"Linked Open Apps Ecosystem to open up innovation in smart cities"
Project Number: 297363

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Summary

This document aims is to present the iCity project methodology. The document includes a detailed description of the 3H engagement methodology, technical feedback and tools, a governance proposal as well as an evaluation an follow up analysis.

DOCUMENT HISTORY

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1.0	December, 2012	Draft	Author	Laia Sánchez (CTL).
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Executive Summary

iCity is a project whose main objective is to facilitate co-creation in the innovation ecosytems of participant cities. How? Opening some of the cities' infrastructures so a **living laboratory**[1] community can be enabled to develop new public services of public interest.

This living laboratory is defined as a real community in a real environment, in the context of the city. It is formed by digital and physical infrastructures and by a community of developers and real users working together, and it should be a fertile ground for the development and testing of iCity applications created by third parties.

The co-creation ecosystem living laboratories that the iCity must activate in the participating cities should be spaces to build a new relational framework to encourage co-creation between the public and private sector. The project ends in 2014, but the cities must include this living laboratory approach in their structures, and it must be operational when the project is complete. These living labs can continue as real innovation environments used for the cities to develop new projects, new applications and services with the citizens and for the citizens.

This is not an experiment; it is the foundation of a new branch of municipal action. The public sector and the private sector should establish a new balance to operate in a new framework of relations from which productive services for the smart city of the future are created. This new area of cities is needed now as part of the new Europe 2020 strategy, in particular with the new orientation of the Structural Funds. Until now these funds could be asked for urban projects. From now on, the projects should include a clear innovative approach. Regions should develop a Regional Innovation Strategy based in smart specialization principles to get these funds. Cities are also invited to collaborate with the Regions in this exercise of **RIS3 Guide**[2] **(Research and Innovation Strategies for Smart Specialisation)**.

iCity is a new type of project, with a unique set of challenges, and this has implications that WP2 includes in this methodology. iCity includes the methodology to establish local co-creation environments.

The methodology proposal starts with the partner's experience in the field of the living labs. The RIS3 Guide is also asking the regions to develop open innovation and Quadruple Helix models, based in the collaboration of governments, companies, research institutions and citizens.

The methodology proposal includes the partner's experience in the methodological field of the living labs, the **Quadruple Helix model** [3]consisting of government, citizens, private sector and research work, co-design and co-creation. WP2 attempts to gather these experiences and adapt them to the context and objectives of the iCity project. It should be also adapted to the specificities of the participating cities.

This document therefore contains a number of methods and tools that WP2 organizes by types of activity. Their application contributes to the engagement objectives achievement during the iCity project development. The main purpose of these tools is that cities can lead the process to establish a new framework for relations with stakeholders in the private sector and the public sector itself and its end users.

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[1]Living Labs promote co-creative, human-centric and user-driven research; development and innovation in order better cater for people's needs. To work from a Living lab prospective is to place the user on the center of the creative process.

[2] (RIS3 Guide,:26) http://ipts.jrc.ec.europa.eu/activities/research-and-innovation/documents/guide/draft_12_12_2011.pdf

[3] The Quadruple Helix model is a collaborative framework by four main partners (government, citizens, private sector and research work). It goes beyond the traditional model in which government, private companies and research centers, created the partnership because the citizen plays a new role.

Normally, the administration is the final client of private services providers but that approach won't work in this project. Therefore it is extremely important to work together to overcome the lack of trust and experience present in these new public-private partnerships.

In the normal daily life, the public Administration through public tenders annonce some services to be provided by private companies. But now with projects like iCity we are entering in a new private-public relationship. We are both experimenting altogether. There is a risk. We are taking risks because this is all about innovation. Therefore it is extremely important to work altogether to reduce risks. But working together means forming a team, overcoming the lack of trust between private and public sectors. Even the citizen's lack of trust as active users of our services. During decades we have served to the citizens perfect closed services. But now, we need new services, the citizens need new services and we are forced to deliver them applying innovation. This is why we need new environments, new communities of innovation.

In an economic climate such as this, where the public sector cannot make the economic investments as a result of ongoing austerity measures, it will be of key importance to generate synergies with the private sector and take advantage of each partner's possibilities, knowledge, experience and values.

WP2 proposes to apply Living Lab methodologies in co-creation as the basic operatives to build the above mentioned new relationship.
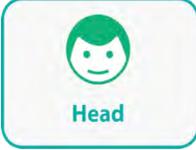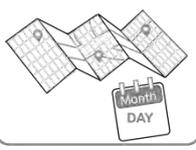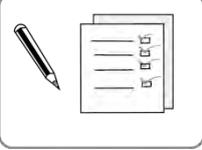
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Abbreviations and Acronyms

Acronym	Description
WP2	Work Package 2
WP3	Work Package 3
WP5	Work Package 5
SIG	Special Interest Group
TBD	To be described
SME's	Small and medium enterprises
PC	Public Citizen
RES	Researcher
GOV	Government
DEV	Developer

1. iCity Methodology: How to use this document

1.1 The toolkit structure

Activity type	Description
HHH	The 3H methodology takes its name from the first letter of Head, Heart and Hands on. It uses these three human body parts as a methapor to describe the stage-by-stage process through which stakeholders first identified and map to the moment in which they work and co-create on it.
Head	The Head activity aim is to identify/map the actors of cities innovation ecosystems and to provide protocols and tools to collect and understand which are their interests, needs and barriers in order to participate in the iCity project. Head is about knowing each other.
Heart	The Heart activities are those linked to the consolidation of relationships that are necessary to establish trust and commitment between public and private stakeholders. Its goal is to encourage stakeholders to overcome their barriers so they want to explore together this unknown context that provides common interest possibilities. Heart is about trusting each other.
Hands	Hands on section details a set of methods to encourage the submission of App proposals ideas, as well as developed Apps. It provides to city project managers with different Development events formats to foster the development of Apps at each territory. All these actions should follow a coordinated strategy but each city deploys them locally. Hands on is about co-creation.
Month DAY	The context refers to the stages or iterations in which the activities take place, methods are tested and tools are deployed. The context can also refer to the communication channels used to contact stakeholders (phone, email, face to face meetings).
	The 3H methodology targets stakeholders representing the city government and administration, researchers, companies (developers, SME's...) and citizens. These four actors play a crucial role in the cities innovation ecosystems.
	The checklist is a verification process, which describes the steps to follow within an action. It can refer to previous steps, during the action steps and steps to follow to get results.

1.2 The 3H methodology approach

The cities can apply and deploy this methodology using their own mechanisms. This document describes and proposes a set of methodological tools organized by three types of activities.

The first type of activity described is called **HEAD**. This body metaphor is used to illustrate a kind of activity whose goal is to help participant cities to better understand their innovation ecosystems. The aim of the **HEAD** activity is to identify/map the actors of their innovation ecosystems and to provide protocols and tools to collect and understand their interests, needs and barriers in order to participate in the iCity project.

During the project, the mapping of these ecosystems must discover specific circuits of stakeholders. Within the co-creation ecosystem different stakeholders circuits are configured from the app development cases.

WP2 understands by "circuits" the innovation ecosystem actors directly involved or interested in the development of iCity public interest services. These circuits include end users and all those actors interested in development of these services app from both the public and the private sector.

Head activity also contributes to a greater understanding of the needs and interests of actors in these circuit barriers before their participation in the co-creation process proposed by iCity. The methodology includes HEAD activity, which defines the way to gather feedback from stakeholders.

