

## COORDINATING ACTION



**FIREBALL**

FP7-ICT-2009-5

# D2.2 – ESTABLISH AND RUN A EUROPEAN JOINT COMMUNITY FOR FUTURE INTERNET AND OPEN INNOVATION

*This report presents the strategy and the rationale followed within the FIREBALL project to establish and run a European Joint Community for Future Internet and Open Innovation. This document aims to report and describe also the events and initiatives within the project to involve and engage relevant key organizations to accomplish the above task and objective.*

### **ABOUT FIREBALL**

*The over-all objective of the FIREBALL project is to coordinate and align methodologies and approaches in the domains of Future Internet (FI) research and experimentation testbeds and user driven open innovation towards successful innovation in smart city environments.*

*In doing so, and in covering the whole FI research and innovation value chain driven by smart cities being the users of the FI, FIREBALL aims to establish effective forms of cooperation across the FI innovation value chain, creating synergies and cooperation practices among different research and innovation communities related to the FI.*

[www.fireball4smartcities.eu](http://www.fireball4smartcities.eu)

### **ATTRIBUTES OF THIS OBJECT**

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## **1 INTRODUCTION**

### **1.1 OBJECTIVE AND CONTEXT OF THIS REPORT**

The aim of this report is to describe and explain the rationale, instruments and steps towards establishing a European Joint Community for Future Internet and Open Innovation, and to present the results achieved so far (December 2010).

We envisage the European Joint Community for Future Internet and Open Innovation as a final result of bringing together, within the FIREBALL Project, three different constituencies. These three constituencies include those working on user driven and open innovation (Living Labs), on the Future Internet, and on Smart Cities. The key ambition of such an European Joint Community is to create and strengthen open, user driven innovation ecosystems for Future Internet and Smart Cities. Establishment of the European Joint Community starts from a dialogue among these communities and exploring the "linkages" between them, as explained in the FIREBALL D2.1 Deliverable "Landscape and Roadmap of Future Internet and Smart Cities" (Task 2.1).

The key role of Fireball Task 2.2 is to identify relevant constituencies, organizations and experts that shape this European Joint Community, and organize a dialogue which is supported and fostered through organizing a series of events and workshops targeting key issues of high importance for the constituencies mentioned and providing a basis for future collaboration.

Besides presenting the underlying rationale, instruments and steps, this D2.2 report proposes a series of (at least) four FIREBALL workshops to be held over the project duration period (May 2010 – April 2012). This description includes the plan of upcoming events and the key themes envisaged.

Additionally this report presents the events already organized within the Fireball project until December 2010, including detailed information concerning the program, attendance, presentations and discussions, impact and achievements with respect to forming the envisaged European Community.

### **1.2 OVERVIEW OF THIS REPORT**

In section 2 we provide an overall explanation of the rationale, the logic and the strategy to establish the European Joint Community for Future Internet and Open Innovation.

Section 3 includes the description and the planning of the initiatives and the events for the overall project duration in order to achieve the establishment of such Community.

Finally, section 4 includes a detailed description of the events and the initiatives performed within the project until December 2010.

## **2 EUROPEAN JOINT COMMUNITY FOR FUTURE INTERNET AND OPEN INNOVATION**

### **2.1 INTRODUCTION**

As described in the first paragraph of this document, establishing a Joint Community for Future Internet and Open Innovation is an important milestone within the FIREBALL project that brings together the three components of Living Lab, Smart Cities and Future Internet Communities. Setting up such a collaborative community of organizations and individuals may also include legal, IPR and enabling ICT-platforms. This will be considered in a later stage in the project, as the first priority is to identify constituents and to build the Community.

During the current phase of work we view the European Joint Community as a “virtual” concept. We are carefully considering the opportunities to strengthen the collaboration among existing communities such as FIA (Future Internet Assembly), ENoLL (European Network of Living Labs) and Eurocities (representing the interests of Smart Cities) without already proposing the European Joint Community as an entity. The decision to eventually establish a European Joint Community as a separate entity should be taken collectively by the three constituencies involved.

This Community must be sufficiently viable in order to be sustainable after its establishment (2012). It should be able to fulfil a key role in creating synergies, based on the resources and methodologies brought together by the constituencies involved, to realize the goal of Future Internet for Smart Cities through creating user driven open innovation ecosystems. Whether that role can be fulfilled by a newly formed European Community as a separate entity or by strengthening the collaboration among existing platforms, will be an outcome of the FIREBALL project.

Whether this European Community will be “virtual” or “real”, in any case it will establish or if necessary initiate relations with key organizations or communities such as FIA, Eurocities, ENoLL, ITU, and also dedicated professional networks such as pre-commercial procurement specialists and business innovators. For a detailed description of the processes of other communities and key organization involvement we refer to paragraph 2.5. Identifying the basis of such relations will be part of the activities to perform, in order to understand and establish the opportunities for cooperation between the three Future Internet, Smart Cities and Living Lab main (and related) domains.

### **2.2 FOUR WORKSHOPS**

To support this task we will organize (at least) four international workshops – possibly back-to-back to other events - to identify and discuss opportunities for collaboration aiming to strengthen innovation ecosystems for Future Internet and Smart Cities. Important topics in the discussions will include open innovation approaches, living labs methods, experimental Future Internet approaches, Smart City strategies, and opportunities for synergy and collaboration. The scope of these four workshops (defined in Chapter 3 of this document “Events and Activities Planning”) is both part of the project dissemination activity and direct instrument for the European Joint Community establishment task 2.2 objectives.



These four workshops will act as the main structure around which to build activities and involvement actions for the Joint Community establishment. This logical structure can be exploited to identify also additional events and initiatives whose organization could be conducted in parallel with the main four workshops. These further initiatives were identified in the following paragraph as "Other Events".

Last but not least the identification of these logical phases on which develop the establishment of the Future Internet, Smart Cities and Living Lab community and is the main structure around which other activities can foster and facilitate collaboration and a interconnections among the three domains in a flexible way. This approach is adopted not to fix the topics rigidly at this report merging the need of working in parallel on different tracks such as landscape, commons, collaboration models, roadmap with FISA etc).

