to rest with our questioning. We can operate with what we know: but we can be sure of one thing - somewhere someone is not resting at that state of knowing; they are researching and questioning - working on a new discovery."

### **Movement and Leverage**

"Whenever we're doing strategic questioning, we're always looking for the motion. [It helps people] go past the edge of what they know about themselves and discover new aspects."

Fran Peavey notes that some questions are more powerful, have more leverage than others. "A good strategic question opens the options up. A long lever question opens up more possibility for motion than a short lever question. 'Why don't you move to Sydney?' would be a short lever question. A longer lever question would be 'Where do you feel you'd like to move?' or 'What is the meaning of this move in your life?'"

"The most important skill in strategic questioning is that of looking for action in static communication, being able to recognize movement and the intention for movement - and then feeding that perception back to the person involved. What would our world be like if every time we were listening to a gripe (quejas) session, someone would ask, 'I wonder what we can do to change that situation?' and then listened carefully for the answers and helped that group begin to work for change?" (That last sentence, which contains a strategic question, is, itself, a strategic question.)

### **The Questioner's Answers**

It is usually important for the questioner to be aware that their own answers to the question may not be helpful to the questioned. Their answers can close the other person off from their own fullest thinking and feeling and short-circuit whatever answers might be bubbling up in them. If more needs to be said, it is usually more helpful to ask further strategic questions to ripen the inquiry further, than to chime in with your own two cents worth.

This doesn't mean always suppressing your own opinion. "It only means that you carry your opinions in a way that does not interfere with dialogue, respect and co-creation of alternatives."

### **Opening Up Options**

Strategic questioning assumes that "the world is far more complex and exciting than two options would indicate; but having two options creates the idea that a decision, however limited, is being made." A strategic questioner tries to get beyond that.

"A friend whose daughter had run away was trying to decide whether to let her get on the train in a few hours, or to go to the train and insist that she come home. We worked at that level for a while, and then a new option came up - why not run away with the daughter and take the twelve hours on the train to sort things out."

**Change Views**

"Individuals and societies have discrete views of how change happens." This is their "change view" and the strategies they are willing to use will come out of that. So it is important to ask them what changes they have seen and how they explain them.

"People who mention educational campaigns are the most likely to put money and energy into educational campaigns. Those mentioning law suits will support challenges in court. Writers think of change as coming from popular articles, and so forth."

## 8 Appendix C: Workshop in San Sebastián

List of participant companies in the CLINES Workshop:

ABM REXEL
Alecop
BICC NET
Bilbomatica
Deusto Sistemas
Dinycon sistemas
Dominion
Enigmedia
Entelgy Ibai
Fidenet Comunicación, S.L.
EUROHELP CONSULTING, S.L.
Fidenet Comunicación, S.L.
Ibatuz
IKEI research & consultancy
IKUSI
INERGETIKA
iPlay Urban Design
Lotura.com
ODEI, S.A.
SGSmap
TeachforSociety
THAUMAT
ULMA Embedded Solutions
VODAFONE

### 8.1 *First track: Citizen involvement*

Reto planteado por la Diputación Foral de Gipuzkoa: cómo incrementar y mejorar la participación ciudadana a través de las TIC.

Ideas destacadas durante la presentación del reto:

- Buen Gobierno / Responsabilidad / Open Data

- La Propia Participación ciudadana a través de una plataforma, que nos permita participar en proyectos, presupuestos, hacer peticiones... Para ello, la Diputación Foral de Gipuzkoa está trabajando con los siguientes objetivos:
  - Necesidad de un **liderazgo político** que le acompañe una **normativa y legislación**
  - **Canales presenciales y on-line**
  - **Abordar la Brecha Digital y la accesibilidad**
  - **Democracia directa- voto electrónico**

*Dinámica de trabajo: World Café*

*5 mesas de trabajo con 4 personas cada una*

### 8.1.1 Collection of ideas

A continuación se muestra una foto de los tarjetones expuestos en la pizarra, resumen por colores de las principales ideas trabajadas en cada mesa.