The activity at the core of this process is called **HEART**. This is an activity linked to the consolidation of relationships that is necessary to establish trust and commitment between public and private stakeholders. Its goal is to encourage stakeholders to overcome their barrires so they want to explore together this unknown context that provides common interest possibilities.

To do so, iCity methodology works to align strategies, needs and desires to generate enough energy, trust and interest among all parties involved in the process.

The whole 3H methodology is based in the new innovation model called **Quadruple Helix[7]**.

It is key to understand the relantioships between the various actors in the Quadruple Helix. By doing so, it should be clear that the involvement process also refers to the internal public administration ecosystem involvement. iCity must overcome the administration's bureaucratic model to be able to build alliances that ensure the experimentation the iCity living laboratories need.

iCity requires the collaboration of key stakeholders with the administration in the process of opening up infrastructures. Local goverments should also be able to provide this experimental framework so third parties can develop iCity public interest services for the citizenship.

In the iCity project the local administration role changes. This methodology will help them to transform its role from a client looking for end services to the citizen to a provider and a

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moderator of the new innovation community formed by Quadruple Helix actors promoting the development of new services with citizens.

The public use of infrastructures must be guaranteed while they are used by third parties. The regular public services[8] shouldn't be affected by the iruption of these new uses.

Additionally, iCity should find sustainability models for a market that is still new and high risk. It is very important to limit bureaucracy in the management of the iCity communities in each city. It can endanger the whole project.

The project must guarantee an agile application validation process. Otherwise stakeholders won't be encouraged to participate. Until now we have heard a lot of talk about smart cities. Now it is time to put in place the innovation communities able to do it. This is the aim of 3H methodology.

The activities described in the HEART section are dedicated to overcome the difficulties of stakeholder engagement that are implicit in the complex process of change which the iCity project represents.

All proposed HEART methods described in this document are essential to encourage stakeholders to become developers of iCity public interest apps.

The next type of activity is called HANDS ON. It performs over the *Head* and *Heart* activities. These *Hands on* methods are oriented to achieve the agreement to develop an app.

The *Hands on* section details a set of methods to encourage the submission of App proposals ideas, as well as developed Apps. It provides city project managers with different Development event formats to foster the development of Apps in each region. All these actions should follow a coordinated strategy, but each city deploys them locally.

In addition, the methodology describes how to organize these development events as catalysts of the development of these iCity applications at each city. Each city has to adapt them to their strategic scenarios and to program them to be able to reach the expected objectives set by the indicators.

The table below gathers the project indicators that are related with the phases and associated objectives. They will be used to follow the progress of the project and the achievement of the targeted goals for the stakeholder's engagement.

Indicator No.	Relating to which project objective / project phases	Indicator	Method of measurement	Expected Progress[29]		
				M12	M24	M36
3	Obj-3 Engagement of SMEs Phase: Setup	Open innovation stakeholders identified and contacted	Enumeration of organizations (by reports)	50	100	200
4	Obj-3 Engagement of SMEs Phase: Setup	Youth Engagement in development of apps	Enumeration of students and young developers (by reports)	n.a.	25	50

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[8] The basic distinction is that whilst public services are to be organized by Public Administration organizations (at any possible level, that is state, regional, local) services of public interest are usually accomplished by a non public organization of any kind (companies, associations, NGOs or even citizens themselves). A public service responds to a"citizenship right" and constitutes a Public Administration duty, so it's delivery is compulsory. Aservices of public interest responds to "citizenship need", the Public Administration is not obliged by any law to its delivery, and in fact could be instantiated by any civic organization. (Barcelona: Infrastructure definition and Use cases, Author: Míriam Alvarado, Marc Garriga (BCN)

7	Obj-4 Co-creation of apps Phase: Setup	Open innovation stakeholders identified developing applications	Enumeration of organizations (by reports)	30	75	150

Technical feedback

This technical feedback activity aims to align both the design and the definition of the iCity platform with the requirements and needs of the stakeholders, guiding also the deployment of the iCity platform and providing specific information for a better understanding of the iCity platform by any actor of the engagement process.

The goals of the technical feedback activity are:

- On one hand, provide technical information needed during the engagement process with the aim of helping to better understand the iCity platform issues.

- On the other hand, the evolution of the engagement process provides information gathered from the stakeholders. A technical analysis of this information is done in order to obtain:

- Knowledge of possible infrastructures and services that can be connected to iCity, coming from the cities and also from 3rd parties.

- Knowledge of possible public interest apps that can be developed over iCity, using iCity SDK.

- Knowledge of issues from the stakeholders in order to provide them an easy, attractive and useful SDK.

- Knowledge of infrastructures and services that should be connected to iCity in order to support the public interest apps that have been proposed by iCity stakeholders and developers.

Evaluation

The indicators included in the following section are designed to set a sociological, functional and strategic evaluation of the pilots in Barcelona, Bologna, Genoa and London, and of the overall project value proposition, in order to extract conclusions and recommendations, including feedback for the platform and apps development cycles. This setting will be based on a social innovation approach.

Each section of the iCity project methodology (Head, Heart and Hands-on) has its own evaluation indicators, adapted to the level of development of the overall project which is expected to achieve in each phase. Thus, some indicators are repeated in each stage to see its progress while others are taken into account only in some specific stages. The indicators evaluate key aspects of each phase, which are described below. It is also fully specified where, when, who and how to get them.

Indicators for Head stage are used to identify the stakeholders who are initially interested in the iCity project, which are also part of the innovation ecosystem of each city. These indicators will explore how interested developers are involved in the smart city strategy set in each city and the requirements they pose to be able to effectively engage in the project. This information will be mainly collected through online questionnaires filled out at the beginning of the process by the identified stakeholders.

Indicators for Heart stage will provide information about the stakeholders who finally join the project, the proposed apps to be developed, the content of these apps and the expectation of future performance of the projects made by developers. The information from detailed indicators will be mostly collected in the context of the engagement events or meeting sessions organized by each city. Furthermore, semi-structured interviews to follow up engagement activities organized by cities will be also arranged.

Finally, those indicators included in the Hands-on stage will focus on issues such as the amount of effectively deployed projects, the level of success of the platform, its applicability in other locations, the fulfillment of social and economic returns expected at previous stages and the new co-creation environments and governance forms emerged, among other aspects. The evaluation of the Hands-on phase will provide the most interesting information about the results of the iCity project, because this stage will be the receiver of several aspects which are necessarily cumulative (collected throughout the project) and because it will mean its final closure.

1.3 Limits and Scope

The engagement methods require the iCity project partners to be flexible and agile in addressing problems that will arise in each context to adapt and refine the tools proposed in this methodology. This is a new process –building a new community– and therefore all partners must be aware of this fact while applying this methodology.

That's why the iCity methodology should remain in "beta" status during the whole project. WP2 will ensure that iCity teams of each participant city, together with the technical and methodological partners, can modify the methodology anytime in order to overcome new and unexpected difficulties. The goal is to consolidate the new public-private relationship that is crucial to carry out the development objectives proposed by the iCity project.

During the first year, WP2 has provided negotiated solutions to all difficulties that have arise when implementing the engagement process (bootstrapping). All stakeholders contribute to the iCity methodology co-design as to a work in progress.