### 2.3 EUROPEAN JOINT COMMUNITY DEVELOPMENT PHASES

The four international Workshops will follow a logic of initiating, building and extending the Joint Community as introduced in the above paragraph. The methodology on which the organisation of the workshops is built is based on the following logical phases:

1. Awareness and engagement building (common interest identification, initial exchanges and discussions);
2. Consensus Building on the Future Internet and Smart Cities landscape, based on joint vision building (D2.1 Landscape and Roadmap);
3. Collaboration Models based on Sharing Commons (commons are understood as resources that can be shared among the Community, including testing and experimenting facilities, methodologies, know how, user groups);
4. Initiatives and Follow up (Collaborative initiatives, common projects, Initiatives towards Future Internet and Smart Cities).

This scheme should be interpreted in a flexible manner, in order to enable the FIREBALL project to exploit in a pragmatic and anticipatory way the opportunities that now already emerge from our intensified exchanges with the FIA community (FIRE projects and support actions, FISA Roadmapping), Eurocities, and ENoLL.

The **first phase** will be dedicated to understand and identify common interests from the three communities (Living Labs, Smart Cities and Future Internet) in order to bring these three constituents together and find common understanding, language and needs. This first phase already works in parallel with the Landscape and Roadmap development task whose main elements were defined in the task 2.1 (D2.1).

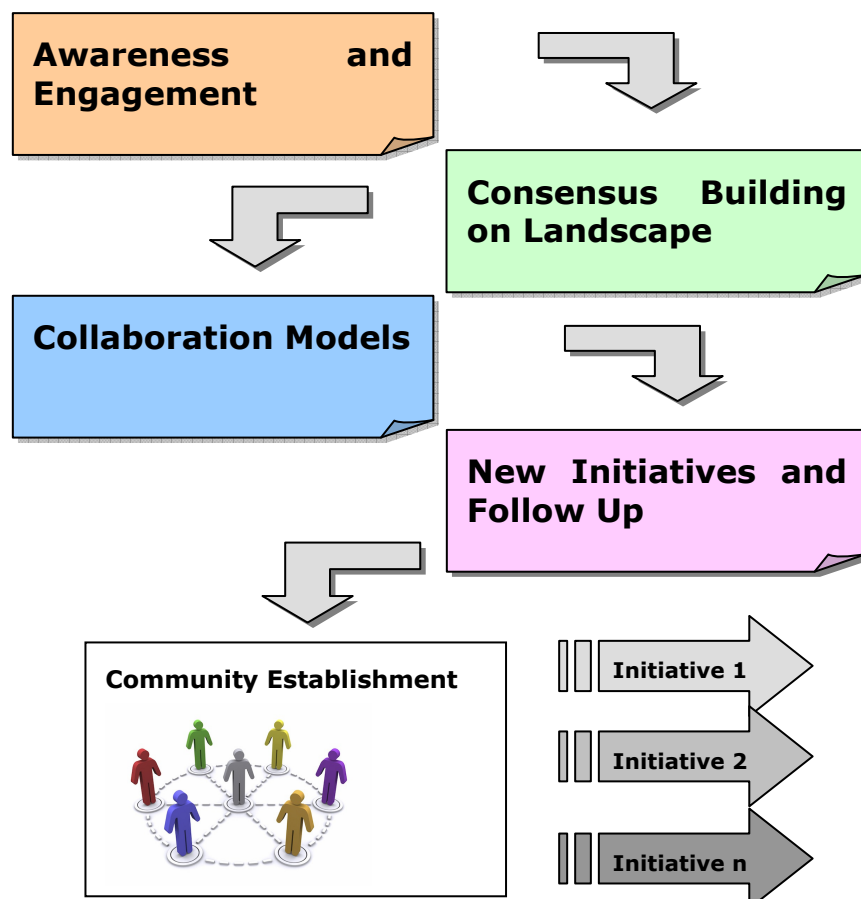
The **second phase** will be dedicated to agree on a common vision identified by the task 2.1 (Landscape and Roadmap). This landscape represents the different approaches and linkage of the three communities and the attempt to build a dialogue and, of course, a common language to support new ways of collaboration. This common language is studied and developed by identifying synergies and complementarities in the different technical and methodological approaches, pursuing the evolution towards integrated and holistic strategies and approaches for cities innovation (that are appropriate to empower Smart Cities based on Future Internet services). The landscape, that has been defined in task 2.1 and that is evolving during the project execution, covers various aspects including actor networks, methodologies and approaches, and current practices and future visions.

This phase can work in parallel with the further elaboration of the landscape itself whose development is not only a precondition but also an additional instrument to identify and shape possible ways of cooperation between the three communities.

**The third phase** focuses on collaboration models and will be dedicated to the sharing of common resources from the three constituencies that can be used for joint and integrated projects. An example is the application of living labs methods in Future Internet experimentation. Such common assets may include methodologies, experimental facilities, user communities and other resources. This phase will build upon the common vision and language as defined in the previous steps as precondition. This phase will define and elaborate mechanism (partnerships, IPR and other) allowing the creation of synergies and the engagement of constituencies benefiting from these synergies. Such synergies may include common Future Internet and Smart Cities projects across the constituencies. This phase works in parallel with the preparation and the identification of common collaborative strategies.

**The fourth and final phase** of this step concerns the final establishment of the Joint European Community for Future Internet and Open Innovation able to put in place initiatives and common projects with the logic, the vision and the language defined in the previous phases. The community is expected also to have mechanisms and processes to set up and manage these initiatives. This phase can finally work in parallel with the elaboration of the collaborative strategies, able to be translated into new additional initiatives for the Community potential activity.

The picture below represents the already described four step approach:



Four steps Community Establishment schema



The four described phases are linked to four “primary” workshops as well as to other, “secondary”, events per the following “tentative” match:

Phase	Primary workshop event	Secondary event options
1	FIA Ghent, December 16 <sup>th</sup> 2010	Connected Smart Cities, November 2010, Helsinki Living labs and Smart Cities workshop, Ghent, December 2010
2	FIA Budapest, May 2011	FISA Roadmapping workshop, 31 <sup>st</sup> March 2011 ICE 2011 Conference, Aachen
3	ESoCE Net Forum, December 2011	Open Days, Brussels. October 2011
4	Final workshop event, Brussels	FIA event in 2012

The primary events mentioned have been identified as appropriate platforms to engage the three constituencies. The “secondary” events are meant as opportunities to elaborate on specific topics, and discuss in more limited settings. This planning scheme will be adapted during the project duration.