Para que los grupos pudieran sintetizar todas las propuestas surgidas en 4 tarjetones, se les indicó algunos criterios que podían utilizar como clasificación: viabilidad técnica y económica de la propuesta, grado de innovación que requería, posibilidad de replicar la propuesta en otros contextos, ciudades o países.

Por temática, hubo ideas que se trabajaron en varias de las mesas. Se ha tratado de realizar una clasificación temática de los resultados con la intención de facilitar posteriores análisis derivados de este informe. Los tres grandes temas comunes han sido los siguientes: mejora de la comunicación entre administración y ciudadano (línea 1 de tarjetas en la foto), retorno en forma de aliciente a los participantes (línea 2 de tarjetas en la foto) y tipología del sistema haciendo referencia a la sencillez de uso (línea 3 de tarjetas en la foto). También quedaron algunas ideas no tan conectadas, que aparecen en la parte baja de la foto en la pizarra.



La explicación de todas las ideas recogidas por parte de los portavoces de cada mesa se resume a continuación.

### **1. Recompensa – Smart Hook**

Tenemos acceso a muchas redes sociales y aplicaciones, que en realidad no utilizamos, o muy poco, borramos muchas de ellas por no encontrarlas útiles... tenemos perfiles profesionales y personales...

Sería necesario desarrollar una app que el ciudadano encuentre realmente útil y además le suponga un incentivo → por ejemplo, recibir una variedad de información local/regional, clasificada y ordenada por gustos/preferencias configuradas por él.

En realidad tenemos ya acceso a multitud de datos e información pero de forma dispersa y con la demanda de búsqueda activa por parte del ciudadano. En forma de incentivo, la app podría configurarse de tal modo que el usuario reciba aquello que le interesa y de un modo pasivo y ordenado.

Que la app funcione como “Smart Hook”, que enganche al ciudadano a través del uso útil.

En el futuro, el móvil será el dispositivo de identificación digital único para un ciudadano, por lo que previsiblemente será también el medio para relacionarse con cualquier administración → podría extraerse información sobre qué búsquedas o información selecciona el usuario en la app, trazar sus intereses, preocupaciones...

Además es fundamental que el ciudadano reciba un feedback por parte de la administración en cuanto al uso que hacen de su input → por ejemplo, si el ciudadano tiene opción de reportar sucesos, críticas, quejas, opiniones... que exista un canal de retorno a través del cual se refuerce la sensación de que no cae en saco roto y se escucha, se emplea para mejorar o al menos se ha tenido en cuenta, aunque no se pueda llevar a cabo.

Sería deseable unificar las apps desde diferentes administraciones.

### **2. Mejorar el canal de comunicación**

Que la Administración se muestre más activa en general, tanto en medios como en redes sociales, de forma que el ciudadano sienta mayor cercanía y conexión (que no se vea como un ente distante y separado de la ciudadanía y sus intereses).

El portal/medio de acceso debería ser de usabilidad muy sencilla, cercano y muy ágil. Lo más extendido para los ciudadanos es el uso a través del móvil.

### **3. Escucha activa de redes sociales y unificación de procesos**

Puede haber diferentes interfaces de app (de ámbito local, regional...) pero que compartan procesos comunes y unificados (no procesado independiente) que permita reutilizar desarrollos.

Se pueden desarrollar mecanismos SW para escucha activa de participación en redes sociales establecidas y de uso general.

### **4. Escucha activa. Participación**

La administración debería jugar un papel relevante en las redes sociales → como un ciudadano más (esto permitiría una mayor identificación).

Es importante que el ciudadano no perciba que la administración está presente ahí para ejercer control, sino en una relación de tú a tú.

#### **5. Comunicación de casos de éxito**

Resulta un incentivo para el ciudadano conocer iniciativas previas de la administración que se han generado a partir de peticiones o propuestas de sus vecinos, que han sido atendidas y se han resuelto con éxito para ambas partes.

La difusión de este tipo de acciones refuerza y fomenta la identificación del ciudadano con su administración y promueve la participación activa.

#### **6. Feedback SMS + Redes sociales**

Que el ciudadano perciba que su respuesta hacia la administración es importante y se sienta tanto escuchado como reconocido.

Aportar siempre requiere cierto esfuerzo, por lo que es necesario reconocerlo con un retorno positivo, una recompensa emocional.