Each methodology activity should be first tested in Barcelona. There are various reasons for that, among them, its role as a project leader, its consolidated and strong innovation ecosystem, its flexibility and technical resources and the recent creation of Barcelona the Lab, a new community that can be used and tested for the project purposes. Building on London's existing experience of working with developers through the London Datastore and taking account of being able to work in collaboration with other project, London will proceed with their plan to engage a range of users with the iCity platform.

Based on the experiences in Barcelona/London the project organizers can learn about stakeholder reactions, add new improvements and review or modify those activities that do not achieve the expected results or exclude those activies that prove not worth the effort. The participants feedback and proposals will be taken into account for future events in the other project cities.

Following Barcelona/London the rest of cities involved in the project can apply the methodology in their own territories. This approach should reduce the risk and increase the chances of our user engagement being successful.
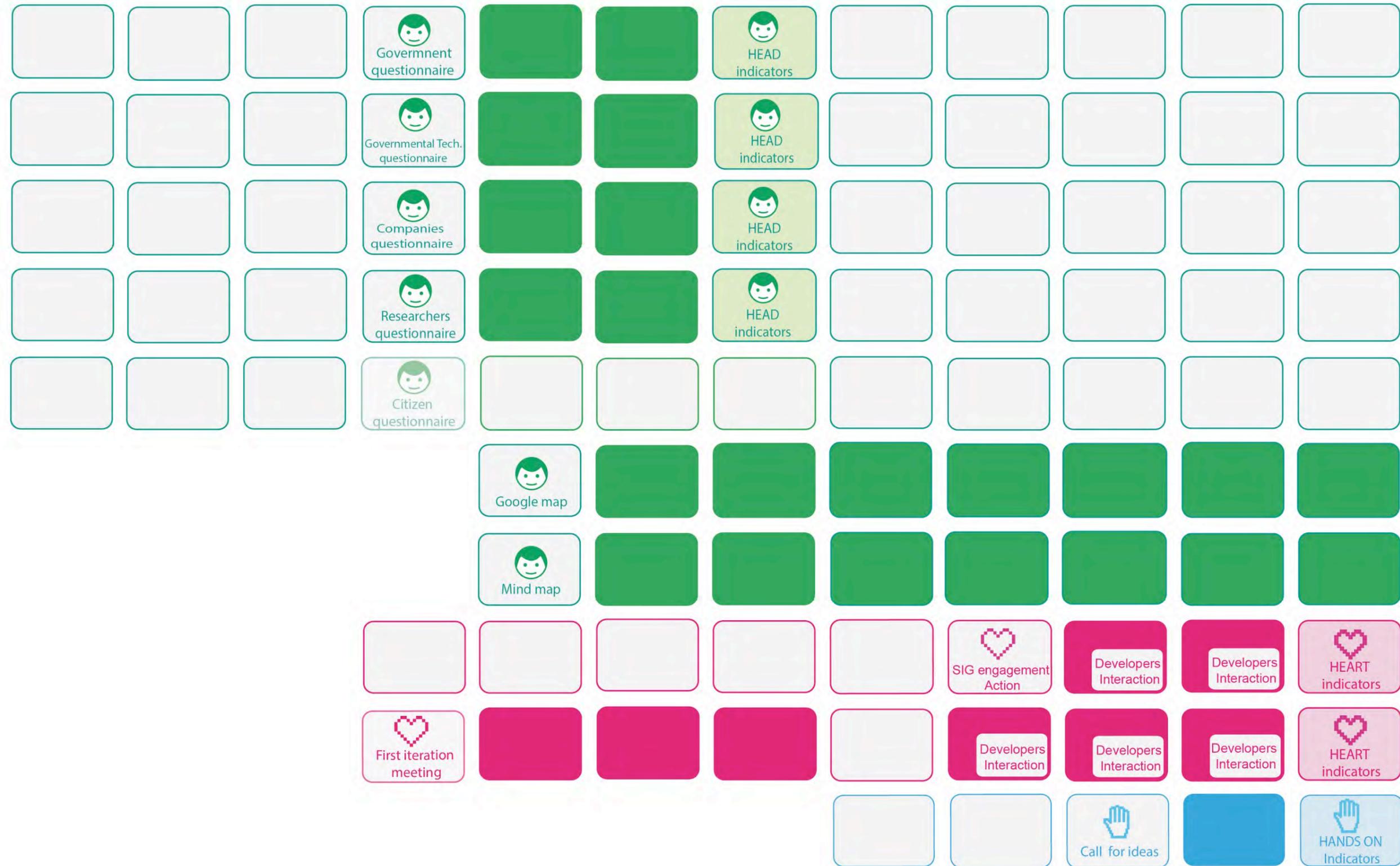
3H Methodology Road map

The following Road Map tries to capture in a visual way the 3H Methodology development throughout 2012, 2013 and 2014. The graphic must be read from left to right, each square representing each of a years month. There are three main icons to represent the 3 h: a head, a heart and a hand.

Note that during 2012 the green color that represents the Head activities is predominant. This is due to the fact that most of the Head activities that are aimed to identify and map the projects's stakeholders take place during this phase. There are also activities linked to the Heart stage such as SIG engagement action, developers interaction, First meeting iteration and Heart indicators as a result. Heart activities are aimed to deep the relationship with active stakeholders once they have been identified in the Head stage. Almost at the end of the year there are two Hands on activities programmed: the Call for Ideas and Hands on indicators. These actions, as all Hand on actions, are conceived to foster the co-creation of apps of public interest services.
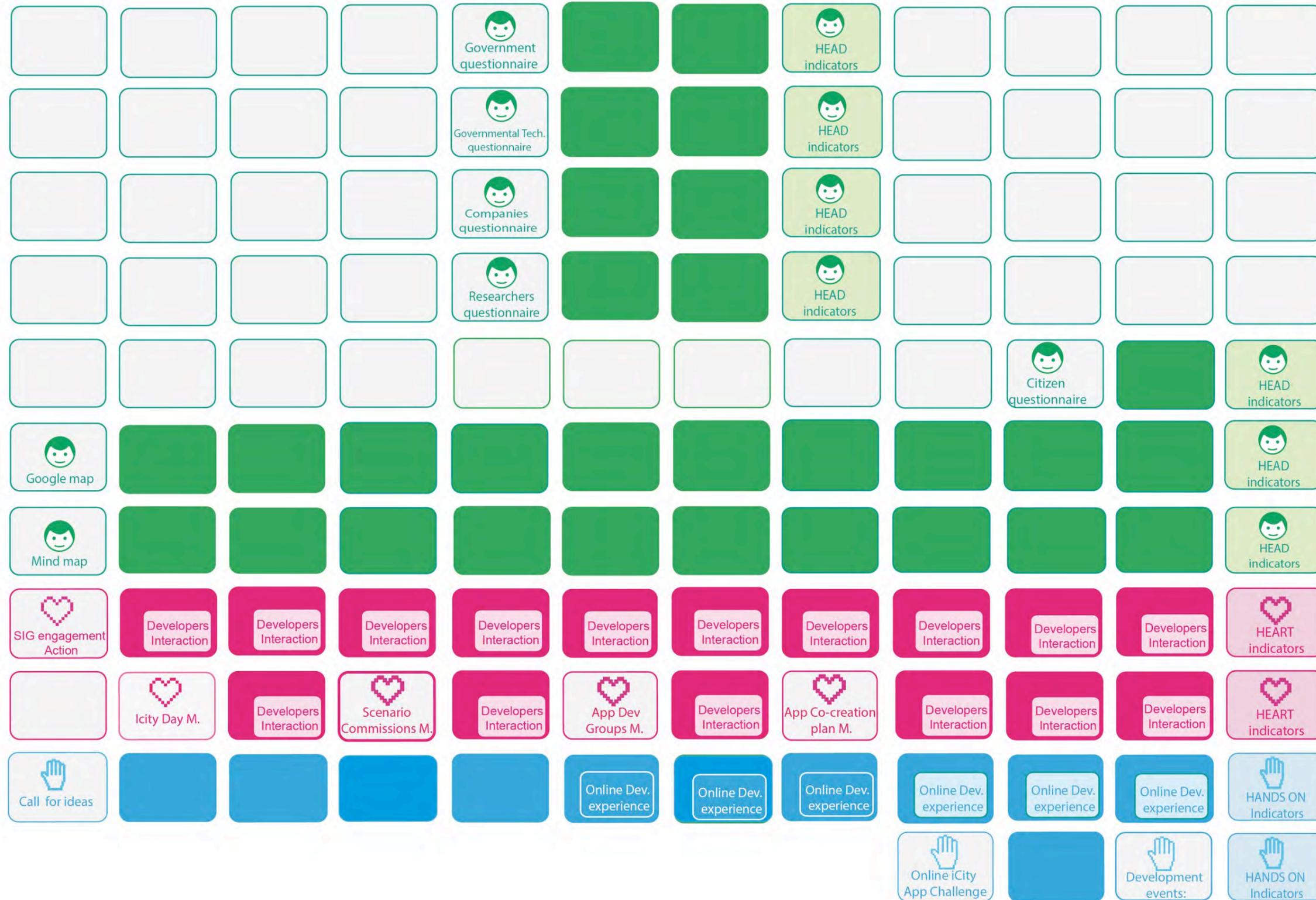
On the second year the green is still present because the identification an map process never ends but there is more purple or Hearth color. The reason is because during the whole year several Heart actions take place. At the beginning of the year the SIG Engagement Action, then during the year Developers interaction and actions such as iCity Day, Scenario Comissions, the creation of App Development Groups, App Co-creation plan. During 2013 the Hands on activities are also active with a Call for Ideas, f Online developers methods, development events such as App Jams and Hackatons and the App challenge.