**2.4 STARTING POINT FOR COMMUNITY BUILDING (COMMON INTEREST IDENTIFICATION)**

A first step towards the understanding and the identification of the common interests of the Smart Cities, Future Internet and Living Labs is on addressing the foundation concepts behind the three communities. By doing this (as part of the awareness activities) we are able to get a better understanding of the commons and the synergies in order to establish a basis for future common cooperation across the constituencies, and set first steps on the global Community Establishment path. A more elaborate analysis of interlinkages between constituencies is contained in the D21 deliverable.

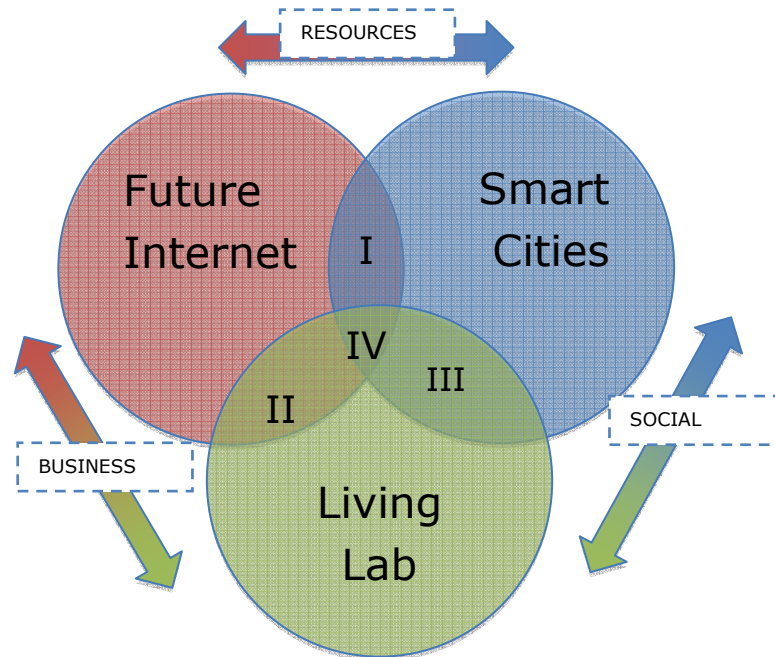
Future Internet is characterized by a new set of technologies (i.e. network architectures, security and identity mechanisms, smart systems, Mobile IP, IPv6, RSP) that, integrated together within a specific platform, are able to support a wide range of networked applications. These technologies partly are based on the Internet of Things paradigm that foresees a networked interconnection of everyday objects, sufficiently intelligent for communicating among them and with humans over the Internet.

Smart Cities are rich environments characterized by advanced services and infrastructures (especially ultra fast wireless or wired connection) with a high quality and availability of social capital (knowledge, people, social infrastructure, traditions). They are able to provide benefits and high quality of life to citizens with a strong balance between competitiveness and sustainability.

A. Caragliu, C. del Bo, P. Nijkamp “believe a city to be smart when investments in human and social capital and traditional (transport) and modern (ICT) communications infrastructure fuel sustainable economic growth and a high quality of life, with a wise management of natural resources, through participatory governance”.

Living Labs are conceived as user driven and open innovation ecosystems able to involve people or entire communities in the innovation process, starting from the very early phase until the prototype testing phase and the final product.

Give a definition and identify the aspects and the processes of these three communities is important also to investigate and understand synergies and contact points in order to build a foundation ground on the Community Establishment path. If we consider in fact the common elements between the three communities, both together and in their different combinations, we are able to synthesize the consequent approach with the following interesting schema:



The common aspects, we are interested in identify, are then the intersection areas I, II and III of the schema. The intersection IV identifies instead the very "COMMONS" elements at the basis of the three communities.

Future Internet and Smart Cities (Area I) share the "platform" element as common tool. This platform is necessary to develop applications and manage services for citizens based on the Future Internet technologies and able to provide that predictable models based on a wide set of data collection.

Future Internet and Living Lab (Area II) have the "openness of the solution" as mutual value. This element represents the availability and the openness of the technology for the user involvement both in the implementation and the utilization phase.

Smart Cities and Living Lab have finally the "set of services and the identification of the needs" as mutual values. These needs allow Living Labs (as rich environments) to identify services and promote a high quality of live to citizens.

All these solutions and these approaches have finally to be "open": the openness of technologies, available data, models of cultural rich city environments (replicable from city to city), test environments are the common elements the three communities share together (area IV - "COMMONS").

The openness is linked also to the sustainability concept that is able to bring into reality and maintain the three communities and is considered a concrete option for the future evolution of the European society based on technology.

Finally, as again underlined by the schema, the relations between Future Internet and Living Lab are much based on "Business aspects" (testing the solutions the company are providing on which the future internet will be based).



The relations between Smart Cities and Living Lab are instead “Social based”, testing the services and the needs the citizens are expecting to see developed for their quality of live improvement and the respect of their traditions and identities.

Finally the relations between Future Internet and Smart Cities are much based on “Resource aspects”. Resources able to provide the Smart Cities with required technologies at the basis of the Future Internet approach.

The emerged elements, as explained at the beginning of this paragraph, can be considered the foundation aspects and a first step on the Community Establishment path. These elements can also contribute to any collaborative model or strategy to put in place across the three domains, as pursued in both WP1 and WP2 of the FIREBALL project.

## **2.5 JOINT COMMUNITY FOR FUTURE INTERNET, LIVING LABS AND SMART CITIES**

The establishment of such joint community is intended to follow a step-by-step approach starting from the identification of concrete opportunities of collaboration, for example the open calls of the active FIRE projects. Second step for the community establishment will be to raise the awareness of this specific collaboration in the existing communities such as LinkedIn groups, Web Portals, discussion groups etc.

On the basis of on going concrete interactions among members of these communities we can evaluate the opportunity of establishing a dedicated LinkedIn group as per the characteristics below reported.

The establishment of a European Joint Community targeted to Smart City, Future Internet and Living Lab domains, with the phase and the rationale described in the previous paragraph, is intended to provide functions and instruments suitable to involve the above mentioned Community members and to establish new forms of collaboration.

This paragraph is intended to provide more functional details for the operative phase of the Community establishment whose characteristics should match the logical processes and the rationale reported in the previous paragraphs.