#### **7. Canal digital para valoración y federación de propuestas**

Es una molestia que se toma el ciudadano el hecho de participar y valorar aquello que le solicita la administración, por lo que debería recompensarse su participación → quizá un reconocimiento por su respuesta.

#### **8. Aliciente + retorno al ciudadano**

Aliciente tanto económico como en forma de acceso privilegiado a información, o cierto beneficio.

El retorno se emplearía para que la información proporcionada por el ciudadano, le vuelva en forma de conocimiento de para qué se ha empleado o en qué ha servido.

#### **9. Totem emocional**

Utilizar un medio visual muy sencillo e intuitivo, que permita dar respuestas muy fáciles (incluso para personas mayores, no familiarizadas con la tecnología). Similar a los existentes a la salida de algunos aeropuertos o comercios.

Por ejemplo, dar respuestas a través de iconos a preguntas sencillas, para recoger feedback. Podrían situarse en zonas comerciales, paradas de autobús, parking...

#### **10. Sistema sencillo**

Parecido al “Totem emocional”.

Planteamiento de preguntas sencillas, muy concretas que permitan una respuesta con valoraciones simples.

#### **11. Personas en la brecha digital**

Colectivo de personas mayores, con mucha experiencia interesante, fundamentalmente jubilados → no iniciados en el uso de tecnologías, apps, redes sociales, etc.

Precisan un acceso muy sencillo, quizá via Totem, que permita recoger sus opiniones.

Se puede emplear otro tipo de mecanismos con ellos, presenciales, de tipo charla, o evento informal, donde puedan compartir sus impresiones de cara a iniciativas de la administración.

## 12. Corresponsabilidad

Es importante afianzar la idea de que “la administración somos todos” e implicar al ciudadano apelando a su responsabilidad de participación en todo lo que le atañe, incluidos los asuntos de la administración.

Para este objetivo, es necesario invertir en educación de esta responsabilidad, cultura social, y quizá emplear técnicas como la gamificación para enganchar a colectivos especialmente “desconectados” de la administración, como pueden ser los jóvenes.

## 13. No sólo ni más apps

Existe cierta saturación de apps, efecto que consigue que el usuario deje de utilizarlas o mostrar interés por alguna nueva → no resulta útil.

Existen canales ya generalizados entre la población: Facebook, Twitter, incluso televisiones (ETB), periódicos...

Lo fundamental es que estos canales sirvan para escuchar al ciudadano, no “aleccionar” desde un atril, ni dar información en modo magistral, sino recibir y escuchar.

Es importante contar con protestas ciudadanas, movimientos sociales ya existentes e incluirlos en la escucha, no tildarlos de minoritarios o insignificantes.

## 14. Replicabilidad – instrumentos universales

Que no se limiten a un ámbito local, sino que se extienda el uso de un canal establecido y se pueda replicar y extender para diversos entes administrativos. Que no resulte en que cada administración establece un medio diferente → generalizar un medio ya extendido.

La idea de “ventanilla única” pero no únicamente para acciones obligatorias (como el pago de impuestos).

## 15. Open Data (Colaboración público-privada)

El acceso a los datos puede permitir a terceros (empresa privada) desarrollar activos/servicios adicionales → sería bueno establecer un canal de retorno de dicha información para visibilizar lo que ha sido posible realizar partiendo del uso de datos abiertos (fomentaría la imagen abierta de la administración también).

### COMENTARIOS ADICIONALES

- Cuidar especialmente el tema de protección de datos y anonimato, sobre todo para ciertos tipos de participación.
- Determinar la frecuencia y los temas de consulta con cuidado → evitar el efecto atosigamiento del ciudadano a base de una frecuencia excesiva de consultas.

## 8.2 *Second track: Energetic balance for buildings*

Reto planteado por Fomento de San Sebastián: el empleo de las TIC para el balance energético y modelos de negocio en la rehabilitación energética de edificios.