The last year of the project the most intense activity is that on the Heart and Hands On phases with the development of all activities described above.
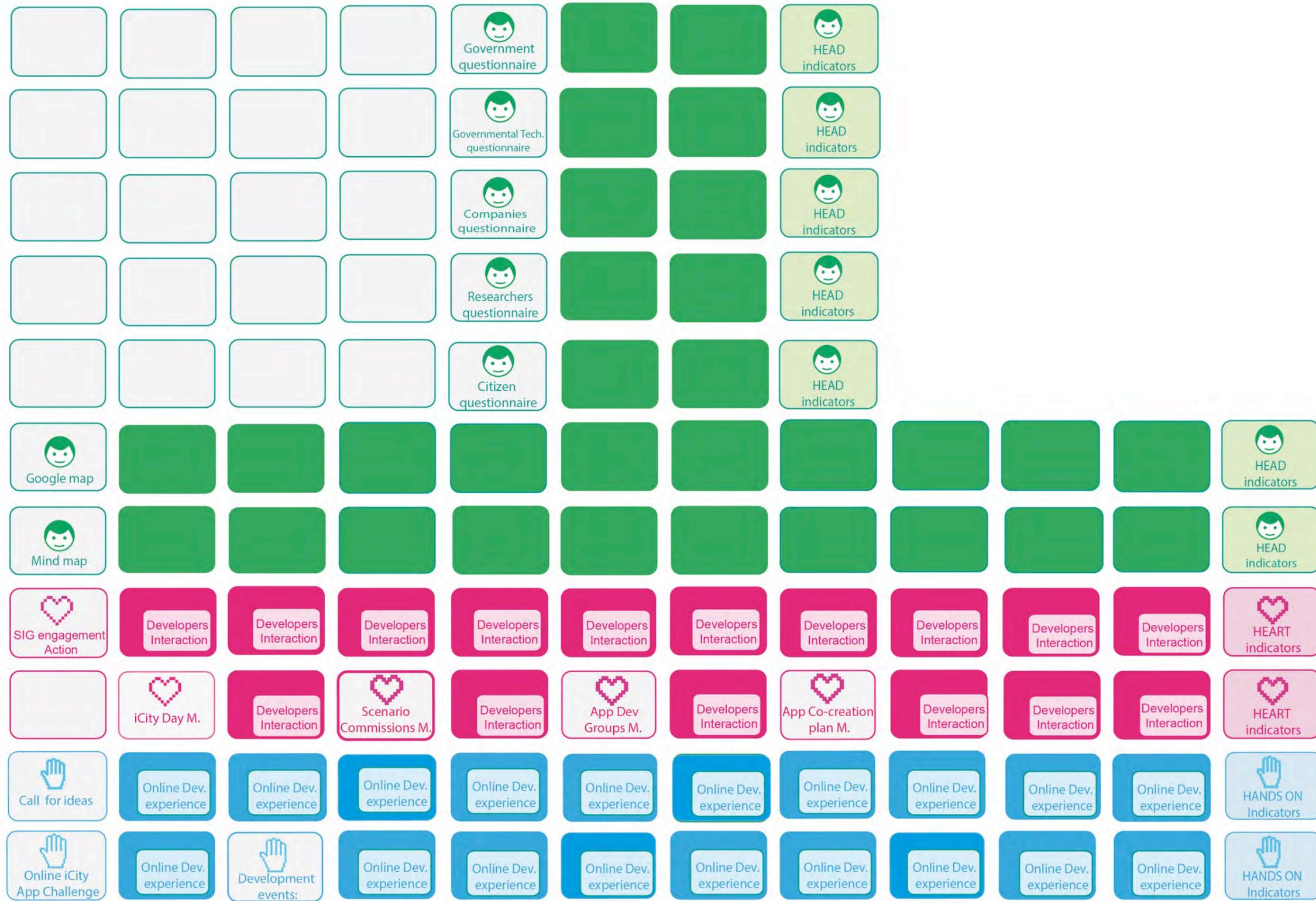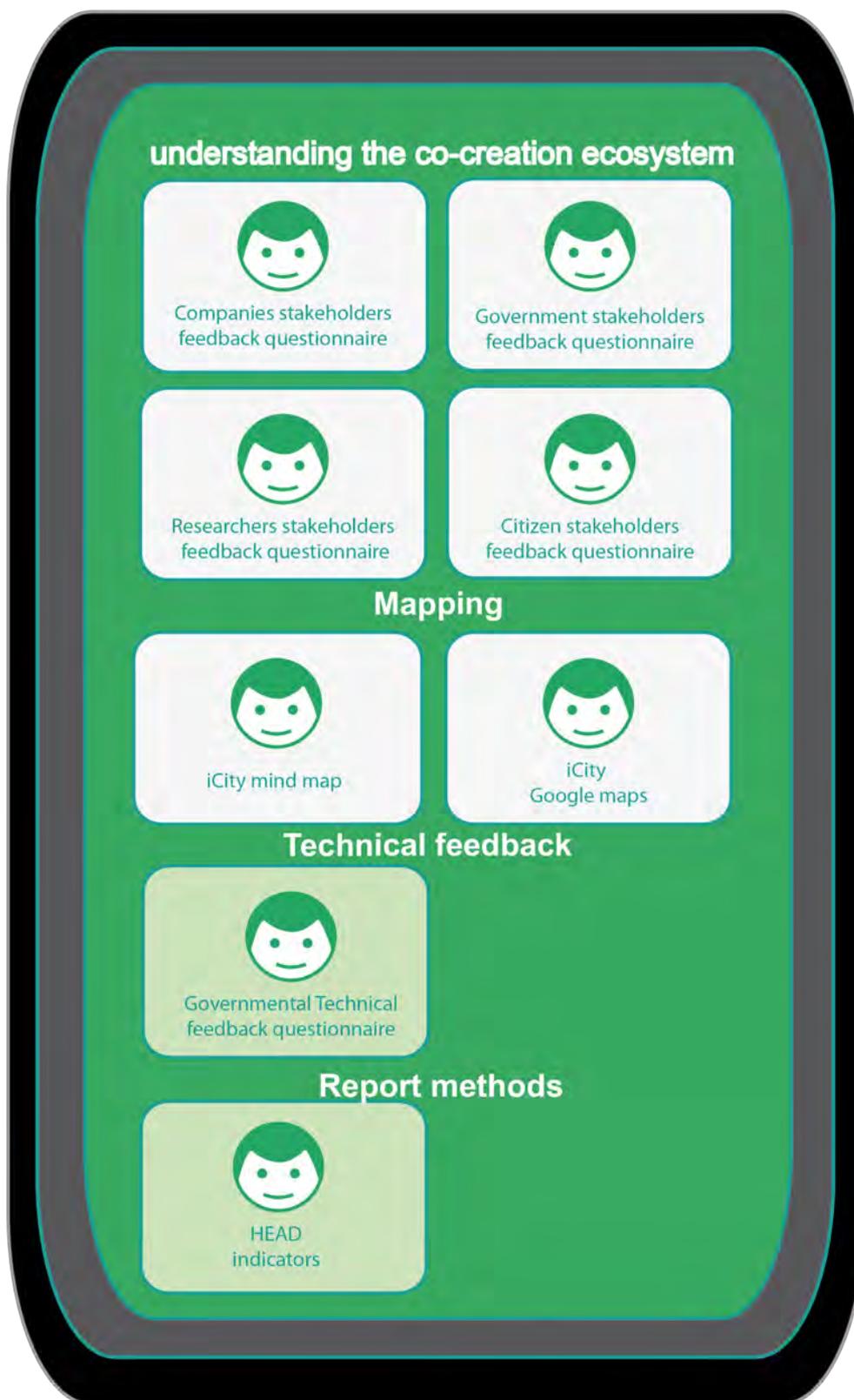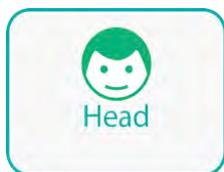
3H Methodology 2012