The Community will have to be congruent for being operated immediately after its establishment. The Joint Community for Future Internet and Open innovation is expected to involve:

- Researchers and research organizations
- Living Labs
- Universities
- Public Stakeholders and government representatives
- Industry players in the Future Internet and ICT domains
- Other relevant stakeholders involved in the Smart City domain and in the practical and theoretical development of such environments.

The Community will have assigned specific functions in support to its establishment process and its cooperative rationale. The European Joint Community is expected:

- To involve other organizations and their members in order to grow in dimension;
- To take part to workshop and events where its members will meet to discuss on mutual cooperation;
- Act as referring point within the Future Internet and Smart City domains and involving Living Lab Network in this process;

- Cooperate with other network (i.e. ENOLL) and other key organizations (i.e. ITU, FIA, EIT, Eurocities).

A dedicated LinkedIn group is launched to support the Community establishment and as referring point for its members; group name is "**Smart Cities, Future Internet and Living Lab**" Community. The group is expected to:

- Provide a base for information and experience exchange among the three domains (i.e. experience sharing, adoption and test of technologies);
- Support the Community functions and recruiting activities;
- Advertise project initiatives and event organizations;

In addition the LinkedIn group instrument contributes to:

- Facilitate communications and cooperation among members
- Promote new topics and themes
- Share articles, blogs, weblinks etc.

The group can establish contacts and synergies with some of the individual already active domains LinkedIn groups such as:

- "SMART CITIES and CITY 2.0"
- "Smart Cities Projects"
- "Future Internet Research"
- "User Driven Innovation & Living Labs".

The group can act as an instrument to establish relations with other communities and projects, whose connection can be developed during the planned organized workshops.

Last but not least some tools and instruments are devoted to allow the cooperation and the interaction among the Future Internet, Smart Cities and Living Lab domains in their interactions in order to facilitate the share of knowledge assets and experimentation results. NDA and memorandum of understandings can be applied to support these collaborative network interactions and are proposed to protect the contribution of each domain.

### 3 EVENT AND ACTIVITIES PLANNING

According to the objective of the Task 2.2 and in line with the activities and the rationale explained in paragraph 2, WP2 has outlined a series of events to involve key organizations and the aggregation of the Community in Future Internet and Open Innovation.

The table below reports the tentatively scheduled planning (to be confirmed and revised) for all the events and initiatives for the European Joint Community Establishment path; this structure built around the four pilot workshops can be further improved with other future initiatives. The four pilot workshops have been included in the first row and identified with "Workshop Event" diction.

The three events for M13 – M24 marked with TBC acronym can be considered alternative and are still under evaluation. The final path for the foundation events of the Joint Community will be confirmed probably around the Budapest date.

Activities	M1 – M6	M7 – M12	M13 – M18	M19 – M24
Primary events		FIA Ghent, December 16 <sup>th</sup> 2010: Smart Cities and Future Internet Experimentation	May 2011: FIA Budapest	December 2011: ESoCE Industry Forum – Rome TBC  Final event, 2012
Secondary Events	November 18 <sup>th</sup> 2010 (Helsinki): Conference on Connected Smart Cities towards digital, sustainable and open communities	December 14 <sup>th</sup> , 2010: Living labs and Smart Cities. Future Internet Week, Ghent	June 2011: ICE Aachen  10-13 October 2011: Open Days	FIA 2012

## **4 ACTIVITIES AND EVENTS REPORT MAY 2010 - DECEMBER 2011**

According to the described rationale in this document this paragraph will report the description and the performed activities within the task 2.2 framework. This section review then all the activities performed during the whole project and illustrates and provides documentation of outcomes as contribution to the European Joint Community for Future Internet and Open Innovation Establishment and run.

### **4.1 CONFERENCE ON CONNECTED SMART CITIES, NOVEMBER 18, 2010**

The conference on Connected Smart Cities – Towards Digital Sustainable and Open Communities was held 18<sup>th</sup> November 2010 in Helsinki. The idea of “Smart Cities” is based on finding new and innovative ways of using information and communication technologies to support the planning and implementation of strategies and services, which will contribute to urban sustainability.

#### **4.1.1 Meeting Objective, Organization and Execution**

The aim of the Conference is to trigger the practical collaboration between the European Smart Cities under the European Commission DG Information Society and Media funded initiative. It also aims to create the needed leadership in delivering technologies, applications, and services to enhance cities’ competitiveness and the quality of life of the citizens. The idea of Smart Cities can become a key term for 21st century dynamism, growth and sustainability.

The scope of the Conference is also, by making progresses on this domain, to getting the opportunities for all cities and city-regions to build new digital infrastructures and services which provide the foundation, not only for new economy, jobs and skills, but also for new ways of working and a new quality of life that will serve the cities, citizens and businesses well-being for decades to come.

#### **4.1.2 Programme**

The Conference was structured in two related sessions:

- Morning Session: Sustainable Smart Cities and European Innovation Strategies
- Afternoon Session: Local and Cross-Border collaboration of Smart Cities in Europe

The morning session focused on the different European strategies to become a Smart City with distinguished speakers from across Europe, including Mayors and Directors, providing diverse perspectives on issues relevant to sustainable and open Smart Cities and European innovation strategies.

Moderators: *Mr. Markku Markkula, Aalto University, Committee of the Regions, Rapporteur on Digital Agenda*

Thursday 18 November – morning: SUSTAINABLE SMART CITIES AND EUROPEAN INNOVATION STRATEGIES	
	<b>Registration and coffee</b>
	<b>Welcoming Remarks</b> Smart City Helsinki <i>Mr. Pekka Sauri, Deputy Mayor of City of Helsinki</i>
	<b>Key note:</b> <b>The city as an innovation space for Future Internet research and development of Europe</b> <i>Mr. Antti Peltomäki, Deputy Director General, European Commission</i>
	<b>Towards Design Driven Innovation Policy - experiences from Helsinki</b> <i>Mr. Eero Holstila, Director of Economic Development, City of Helsinki</i>
	<b>Coffee break</b>
	<b>FIREBALL-project:</b> <b>Bringing together the elements of Future Internet and Living Labs in City Context</b> <i>Mr. Michael Nilsson, Coordinator, FIREBALL Coordination Action</i>
	<b>Using digital spaces and ICT to enhance the city life</b> <i>Representatives of Smart cities in Europe</i>
	<b>Lunch</b>

The afternoon session focused addressing Living Labs, Future Internet based services and Smart Cities from ongoing cross-border city initiatives in the fields of Open Innovation, Public Private Partnerships and Future ICT enabled services.