Ideas transmitidas durante la presentación del reto:

- Necesidad de abordar los temas de rehabilitación y balance energético
- Sensación de tener que conocernos antes a los diferentes actores de la cadena de valor, las necesidades, de ahí vendrán las propuestas y las soluciones
- Utilizar los métodos o generar propuestas a través de la innovación abierta, colaborativa
- Necesidad de conocer el dato, y medirlo, así podremos tomar decisiones y actuar, por ejemplo ¿qué se puede hacer para tener un ahorro en el consumo energético?
- DIFICULTADES
  - No existen **bancos especializados** en inversiones en energías renovables (como sí ocurre en otros países)
  - Necesidad de **empresas con músculo** suficiente para abordar este tipo de retos a largo plazo
  - Los **procesos son a largo plazo**... en el corto no parece tan importante el producto
  - El **mercado es amplio**, es necesario conocerlo... identificar dónde están las oportunidades

*Dinámica de trabajo: Variación de Rich Pictures – Método del Dibujo e Interpretación*  
 4 mesas de trabajo con 4-5 personas

Este método de trabajo creativo en grupo tiene dos partes: una primera en la que los participantes intentan plasmar sus respuestas al reto planteado a través de representaciones gráficas y una segunda en la que los equipos abandonan sus esquemas gráficos y emigran a otra mesa en la que deben interpretar el significado de la representación gráfica que encuentren.

## 8.2.1 Collection of pictures and ideas

### 1. DIBUJO 1



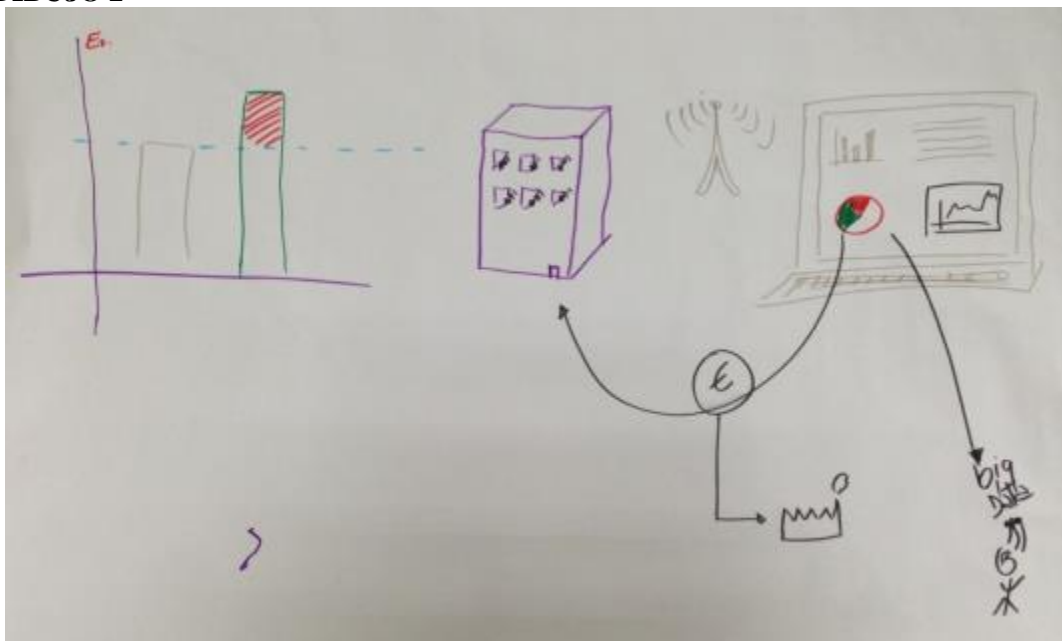
### Interpretación

- Persona más o menos joven. Hay sensorica desplegada en todas las viviendas. El comportamiento es como de una entidad única (centralizado). El objetivo parece el rendimiento/ahorro → pero con un reparto justo a posteriori de los beneficios logrados
- Parece que hay ciertas personas que no quieren formar parte de la comunidad.
- La solución debe cubrir a diversos tipos de familia y ser sostenible.
- No se identifica el modelo de negocio representado.
- Parece un modelo colaborativo y social.
- Lo que llega al corazón, sale de diferente forma y es distribuido → lo que se aporta desde la comunidad, vuelve de otra manera a la misma.
- La cámara significa establecer vigilancia en la zona del río.
- Puede incluso parecer un bebé → proyecto no maduro??