			Govermnent questionnaire			HEAD indicators					
			Governmental Tech. questionnaire			HEAD indicators					
			Companies questionnaire			HEAD indicators					
			Researchers questionnaire			HEAD indicators					
			Citizen questionnaire								
			Google map								
			Mind map								
							SIG engagement Action	Developers Interaction	Developers Interaction	HEART indicators
First iteration meeting							Developers Interaction	Developers Interaction	Developers Interaction	HEART indicators
									Call for ideas		HANDS ON Indicators

3H Methodology 2013

3H Methodology 2014

				Government questionnaire			HEAD indicators
Governmental Tech. questionnaire			HEAD indicators
Companies questionnaire			HEAD indicators
Researchers questionnaire			HEAD indicators
Citizen questionnaire			HEAD indicators

| Google map | | | | | | | | | | | HEAD indicators |
| Mind map | | | | | | | | | | | HEAD indicators |

| SIG engagement Action | Developers Interaction | Developers Interaction | Developers Interaction | Developers Interaction | Developers Interaction | Developers Interaction | Developers Interaction | Developers Interaction | Developers Interaction | Developers Interaction | HEART indicators |
| | iCity Day M. | Developers Interaction | Scenario Commissions M. | Developers Interaction | App Dev Groups M. | Developers Interaction | App Co-creation plan M. | Developers Interaction | Developers Interaction | Developers Interaction | HEART indicators |

| Call for ideas | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | HANDS ON Indicators |
| Online iCity App Challenge | Online Dev. experience | Development events: | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | Online Dev. experience | HANDS ON Indicators |

2. Head activity

2.1 Head activity toolkit

HEAD ACTIVITY

Living lab approach: User centered design and 4Helix methodology

Head activities include all rational work that has to be done in order to identify and map the potential open innovation ecosystem, and therefore stakeholders, on every involved city.

The first activity is to identify and establish contact with them. Once the contact is made, the Hearth stage follows.

There are different approaches for the stakeholder's identification. Some stakeholders are located thanks to the information provided by the city councils, some others are found doing some research and some others are identified and mapped thanks to other involved stakeholders.

The main objectives of these activities are:

- To obtain a clear picture of cities innovation ecosystems.

- To distinguish between the different actors: government agencies, companies, researchers and citizens and approach them accordingly.

- To map these ecosystems.

- To obtain direct access to those actors involved in the innovation ecosystem.

- To reach them via letters of interest.

- To let the project known and fully understood.

Within the 3H methodology, the Head stage is the first activity. Its success is important for the further development of the project because the more stakeholders involved the more success chances will have.
The Head stage is the activity necessary to start the engagement process but its activity continues during the project in order to gain knowledge about the innovation ecosystem.

The Head activities target the four main stakeholders groups that the iCity project considers important members of the cities' innovation ecosystems: government, researchers, citizens and companies. Each one plays a different role in the cities' creation and innovation dynamic and they have been targeted through specifically tailored questionnaires.

The companies will play a very important role in the development of

public interest services. Governments will be a key actor as managers of infrastructures. Citizen will be the final users and testers of all those developed application while researchers have the advance knowledge and permanent research that this new interdisciplinary field requires.
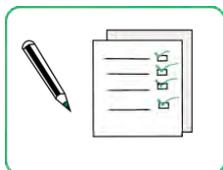
There are different methods described to identify and map the potential stakeholders on every city.

Questionnaires: The questionnaires purpose is to collect information regarding stakeholder's acknowledgement of smart city services prior to their participation on the iCity project.

Mapping: To identify and reach stakeholders the project uses information gathered by the city councils. It is the city council itself which owns a potential stakeholder database and releases it.

GoogleMaps[11]: There is a Google Map displaying every city map and containing location and information regarding the involved stakeholders. The map is a work in progress, and can be updated whenever is needed.

Mind Map[12]: Is a tool set to facilitate the global visualization of the project. It includes the stakeholders as well as infrastructures deployed, projects and global situation of every city. Innovation Project Calls: Another way to identify stakeholders is to check both the Community Research and Development Information Service and the FP6 and FP7 calls. The participants of these programs on each city are potential stakeholders.

2.1.1 Identification and mapping tools

The following section describes the tools deployed for the identification and subsequent mapping of stakeholders. The identification tools are based on questionnaires addressed to each stakeholder (government, companies, researchers, citizens) from which the project gets stakeholder's feedback. The mapping tools facilitate an easy data visualization. Two tools are used to that purpose: GoogleMaps and a Mind Map that uses the MindMeister software. Both are described below.

a. Stakeholders feedback questionnaires

Government Questionnaire

The Government Questionnaire is a tool used on the *Task 2.1 "Stakeholders identification and Living Lab Dynamic"*. Its purpose is to

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[11] https://maps.google.com/

[12] www.mindmeister.com

collect information regarding government and government agencies acknowledgement to smart city services prior to their participation on the iCity project.