Moderators: *Jarmo Eskelinen, Executive Director, Forum Virium Helsinki*

Thursday 18 November – afternoon: SUSTAINABLE SMART CITIES AND EUROPEAN INNOVATION STRATEGIES	
	<b>Digital dimensions of cities – the new intelligence of cities</b> Helsinki Region Infoshare (Local Partnership) <i>Ms. Asta Manninen, Director, City of Helsinki Urban Facts</i>
	<b>Helsinki Smart City projects</b> <i>Express2Connect</i> <i>StadiTV</i> <i>Smart Urban Spaces</i>
	<b>Open innovation for Future Internet-enabled services in Smart Cities</b> Presentations from the European funded initiatives (CIP ICT PSP Call 4) <i>Smart-Islands, SMARTiP, Peripherria, People, OpenCities, Life, Epic</i>
	<b>Networked Living Labs boosting Smart City evolution</b> Dr Alvaro de Oliveira, President of the European Network of Living Labs (ENoLL)
	<b>Apollon Project- Advanced Pilots of Living Labs Operating in Networks</b> Ms. Petra Turkama, PhD, Aalto School of Economics, <i>Center of Knowledge and Innovation Research (CKIR)</i>
	<b>Closing Session</b>
	<b>Launch of the Connected Smart City Network</b> Mr. Antti Peltomäki, Deputy Director General, European Commission <i>Mr. Dave Carter, Head of the Manchester Digital Development Agency (MDDA), Manchester City Council</i>
	<b>Networking Reception</b>

### 4.1.3 Attendance

The Conference brought together around 200 professionals across Europe from practitioners and academia and from public and private sector, all interested in the fields of Sustainable Smart Cities and in advancing this developing sector.



The final contribution was quite wide and ranged from City Officials, Development Directors to IT-Specialists, Professors to Designers and Engineers. This variety brought a dynamic mixture of opinions and comments and reflected the Smart Cities theme interests surrounding many different sectors and also attracting curious outside its scope.

### 4.1.4 Outcomes

The Conference was launched with support by DG Information Society and Media and the Eurocities network. The network brought together different European cities to lay the ground of networked Smart Cities for new economy, jobs and skills and registered the participation of Deputy Mayor of Helsinki, Mr. Pekka Sauri and the Director of Economic Development of the City of Helsinki, Eero Holstila.

At the end of the conference a deeper clarification of the role of the cities as innovation environment was established, stimulating more effective networking and experience sharing among cities to accelerate adoption of new technologies and eventually to help city officials find ways to be more effective in applying new smart concepts, tools and talents.

This achievement was underlined also by the launch of the "Connected Smart Cities Network" of the core cities of Fireball, namely Amsterdam, Manchester, Lisbon, Barcelona and Helsinki that will continue to work closely with the EUROCITIES network and the European Network of Living Labs.

During the event we had the opportunity to establish collaboration with CIP portfolio that participated first time to the Helsinki event.

The event originated also a vivid debate on twitter by both believers and sceptics but once again underlining the European level of priority of such theme not only at technological level.

## 4.2 LIVING LABS AND SMART CITIES: OPEN INNOVATION FOR THE FUTURE INTERNET, DECEMBER 14, 2010

The workshop "Living Labs and Smart Cities: Open innovation for the Future Internet" was held 14<sup>th</sup> December 2010 at the Future Internet Week, Ghent. It was launched to reflect on 'Smart Cities' as centres for user-driven open innovation, using Future Internet technology in a user-friendly way to enable a truly knowledge-based society. New State-of-the-Art technologies can be used in developing new public services in domains such as health, mobility, environmental monitoring or energy management.

Interesting concepts can be identified through the usage of Living Lab-methodologies in the City and user co-creation can enhance the innovation process of sustainable services development.

The event included also the 5th Wave for Living Labs announcement, as well as the approved Pilot B projects in the 2010 CIP Call for "Open Innovation for future Internet-enabled Services in Smart Cities".

#### 4.2.1 Meeting Objective, Organization And Execution

The session aimed to bring together interested members from Smart Cities and Living Lab in order to explore and understand common requirement towards Future Internet. The session aimed also to start from existing projects and already in place initiatives, as well as, similar ecosystems (Smart Regions) to raise the awareness and the possible collaboration paths among the three involved communities.

Last but no least the session was an occasion to present the Living Lab network, Living Lab methodology and activities in view of the 5th Wave Call for Membership Application.

#### 4.2.2 Programme

9:00 – 9.15	<b>Doors open</b>
9:15 – 10:15	<b>Opening of the conference</b> Daniël Termont, Mayor of Ghent, Living Labs and Smart Cities: the city perspective Pieter Ballon, IBBT-SMIT/iLab.o: local organizer Álvaro de Oliveira, ENoLL chairman, the European Network of Living Labs as the platform for Smart Cities & Future Internet
10:15 – 10:50	<b>Living Labs, Smart Cities &amp; Future Internet</b> Ingrid Lieten, Flanders Minister of Innovation (tbc), Living Labs and Smart Cities: the regional government perspective Robert Madelin, Director-General DG Information Society and Media, Living Labs and Smart Cities: the EU perspective
10.50 – 11.10	<i>Coffee Break</i>
11:10 – 13:00	<b>Living Labs and Smart Cities: European project portfolio</b> Pieter Ballon, "Open Innovation by Living Labs Across Borders: Apollon project status and results" Panel with European Living Labs and Smart Cities CIP project portfolio: New CIP pilots on 'Open innovation for future Internet-enabled services in smart cities', introduced and moderated by Per Blixt (Head of Unit, DG Information Society and Media) Marc Bonazountas (Smart-Islands) Dave Carter (Smart IP) Álvaro de Oliveira (Peripheria) Raul del Pozo (People) Esteve Amirall (Open Cities) Neeli Prasad (Life 2.0) Pieter Ballon (EPIC)
13.00 – 14.00	<i>Lunch</i>
14:00 – 15:45	<b>Towards Future Internet: what can it mean for Living Labs and Smart Cities</b> Max Lemke (Deputy Head of Unit, DG Information Society and Media): Open Innovation and Smart Cities in the Future Internet Context: New EU Project Calls Panel with Future-Internet community representatives, introduced & moderated by Michael Nilsson (Fireball) Margarete Donovang-Kulisch, European Government Industry Technical