### Significado

- Es un sistema comunitario, con sentido de pertenencia, un lugar agradable para vivir, donde se acoge a quien llega. Trata de imitar los procesos de la naturaleza y el cuerpo humano.
- El corazón representa el central heating → color azul: lo que llega frío, color rojo: lo que ya es ha calentado.
- Sistema nervioso representa el despliegue IoT → la recogida de datos distribuida
- Cerebro representa las TIC → procesado de todos los datos, el lado izquierdo de forma lógica, el lado derecho de forma creativa
- Brazos como actuadores → resultado de las acciones a aplicar/desplegar
- Expresión facial representa el aspecto agradable de la comunidad
- Río + piernas → el agua escoge de forma natural el camino más corto → potenciar la zona del río con una zona de recreo/paseo agradable hasta el centro → mayor comunicación entre este área y el centro de la ciudad
- Modelo de negocio? → la información sobre el consumo permite ajustar la producción de energía y también almacenar el sobrante

## 2. DIBUJO 2



Interpretación

- A partir de un sistema de control, se establece una consigna, el objetivo o normativa a conseguir/cumplir.
- Se despliegan sensores en las casas para generación de datos de consumo.
- Se realiza un tratamiento de los datos para convertirlos en información útil.
- El análisis de esta información permite un retorno hacia los propios usuarios (para su ahorro) y hacia las empresas (para ajustar su producción/distribución).
- Las empresas pueden actuar ofreciendo soluciones para ahorro energético.

Significado

La interpretación ha sido muy acertada.

Se refleja un modelo de negocio para la aplicación de las TIC:

- Crear nuevos tipos de empresa que ofrezcan servicios a comunidades a cambio de un porcentaje del ahorro conseguido, por ejemplo
- Explotación de los datos por las empresas eléctricas/distribuidoras

**3. DIBUJO 3**Interpretación

- Sensórica desplegada en las casas → se mide cómo entra y cómo se consume la energía, partiendo de un sistema de central heating.
- Los datos se suben a la nube. Se crea una plataforma para analizarlos.
- Se busca un ahorro en las emisiones y quizá esto proporciona una mejor calificación energética de la vivienda → podría dar lugar a subvención por energía limpia y sostenible.

Comentario crítico: optar a subvenciones no es un modelo de negocio real

Significado

- La nube podría ser desarrollada por una empresa externa que se encargaría de explotar la información disponible procesada.

- El sol representa una fuente de datos/información → datos meteorológicos, por ejemplo, que pueden cruzarse con los datos de consumo y generar modelos de predicción
- Modelo de negocio → district heating con fuentes de biomasa

#### 4. DIBUJO 4



#### Interpretación

- District heating → instalación de suministro de calor, tanto en edificios de nueva construcción, como en viviendas rehabilitadas.
- Parece que existe una apuesta (dados) que representa la inversión necesaria para ver si la obtención de los datos y su tratamiento, revierte algún beneficio.
- Se realiza un análisis/procesado de los datos con el objetivo de una reducción en el consumo → esto se comunica a los medios (a través de Iberdrola?) → el efecto podría ser que otras comunidades quieran adherirse al proyecto también → permitiría recuperar la inversión.
- En el río parece que se despliega un sistema de control para el desbordamiento, parece un modelo de negocio bidireccional (doble flecha). Se instalan también placas solares.
- Parece una experiencia piloto para evaluar la viabilidad y posible extensión del proyecto.

#### Significado

- Se realiza un despliegue IoT en todo tipo de viviendas (nuevas y rehabilitadas) → la información se procesa en Big Data → se obtienen analíticas de consumo → se busca obtener una reducción del mismo → la instalación de placas solares ayudaría en la reducción.
- Se podrían generar sugerencias “óptimas” de consumo a partir de los datos en postprocesado → esta información serviría a la comunidad para regular su autoconsumo.
- Los datos representan la posibilidad de incluir “gamificación” como incentivo para los usuarios de la comunidad → se podría elaborar un ranking anónimo de “mejores ahorradores” en función de las analíticas de consumo y las sugerencias de autoconsumo emitidas por el sistema → se podría diseñar

qué privilegios obtienen los más ahorradores, por ejemplo, o beneficiar a las comunidades que mayor ahorro consiguen en conjunto.