The questionnaires are divided into four main blocks. All questionnaires share a few general questions. Example: All are headed by questions related to the identity and basic data of the people involved: name, title, occupation, e-mail address and or company or agencies addresses.

The second block of the questionnaires asks about implication in the Smart City strategy. It basically wants to prove the familiarity of the cities' governments with ICT and Smart City projects and know details about their experience in developing them.

The third section of the questionnaire deals with the strategy to develop services of public interest and is common to the government, citizens and researchers questionnaires.

On the Government Questionnaire this block of questions tries to determine the scope of those services provided by the government and what are those that fall outside the legislative obligations or responsibilities, even if they are considered of public interest and can not be carried out by the public administration due to lack of resources, strategic decisions or little demand.

The fourth blocks is common to the four questionnaires and helps to establish what is the relationship that the stakeholders want with the project, how do they want to relate to iCity. The section is common to the four questionnaires and it's called Requirements for engagement.

See questionnaire in the **[8.1.1 Annex]**

This application has the following pattern:

This tool can be used via e-mail with phone support. It can also be fulfilled in a face-to-face interview.

- It is sent in a first iteration at the beginning of the project.

- 2nd iteration simplified version of the questionnaire can be used to get further feedback from the government agencies that are potentially involved in the opening of its infrastructures.

The Government Questionnaire was addressed to the city council and main municipal agencies, departments and governmental institutions operating in Barcelona, Bologna, Genoa and London. It was both addressed to politicians and technicians. The new version of the questionnaire has to be used with governmental politicians and technicians that are involved in the opening of an infrastructure process.
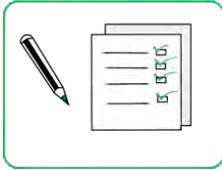
Checklist:

Before

- To set a government related stakeholder database. The list is provided by each city municipality. The questionnaire has to be used with the government technicians and politicians involved in the opening of an infrastructure by the iCity platform.

- This database will be extended by finding out government agencies involved in the opening of an infrastructure for the iCity platform once checked the letters of app proposals.

- To create and adapt questionnaires with specific questions targeting government issues and interests.

- To upload the questionnaires on a special platform prior to send it.

During

- The cities themselves send the questionnaires to potential stakeholders using links.

- To contact all the stakeholders who received and filled the questionnaire in order to check whether they understood it, what were their main questions after they have completed it and reply any question that could arise.

Results

- To gather information to write reports.

- To analyze the report results based on the four areas: new actors of the innovation ecosystem, strategy or positioning over public **interest services**[13] to be developed and preferred channels for the engagement.

Bootstraping cases

Overall 329 questionnaires have been sent including company questionnaires, citizen questionnaires, researchers questionnaires and government questionnaires. These stakeholders represent the Quadruple helix model and compose the four first pictures of iCity four innovation ecosystems.

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[13] The basic distinction is that whilst public services are to be organized by Public Administration organizations (at any possible level, that is state, regional, local) services of public interest are usually accomplished by a non-public organization of any kind (companies, associations, NGOs or even citizens themselves). A public service responds to a "citizenship right" and constitutes a Public Administration duty, so it's delivery is compulsory. A services of public interest responds to "citizenship need", the Public Administration is not obliged by any law to its delivery, and in fact could be instantiated by any civic organization. (Barcelona: Infrastructure definition and UseS cases, Author: Míriam Alvarado, Marc Garriga (BCN)

120 questionnaires were sent to government agencies in the four different cities, and 83 of them were collected. All of them partially completed only.

WP2 expected more respondents for each questionnaire: at least 12 respondents by each city for every type of stakeholder. However, during this iteration, it was impossible to obtain the expected results. For that reason the analysis does not compare different type of stakeholders, nor different cities results. In order to progress, WP2 has described the obtained results as absolute. The aim is to make on this very first iteration a first interpretation of the requirements of the iCity stakeholders.

We are well aware that there is still a lot of work to do regarding the questionnaire answers. It is a key issue to address. The results will be used and considered during the next configuration of iCity engagement methodology.

Company Questionnaire

The Company Questionnaire is a tool used on the Task 2.1 "Stakeholders identification and Living Lab Dynamic". Its purpose is to collect information regarding companies willing to provide public interest services within the iCity project framework using the infrastructures deployed by cities and the platform created for the iCity project.

The questionnaires are divided into four main blocks. All questionnaires share a few general questions common to all of them. All questionnaires are headed by questions related to the identity and basic data of the people involved: name, title, occupation, e-mail address and or company or agencies addresses.

The first block of the company's questionnaire is longer than the other ones. This fact is due to the need of finding out the company size in manpower, whether it has a R&D department, their revenue during the 2011 Fiscal year and their experience in the public service sector.

The company's questionnaires will determines their willingness to work in partnerships with other companies, as the structure of the iCity project demands the joint efforts of several parties.

The second block of the Company Questionnaire asks on the second block of the questionnaire about their experiences in the development of smart services of public interest. This block introduces a fundamental difference with the other questionnaires. Before asking companies about their involvement in iCity projects, the questionnaire asks them about their experience with services of public interest. WP2 understands that the companies involved do not develop projects but produce products and services.

The third block of the questionnaires asks companies about their implication in the Smart City strategy and iCity projects. This third block is placed in second position on the government, citizen and research questionnaire.

The fourth block is common to the four questionnaires and helps to establish the relationship that the stakeholders want with the project, and how do they want to relate to iCity. The section is common to the four questionnaires and it's called Requirements for engagement.

See questionnaire in the **[8.1 Annex]**

This application has the following pattern:

This tool can be used via e-mail with phone support. It can also be fulfilled in a face to face interview

- It is sent in a first iteration at the beginning of the project.

- 2nd iteration refined and reduced version of the questionnaire can be used to get further feedback.

The Companies Questionnaires are addressed to companies based in Barcelona, Bologna, Genoa and London. Those companies representing each city creative ecosystem are identified during mapping process. It was both addressed to developers and service providers. The new version of the questionnaire has to be used with company owners and developers involved in the project at least as part of the SIG group.
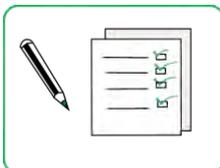
Checklist:

Beforehand

a. To set a company's stakeholder database. The list is provided by each city municipality. The questionnaire should only be used with the already engaged stakeholders, which are part of the SIG and have already sent the App proposal letter.

b. To create an adapt questionnaires with specific questions targeting company's issues and interests.

c. To upload the questionnaires on a special platform prior to send it.

During

d. The cities themselves sent the questionnaires using links.

e. To gather information to write reports.

Results

f. To analyze the report results.

g. To contact all the stakeholders who received and filled the

---

questionnaire in order to check whether they understood it, what were their main questions after have completed it and reply any question that could arise.

h. Find attached the questionnaire, pending revision. It must be simplify.

Bootstraping cases:

Overall 329 questionnaires have been sent including company, citizen, researchers and government questionnaires. The total of stakeholders represent the Quadruple helix picture and compose the four first pictures of iCity four innovation ecosystems.
116 questionnaires were sent to companies on the four different cities and 73 of them were collected, all of them only partially completed.
Please refer to the government bootstrapping. The refined and reduced version of the questionnonaire bootstraping TBD.