	Leader, IBM Piet Demeester, Professor, IBBT-IBCN-University of Ghent, Belgium Luis Munoz, Professor, University of Cantabria, Spain; Smart Santander project Jarmo Eskelinen, Forum Virium Helsinki Hans-Bart Van Impe, Senior Strategic Consultant Innovation, Belgium
15.45 – 16.00	<i>Coffee Break</i>
16:00 – 17:20	<b>Towards Innovation Ecosystems: from Smart Cities to Smart Regions</b> Panel, introduced and Chaired by Olavi Luotonen (European Commission) Wim de Waele, CEO, IBBT (Flanders) Markku Markkula, Aalto University, Committee of the Regions, Rapporteur on the Digital Agenda (Finland) András GÁBOR, Managing Director, Corvinno Technology Transfer Center (Hungary)
17:20 – 17:45	<b>Launch of the ENoLL 5th Wave Call for Membership Applications</b> Jean-Pierre Euzen, Head of Sector, DG Information Society and Media Álvaro de Oliveira, ENoLL Chairman Jesse Marsh, 5th Wave coordinator
17:45 – 18:00	<b>Closing of the Day</b>

#### 4.2.3 Attendance

Around 60 participants attended the Living Lab and Smart Cities session. The participation was equally divided between the academia, the Industry and the Living Lab communities.

#### 4.2.4 Outcomes

The Living Lab and Smart Cities Session was dedicated to put together members from Smart Cities, Living Lab and Future Internet communities to interact and identify common interests and sharing understandings.

The session was much centralized on the Smart Cities concept, as test bed environment characterized by knowledge and social infrastructures with:

- high quality and availability of human/social capital and services
- great similarities and synergies with the Living Lab.

The Living Lab contribution was identified by that innovative approach exploitable in such rich environments that brings concrete benefits to the production process leveraging the direct citizen's involvement.

Smart Cities were recognized as having a specific platform for service development and management and an ultra fast network to share their rich amount of open data.

Finally the accent was put on the competitiveness and sustainability elements of the Smart Cities, both at economic and at efficiency level.

The session was useful also to understand the important role of the Smart Cities, not only as new (rich) type of environments, but also as the most suitable and feasible way for a sustainable future growth in the Europe. The session raised then the need of identify a common ground of understanding with the Future Internet and the Living Lab communities. Such common dimension was recognized not easy to achieve but with secure concrete aspects and important benefits for the future and, in one word, more than a common hope to bring into reality.





The session demonstrated also the results already achieved by some projects in leveraging Smart Cities (i.e. CIP project portfolio) and the tangible realizations in these new environments providing clear benefits to citizens and local communities.

Finally the session underlined the key role of Living Labs and, behind the launch of ENoLL 5<sup>th</sup> Wave Call, identified the potential contribution for a bridge between the available technologies (at disposal for Smart Cities) and the citizen's needs, the services development and management and their integration with the urban social and cultural environment.

The gap emerged between Future Internet research, city and citizen's requirements, required smart-city facilities and living labs approaches was useful to raise the awareness of real life experimentation possibilities and pilot requirements in order to bring benefits and innovation in urban and city development. Many challenges are then waiting this mutual cooperation but real and interesting things are also expected to happen in the close future and many efforts are in place to bring into reality in this new interesting integrated vision.

#### 4.3 SMART CITIES AND FUTURE INTERNET EXPERIMENTATION, DECEMBER 16, 2010

The workshop "Smart Cities and Future Internet Experimentation" was held 16<sup>th</sup> December 2010, at FIA Ghent.

Session organizers were Alex Gluhak (University of Surrey), Hans Schaffers (ESoCE Net), Michael Nilsson (CDT). The latter two persons are from FIREBALL. FIREBALL has taken the initiative and co-organized this session in order to establish a collaboration between experts from the areas of Future Internet (FIA, FIRE projects), Smart Cities (Eurocities) and Living Labs.

We first describe the background and leading ideas of this session as elaborated by the organizers. Presentations as well as photo's are available at: <http://fi-ghent.fi-week.eu>.

##### 4.3.1 Session background

Since the last two successful sessions in Stockholm and Valencia, the Smart Cities topic has further increased its importance in the landscape of European Future Internet research. As a result of these sessions, there is a growing consensus that Smart Cities can serve as an excellent catalyst for Future Internet research and experimentation, as they form very dense social ecosystems that heavily rely on Internet technology and in turn Internet technology and applications heavily influence social interactions. Smart cities act as innovation ecosystems, as they shape environments of open and user driven innovation, acting as an invaluable source of challenging functional and non-functional requirements from a variety of problem domains, pushing the boundaries for Future Internet technologies through experimenting on demanding applications in domains such as health and care, energy management, transport and mobility, e-business and e-government, and social and business networks. Smart cities provide the necessary critical mass of experimental businesses, local governments and citizens as end-users of advanced applications that is required for testing of Future Internet technologies, early deployment and market adoption and can serve as an excellent incubator for the development of a diverse set of highly innovative services, applications and new business activities.

The smart Cities topic is truly cross-cutting as it combines a variety of different application domains and required Future Internet technologies in a dense urban environment. It is in the Smart Cities where the initial impact of the Future Internet through their advanced applications will be most visible to European citizens and direct feedback from EU citizens on Future Internet technology and applications can be obtained. Consequently a variety of different initiatives are emerging this year in the area, such as the FIREBALL and FIRESTATION co-ordination and support actions, the Smart Santander smart-city experimental facility or the several smart city pilots funded under Call 4 of the CIP ICT Policy Support Programme. The importance of Smart Cities for Europe's Future Internet and the Digital agenda has also been highlighted by Commissioner Neelie Kroes in a recent speech<sup>1</sup>.

#### 4.3.2 Meeting Objective, Organization And Execution

The session aimed to bring together members from the Future Internet and Smart Cities community together with the Living Lab in order to jointly explore the experimentation requirements with Future Internet technologies in city and in urban environment. The session was organized also to explore the capabilities and resources offered by existing smart city platforms and living labs facilities, and the potential of the planned Smart City pilots to establish open and user driven innovation environments for experimenting on the Future Internet.