- Por otro lado se podría vender esta información a terceros, a Iberdrola.
- Podría ser interesante detectar presencia en las viviendas a partir de los datos de consumo energético y vender esta información a cadenas de TV, para una mejora en la programación de su parrilla → las comunidades obtendrían beneficios adicionales por estas ventas de datos.
- La sensórica desplegada en el río representa un sistema de alerta temprana por desbordamientos.

### 8.3 Conclusions

De las 26 personas inscritas en el workshop y que mostraron interés en participar, finalmente contamos con 20 personas participando en la jornada. El ambiente fue distendido y agradable, siendo las primeras impresiones al término de la mañana muy favorables por parte de los asistentes.

Las dinámicas planteadas resultaron animadas y con mucha actividad en todas las mesas de trabajo.

Se decidió arrancar la jornada con la técnica de World Café para el primer reto, ya que ésta se presta más a la interacción directa de los participantes para romper el hielo y a compartir reflexiones de todo tipo en torno al reto planteado.

Para reflejar las principales ideas de cada mesa en los tarjetones de colores se proporcionaron algunos criterios orientativos que pudieron servir para una ligera clasificación de todas las propuestas discutidas: viabilidad técnica y económica de la propuesta, grado de innovación que requería, posibilidad de replicar la propuesta en otros contextos, ciudades o países.

Como conclusiones, resumimos a continuación los mensajes destacados del trabajo con el primer reto: participación ciudadana.

- Necesidad de ser escuchados, que además se genere feedback saber qué pasa, donde va, qué se hace con lo que aportamos. Comunicación bidireccional
- Generar canales fáciles, ágiles, sencillos, rápidos, accesibles para todos, que nos enganchen (se habla de los totems...pueden ser cosas muy visuales). Algo que nos "enganche". Sí APPs pero NO únicamente y tratar de evitar duplicidades, sensación generalizada de que hay muchas
- En este sentido, quizá no sea todo para todos: necesidad de clasificar la información / también quizá perfiles de los propios ciudadanos. Información según necesidades del ciudadano
- Quizá necesidad de aplicar sistemas de recompensa para incentivar la participación ciudadana (analizar dichos sistemas, premios, disponer de información privilegiada antes que el resto de los ciudadanos, etc)
- Se ve como algo importante contar con un proceso participativo, y además que sea algo estándar para el conjunto de las administraciones. Evitar sensaciones de despiste o dónde o cómo acudir, transmitir nuestra opinión, aportación.
- Sensibilizar y educar hacia una corresponsabilidad, con las TICs y a través de las TICs...aquello de que "la Administración somos todos"

Tras una breve pausa, se reanudó la tarea introduciendo una técnica llamada Dibujo Interpretación, con un componente mucho más divergente que la técnica anterior. El segundo reto era de ámbito más concreto por lo que aplicar una dinámica divergente podía ayudar en la aportación de ideas rompedoras. Siendo que el hecho de dibujar no es algo con lo que todas las personas se sienten cómodas de natural a la hora de reflejar ideas o pensamientos, entendíamos que aplicar esta dinámica después de haber trabajado ya un World Café era más adecuado.

Igualmente, a continuación extractamos los mensajes destacados del trabajo con el segundo reto: balance y ahorro energético.



- Sentido de comunidad.
- Necesidad de sensórica / uso de las TICs para análisis de datos / explotación de los datos a través de bases de datos. Teniendo datos se puede hacer recomendaciones (sobre cómo consumir, qué necesidades se pueden tener).
- Concepto de Cloud./ IoT.
- Posibilidad de vender servicios (ejemplo datos de la comunidad de vecinos: que consumen, de qué manera, etc, a una empresa tercera, y ésta paga por esa información: posible modelo de negocio).
- Premiar el ahorro: beneficiar a quien más ahorre.
- Impulsar las energías limpias, verdes, renovables. Y mejorar la calificación energética de los edificios y viviendas.