Research Questionnaire

The Research Questionnaire is a tool used on the Task 2.1 "Stakeholders identification and Living Lab Dynamic". Its purpose is to collect information regarding researchers acknowledgement to smart city services prior to their participation on the iCity project.

The questionnaires are divided into four main blocks. All questionnaires share a few general questions common to all of them. Example: All are headed by questions related to the identity and basic data of the people involved: name, title, occupation, e-mail address and or company, agencies. On the Research Questionnaire Contact`s data is asked the responsible by area.

The second block of the questionnaires asks about implication in the Smart City strategy. This section is common to the government and citizens questionnaires. The purpose is to find out the researchers experience on ICT and Smart City projects and have more details about the experience in participating or developing such projects. It helps to recover past experiences.

The third section of the questionnaire deals with the strategy to develop services of public interest and is also common to the government and citizens questionnaires.

The researchers understand the logic of working per project and the associated terminology. For that reason the questionnaire ask for very detailed information about experiences in projects, budgets, objectives and partnerships. In the same way, the researchers are dedicated to working with questionnaires on a daily basis, they understand the purpose and terminology. On that section researchers are also asked about their collaboration in the execution with companies, academic

institutions, citizens, local agencies and departments.

The fourth block is common to the four questionnaires and helps to establish what is the relationship that the stakeholders want with the project, how do they want to relate to iCity. The section is common to the four questionnaires and it's called Requirements for engagement.

See questionnaire in the **[8.1.1 Annex]**

The Research Questionnaires were sent to research agencies, universities, and researchers based in Barcelona, Bologna, Genoa and London. Each one of them represents a city creative ecosystem. These stakeholders were identified during the mapping process. It is both addressed to developers and service providers. The new version of the questionnaire should only be used with already engaged researchers that are part of the Special Interest Group.

Checklist:

Beforehand

    i.   To set a researchers stakeholder database. The list is provided by each city municipality but the questionnaire should only be used with already engaged researchers that are part of the SIG group and that have already sent their letter of app proposals.

    j.   To create an adapt questionnaires with specific questions targeting company's issues and interests.

    k.   To upload the questionnaires on a special platform prior to sending it.

During

    l.   The cities themselves sent the questionnaires using links.

    m. To gather information to write reports.

Results

    n.   To analyze the report results.

    o.   To contact all the stakeholders who received and filled in the questionnaire in order to check whether they understood it, what were their main questions after have completed it and reply any question that could arise.

    p.   Find attached the questionnaire, pending revision. It must be simplify.

Bootstraping cases:

Overall 329 questionnaires have been sent during D2.1, including company questionnaires, citizen questionnaires, researchers questionnaires and government questionnaires. These stakeholders

represent the Quadruple helix model and compose the four first pictures of iCity four innovation ecosystems.

93 questionnaires were sent to researchers on the four different cities and 44 of them were collected. All of them partially completed.

Citizen Questionnaire

The Citizen Questionnaire is a tool used on the Task 2.1 "Stakeholders identification and Living Lab Dynamic". Its purpose is to collect information regarding civic associations and representatives willing to participate in the iCity project.

The questionnaires are divided into four main blocks. All questionnaires share a few general questions common to all of them. All questionnaires are headed by questions related to the identity and basic data of the people involved. In this block citizens are asked relevant questions about citizens' age, educational level, nationality, labour activity (whether they are employed, unemployed or inactive) position in their companies, e-mail address, and organization address.

The Citizens Questionnaire asks on the second block of the questionnaire about citizen experiences in projects related to Smart City. The questionnaire wants to recover past experiences that could be incorporated into the platform. It is also of great interest to know what projects related to the Smart City strategy the citizen stakeholders currently pursue, and finally they are questioned about the future.

The third section of the questionnaire deals with the strategy to develop services of public interest and is common to the citizens, government and researchers questionnaires. It is of great interest on this part of the questionnaire to find out what services of public interest are commonly used by citizens and which are missing taking into account their experiences living the cities.

The fourth block is common to the four questionnaires and helps to establish what is the relationship that the stakeholders want with the project, how do they want to relate to iCity. The section is common to the four questionnaires and it's called Requirements for engagement. It wants to establish what is the relationship that the stakeholders want with the project, how do they want to relate to
iCity. So far it has asked them how they were related to each other and the rest of the parties involved. iCity, as a moderator, wants to know what processes should be followed to continue to work together.

See questionnaire in the **[8.1.1 Annex]**

This application has the following pattern:

This tool can be used via e-mail with phone support. It can also be fulfilled in a face to face interview

- It is sent in a first iteration at the beginning of the project.

- 2nd iteration simplified version of the questionnaire can be used to get further.

The Citizens Questionnaires are addressed to citizen association, citizen representatives based in Barcelona, Bologna, Genoa and London. All of them represent each city creative ecosystem and are identified during the mapping process. But only the citizens organizations or potential final users of an iCity app will be asked to answer the questionnaire.
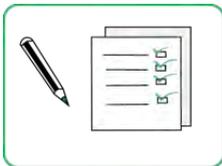
Checklist:

Beforehand

a. To set a citizens stakeholder database. The list is configured from the circuit of potential users of the already proposed iCity apps.

b. To create and adapt questionnaires with specific questions targeting company's issues and interests.

c. To upload the questionnaires on a special platform prior to send it.

During

d. The cities themselves sent the questionnaires using links.

e. To gather information to write reports.

Results

f. To analyze the report results.

g. To contact all the stakeholders who received and filled the questionnaire in order to check whether they understood it, what were their main questions after have completed it and reply any question that could arise.

h. Find attached the questionnaire, pending revision. It must be simplify.

Bootstraping cases:

Upon request the citizen questionnaires will be translated into Italian and Spanish so citizens can easily understand the information if they are unable to read Spanish.

Although the Citizens Questionnaire has been created and WP2 participants have asked the cities to distribute it among those civic associations with whom they have a relationship, all the project city partners have requested more time to be able to ensure the association consultation. For that reason, before asking them for contributions, cities and WP2 want to present and clearly explain the project to them. Besides, WP2 considers important to explore the ecosystem and to have a clear understanding of the iCity platform and the scenarios proposed by the cities in relation to the infrastructure in order to select the social stakeholders.

It is important to mention that there was also a technical problem with CISCO that prevented the questionnaires to be ready.

2.1.2 Mapping visualization tools

Google maps

A Google Maps page of each city will display the information and localization of each stakeholder involved in the project. The map will be opened to regular updates as the number of stakeholders participating in the project increases. The information displayed includes the stakeholder URL, address, type (following a graphic code) and precise location over the map.
The map is also a key tool to realize the growing expansion of the iCity project in Genoa as well as a reference tool for its stakeholders. It will be useful for them because they will find each other's contact information.

This tool was conceived for online use only. The maps can be updated and share with as many people as needed.

The map will be a reference tool for the four involved stakeholders: city governments and agencies, researchers, companies and citizens. They will see, as it happens, the growing expansion of the project.
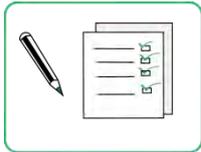
Checklist:

The four cities will have a "How to" manual with instructions that will help them on the map main settings.

To login open the map:

- Click on the map option at the top of the bar of your browser.
- Click on the "My maps" button to open your maps list.
- Select any of the iCity maps in the list.

To edit the map. There are several ways of adding icons to the map:

- Add marker
- Use the search bar
- Users can also add custom icons from external servers into Google Maps.
- There is a Maps icons collection

People can be invited to collaborate in the map.