The session had also the objective of bridging the gap between Future Internet research, city and citizens requirements and the required smart-city based experimental facilities and living labs approaches. It served then as catalyst for longer lasting exchange and collaboration between the different communities.

Last but not least the session acted as a channel for longer lasting exchange and collaboration between the different communities and raised the awareness of real life experimentation possibilities and pilots requirements to benefit Future Internet innovation as well as sustainable urban and city development.

#### 4.3.3 Programme

The session took place as Session VI, Thursday 16<sup>th</sup> December 2010. The session was structured in two parts focusing on:

1. the role of experimental facilities for Smart Cities and resulting challenges to meet the needs of multiple stakeholders;
2. how effective cross-community collaboration can be achieved to better exploit available experimental facilities provided by the different communities and stakeholders.

Each of these parts started with two 20 minutes key note presentations, followed by a 20 minutes panel moderated discussion with the session participants.

#### **Part 1: Experimentation and Innovation Facilities for Smart Cities – Opportunities and Needs**

Moderators: *Alex Gluhak (University of Surrey)*

Key note: *Michael Börjesson (CDT), Margarete C. Donovan-Kuhlich (IBM)*

Panellists: *Timo Lahnalampi (DIMES, Firestation); José M. Hernández-Muñoz (Telefónica, SmartSantander); Alvaro Oliveira (Alfamicro, Fireball / Periphéria); Esteve Almirall (Esade, Open Cities / Fireball), Martin Bryskov (Aarhus University)*

<sup>1</sup> Neelie Kroes, European Commissioner for Digital agenda, "The critical role of cities in making the Digital Agenda a reality", Closing speech to Global Cities Dialogue Spring Summit of Mayors Brussels, 28 May 2010

The objective of this session was to gain an understanding of the gap between on the one hand facilities and methodologies available for experimentation in FIRE and living lab communities, and on the other hand Future Internet technology experimentation requirements and priorities and real needs arising in today's cities. The session explored the difficulties faced by providers of experimental facilities to cater towards the need of multiple stakeholders such as FIRE researchers, service providers and end users such as cities and their citizens. It started from creating the necessary awareness among the participants to explore new way of how existing facilities and methodologies for experimentation and innovation can be adopted and integrated to suit better the needs of the respective communities.

## **Part 2: Collaboration requirements and opportunities in the Future Internet, Living Labs and Smart City communities**

Moderators: *Michael Nilsson, Luleå University of Technology*

Key notes: *Hans Schaffers (ESoCE Net, Fireball), Piet Demeester (IBBT)*

Panellists: *Nicos Komninos (URENIO, Fireball); Heikki Huomo (Centre of Internet Excellence), Georgios Tselentis (DG INFSO & Media), Nick Wainwright HP Labs), Kimmo Ojuva (DIMES, PII)*

This session focused on how to orchestrate sustainable collaboration across the different communities that are involved in creating smart cities and Internet innovation ecosystems, in particular city development organisations, research organisations and companies involved in Future Internet, and initiatives for living lab innovation. The session acted also as an opportunity for synergy and collaboration across the communities of Future Internet, Smart Cities and Living Lab and as a study on the collaborative models that can be realized within the innovation ecosystem of cities to benefit from available facilities and know-how.

### **4.3.4 Part 1: Experimentation and Innovation Facilities for Smart Cities**

The first phase of the session was dedicated to understand how the existing technologies can be applied and integrated for the development of Smart Cities.

**Mikael Borjeson** described the concept behind Smart Cities and the elements (such as the infrastructure, the services, the technologies and the information) necessary to develop and integrate such kind of environments. These environments are characterized by specific ICT solution ideated to clearly address citizens' problems such as find parking, predict common behaviour and resource demand.

Great potentiality and energies are already available in Cities (infrastructures, Applications, networks, RFID tags): synergy people and Internet technologies on a global shared information space will allow more and more people and things to experience, share and co-create together; in one word many significant opportunities to catch.

**Margrete Donovan** (IBM) illustrated the key role of the application layer for Smart Cities as instrumented, interconnected and intelligence processes and application services for citizens (generated and built upon a wide network of information). The approach proposed was centred on an Application as a Service model based on Cloud computing. This layer would be able to cover the digital, physical, natural and human infrastructure helping to achieve smart information and decision making in any "smart"city.

Important base for this approach is an integrated network and a virtualized computing power infrastructure able to support any global integrated ecosystem and then also any city, people and business cooperation framework.

Margrete Donovan finally illustrated the example of the EPIC programme where the Application as a Service implementation, available in the cloud, can be potentially reused from city to city.

**Timo Lahnalampi** (DIMES) illustrated the concept of sustainability in Smart Cities for the improvement of people life and focused then his presentation on leveraging the inspiration role of Living Labs.

**José M. Hernández-Muñoz** (Telefónica) presented the SmartSantander pilot and underlined the complexity in the deployment of a large scale IoT sensors based test-bed case. He underlined how the problems emerged in a Smart Cities can be non necessary only technical (i.e. regulations) because of the critical relations with the citizen's quality of life, the people needs and the day by day life. The intervention explained the consequent important process of identifying the requirements at every step of the process (not only at the end) and how this aspect is strongly related to a Living Lab approach.

**Alvaro Oliveria** illustrated the Living Lab contribution and involvement in the Smart Cities development, starting from the network of Smart Cities (created within ENOLL) and the global Living Lab movement. This movement is growing at good rhythm and has already been successfully exported outside the Europe (i.e. China, Brazil).

**Esteve Almira** presented the idea of innovation city (Smart City) on a deeper level than the simple technology-based solution. His intervention focused on the important attention to the governance, the management of the platform for services and the engagement of the community. Furthermore the Smart Cities technology processes have to be addressed considering the already available platforms, services and legacy systems (i.e. googlemaps and tomtom).

**Martin Bryskov** illustrated the cultural aspects of technology and the potential costs related to the integration and the interface of cities not homogeneous by definition. Cities are characterized by cultural dependencies and technology solutions not always compatible together. The fact that this integration process can also be different from case to case and from city to city is an additional reinforce to the presented thesis.

The session was followed by an **open debate** with the audience, whose emerged questions could be synthesized as follow:

- How to overcome the emerged and the discussed difficulties
- How to involve local government in Smart Cities cooperation

The panellist brought the attention to the project pilots underlining the important aspect of collaboration already started there (even recognizing the problems still to be addressed in the Future Internet, Living Lab and Smart Cities communities collaboration).

The case of Smart Santander was once again reported as the good example of citizens and local government involvement, whose concrete level of cooperation was related to the very earlier phases of the process.

#### 4.3.5 Part 2: Collaboration requirements and opportunities

The second session was opened by **Hans Schaffers** (ESoCE Net). He synthesized the various elements of potential cooperation between Smart Cities and Future Internet and also Living Labs based on identifying the actors, resources and strategies of the three constituencies. Starting from a definition of Smart City, including social and human capital, traditional and modern (ICT) infrastructures, aiming for sustainable economic growth and high quality of life based on participatory government, he defined the relations among the three communities characterized by:

- innovative ecosystems for Internet technologies
- flow of innovative technologies
- services and innovation in a user-driven approach.

Based on an overview of the landscape elements of the three communities, including their experimentation and innovation methodologies and their innovation strategies, he identified areas of potential collaboration in terms of using common methods for experimentation and innovation. He presented two generic collaboration models: collaboration within the innovation process, e.g. the use of living labs methods in Future Internet experimentation, and collaboration across the innovation process, in urban systems of innovation. Initial examples of the emerging interplay of FIRE and Living labs approaches were shortly indicated.

**Piet Demeester** (IBBT) illustrated the different steps for an innovative idea to reach the destination market and then, with a parallel interpretation, from the idea to the smart city implementation. In both cases the involvement of the Living Lab (and its approach and methodologies) is a critical element to be considered since the very first phase of the process.

The described phases (with the analogue translation from product to smart city in brackets) are:

- the idea (concept)
- the algorithm (architecture)
- the prototype implementation and testing
- the "friendly user" proof of concept (test in real environment)
- the test and stable version development (test in Living Lab)
- the commercial implementation (roll out).

This presentation was useful to understand also the contribution of the Living Lab to a specific technology based innovation and, in parallel with the smart city roll out process, the importance of the stakeholders' involvement (such as interdisciplinary researchers, companies, municipalities, government, end users) in all the different phases. This involvement is essential in the smart development such as the users' involvement in the more traditional product-to-market process. The presentation was exemplified and reinforced by a pilot experiment conducted in the homecare domain and with web 2.0 tools application.

**Kimmo Ojuva** (DIMES, PII) illustrated the case of Finland / Japan as open innovation environment where technology and competencies are effectively turned into customer driven services and then as early success case stories.

**Nicos Komninos** illustrated the concept of City in its different functions and the complexity of the Smart Cities approach due to their different functions and interfaces.

**Nick Wainwright** (HP Labs) finally illustrated the importance of complementary aspects within Smart Cities, Future Internet and Living Lab cooperation underlining also the significance of including all the stakeholders and applying open standards. (with a proper business model but with sufficient network externalities and reaching a specific critical mass).

#### 4.3.6 Attendance

Around 80 participants attended the Smart Cities and Future Internet Session VI from the three communities and from academia, scientific and Living Lab environment.

#### 4.3.7 Outcomes

The VI Session within the FIA Ghent was an important occasion to bring together interested members from different communities of Future Internet and Smart Cities with Living Labs. Scope of the conference was in fact to underline the common areas between the Future Internet and Smart Cities and the contribution of Living Lab approach and methodology to this possible synergy.

The Smart Cities were recognized as emerging realities and important test bed environment characterized by dedicated services, wide internet access band, important infrastructure and, of course, citizens.

In addition two other important concepts emerged from the Smart Cities environment analysis:

- the sustainability both from an economic and from energetic point of view
- the essentiality of a platform, for providing "smart" services and manage that level of "open data", crucial for the development and the diffusion of such kind of environment.

The Future Internet has been recognized as the technology contributor able to provide the Smart Cities with that technical infrastructure to connect people and services and to manage that network to interconnect and "make intelligent" devices exchanging information in an "open data" environment.

Finally the Living Lab has been recognized with the last important element necessary to address the social aspect of this transformation. The Living Lab are however not only the final element necessary to make innovation friendly with society (and make people part of the innovation process) but are necessary to leverage and invest in that human and social capital and tradition complementary to the economic growth and the high quality of life (typical from Smart Cities environments).

Another important element, emerged, was the governance and the involvement of both private and public stakeholder in this process that will see Smart Cities, Future Internet (and Living Lab) cooperate together and doing innovation for the benefit of the citizens.

The convergence of the discussion was then on a possible model (such as the successful presented Santander case with its 20,000 sensors installed) for Future Internet, Smart Cities and Living Lab to share common and practices and cooperate together.

Final elements emerged and identified around such possible model were:

- the openness (as necessary element for technologies, data, communities and environment)
- the economic and energetic sustainability
- the importance of a collaborative platform
- the ability to involve both private and public stakeholders
- the capacity to interconnect infrastructure, intelligence, people and services.

The need for a specific "platform for services" can be identified as the common value between Smart Cities and Future Internet (intended as technology provider for such kind of environment).

The "openness of solution" and "common values" is the mutual identified element the Future Internet and Living Labs (considered as open innovation ecosystems) can share and leverage.

The "key role of the services" and the identification of the needs can be considered the common value between Smart Cities and Living Labs.

## 5 CONCLUSIONS AND OUTLOOK FOR NEXT PHASE OF WORK

Coming period of the FIREBALL Project will concretize and allow to go through the steps described for the European Joint Community Establishment. The rationale and the logic described in this document will act as a master track for all the event and initiatives within this task. In particular, activities until May 2011 will include:

- Identification of key organisations and experts as part of the European Community, and involving them in European Community building;
- Preparing the organisation of the second primary workshop, FIA Budapest, May 2011
- Preparing the organisation of a third primary workshop, possibly at the Open Days, October 2011, Brussels
- Preparation of secondary events as mentioned in this report
- Supporting an active interaction and communication across the three communities (Smart Cities, Living labs, Future internet).

The description of the events attended during the project period will constitute also a Community Report tool and will illustrate the path for the above target achievement.

## 6 REFERENCES

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- [ 4 ] Future Internet Assembly – Ghent – Foto and Video <http://fi-ghent.fi-week.eu/photos/> / <http://fi-ghent.fi-week.eu/video/>