See Google map in the **[8.1.2 Annex]**

Bootstraping cases:

The four city maps are online and available to upload information. The cities have not shared them. To this date the Genoa Map is the one displaying more information.

Mind map

The Mind Map is a tool set to facilitate the global visualization of the project. It includes in a visual way the main possible scenarios and information within the iCity project.
This tool helps to summarize into a concise format important information of the iCity project on the four participant cities.

iCity mind map can help as a tool that provides a quick overview. The visualization of the innovation ecosystem and the 3H iCity stages results can help on problem solving, because it shows structure and relationships. Design should be used

The software used for the map is MindMeister, an online mind mapping software that allows its users to visualize their thinking

The Mind Map has been designed at the beginning of the project and will be open for editing until the end of it. The city managers have access to it and can upload content as new activities and infrastructures are opened. The mind map is downloadable and sharable

The Mind Map is addressed to the iCity city managers as a tool to complete to help to visualize the 3H activities results. It will be for private use during the project but it can be released at the end of it.
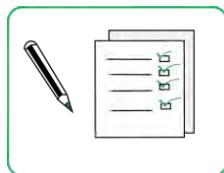
Checklist:

- The Mind Map is made with information gathered by cities.

- The infrastructures mapping is provided by WP3 and WP4.

- The project information is provided by Cordis website, FP6 and FP7 as well as stakeholders from questionnaires and web and social networks search and…

- Start in the center with an image of the topic, using at least 3 colors.

- Use images, symbols, codes, and dimensions throughout your mind map.

- Select key words and print using upper or lower case letters.

- Each word/image is best alone and sitting on its own line.

- The lines should be connected, starting from the central image. The central lines are thicker, organic and thinner as they radiate out from the centre.

- Make the lines the same length as the word/image they support.

- Use multiple colors throughout the mind map, for visual stimulation and also to encode or group.

- Develop your own personal style of mind mapping.

- Use emphasis and show associations in your mind map.

- Keep the mind map clear by using radial hierarchy, numerical order or outlines to embrace your branches.

    See the mind map figure in the **[8.1.2 Annex]**

Bootstraping cases:

WP2 has been developing a MindMap that is still under development and will be enriched with more information as the project evolves. To see the MindMap you must be registered on MindMeister. Please send a request to the following address: laia.sanchez@e-citilab.eu

2.1.3 Technical Head tools

Technical feedback form cities – D2.1 Questionnaire

Analysis of responses to Government Questionnaires in order to collect a complete list of infrastructures and services that may be potentially opened into the iCity platform.

- The survey has been distributed via e-mail to stakeholders.

- Keep in contact with stakeholders via e-mail, phone and also face to face meetings to get further information.

- During the engagement process.

Technical government departments of the involved cities (Barcelona, Bologna, Genoa and London).

Checklist:

Beforehand

Review and complete the iCity assessment guideline questionnaires with specific questions in order to gather useful information for the technical analysis (find more information in D.3.2). Specific questions are oriented to obtain information about:

- What are the most interesting uses cases for the cities?
- What are the most interesting Smart Cities dimensions for the cities?
- What infrastructure & services might be in a city?

During

- Provide clarifications to the stakeholders if they have any doubt regarding technical questions.
- Collect the responses that feed the technical analysis and analyze them.

Results

- See questionnaire in the **[8.1.1 Annex]**

- Set a list of both infrastructures and services that may be potentially opened to iCity.

Bootstraping cases: TBD

Potential infrastructures and services should be converted in *connected* infrastructures and services and governmental stakeholders have to decide how and when.

A shortlist can be obtained by crossing the results of the survey with public interest services proposed by 3rd parties over opened infrastructures and services that should hold them.

2.1.4 Head evaluation tools

Evaluation of the D.2.1 Requirements from the stakeholders

The tools that will be used to evaluate the Head stage are the indicators referred to the four thematic blocks in which all the questionnaires are divided. These blocks are: 1) stakeholders identification data, 2) implication in the smart city strategy, 3) area strategy to develop smart public services or smart services of public interest and 4) requirements for engagement.

The indicators are:

Knowledge of smart city projects by citizenship. This indicator will allow us to know about the previous level of knowledge of this kind of projects among surveyed individuals or associations.

Involvement in any smart city project by citizenship. Beyond knowledge, it is possible that some citizens are currently participating in projects or that they did it in the past. We need to know this previous background and, also, the thematic area covered by those projects: smart health, smart education, smart energy / environment, smart urbanism, smart administration / government or smart citizenship.

Participation in smart city projects or experience in their coordination by companies / governments / academic researchers. Experience in the field of smart city / ICT projects as participants or coordinators makes these stakeholders more desirable because they can report an added value. It will be also interesting to know in what thematic area these projects have been focused to encourage possible networks.

Motivation of citizenship associations / companies / governments / academic researchers to participate in smart city projects run by governments / academic researchers (8 possible combinations). Motivations to participate in smart city projects or to join future proposals can be very different according to organizing stakeholders and/or the type of involving stakeholders. Several reasons can be mentioned, such as looking for fundings, smart cities as a strategic workfield, as an opportunity to apply existing researchs to new fields, for its international impact, etc.

Main barriers found by citizenship associations / companies / governments / academic researchers to participate in smart city projects run by governments / academic researchers (8 possible combinations). In order to be aware of possible barriers for these stakeholders to get involved in the projects, it is essential to know in advance which are the main ones that they already have faced. Some of them can be the complexity level of the smart cities research field, the lack of funding, to be out of scope for the research discipline or the difficulties to carry out interdisciplinary approaches.

Demands for public services / services of public interest made by citizenship. Information about what kind of public services or services of public interest (such as refuse collection, educational centres, libraries, roads or water supply networks) citizens think that cities can implement in their communities. This information allows us to know what are under-represented and, therefore, which ones are more likely to be needed.

Further action to engage stakeholders which work in these thematic areas can be designed.

Public services / e-services / services of public interest offered by companies / governments (8 possible combinations). This data and the potential transferability of these services to third parties will help us to evaluate the market conditions for the proposed apps.

Interest of citizenship / companies / governments / academic researchers in being involved in the iCity project by receiving information / by participating on future activities (8 possible combinations). Stakeholders can have different levels of interest for the iCity project and can desire different intensities for their involvement. Once detected and previous to the engagement stage, we need to know if they want to receive information (of co-creation and co-design, learning or information activities) and, more importantly, if they want to join in future activities.

The information from detailed indicators is collected through online questionnaires filled out by the identified stakeholders. iCity will collate these into a database.

Questionnaires were circulated at the beginning of the process, although it is an ongoing process throughout the whole duration of the project.

The government questionnaires are addressed to the city council and main municipal agencies, departments and governmental institutions operating in Barcelona, Bologna, Genoa and London. They are addressed both to politician and technicians.

The companies questionnaires are addressed both to developers and service providers.

The research questionnaires are addressed to research agencies, universities, and researchers; specifically, both to developers and service providers of each stakeholder.

Finally, the citizens questionnaires are addressed to citizen associations and representatives.

All four, together, represent each city creative ecosystem.
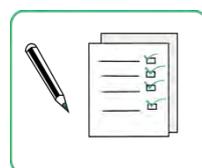
Information will be obtained directly from the four questionnaires specifically designed to identify important members of the cities innovation ecosystems: government, researchers, citizens and companies.

Bootstraping cases:

- TBD

3 Heart activity
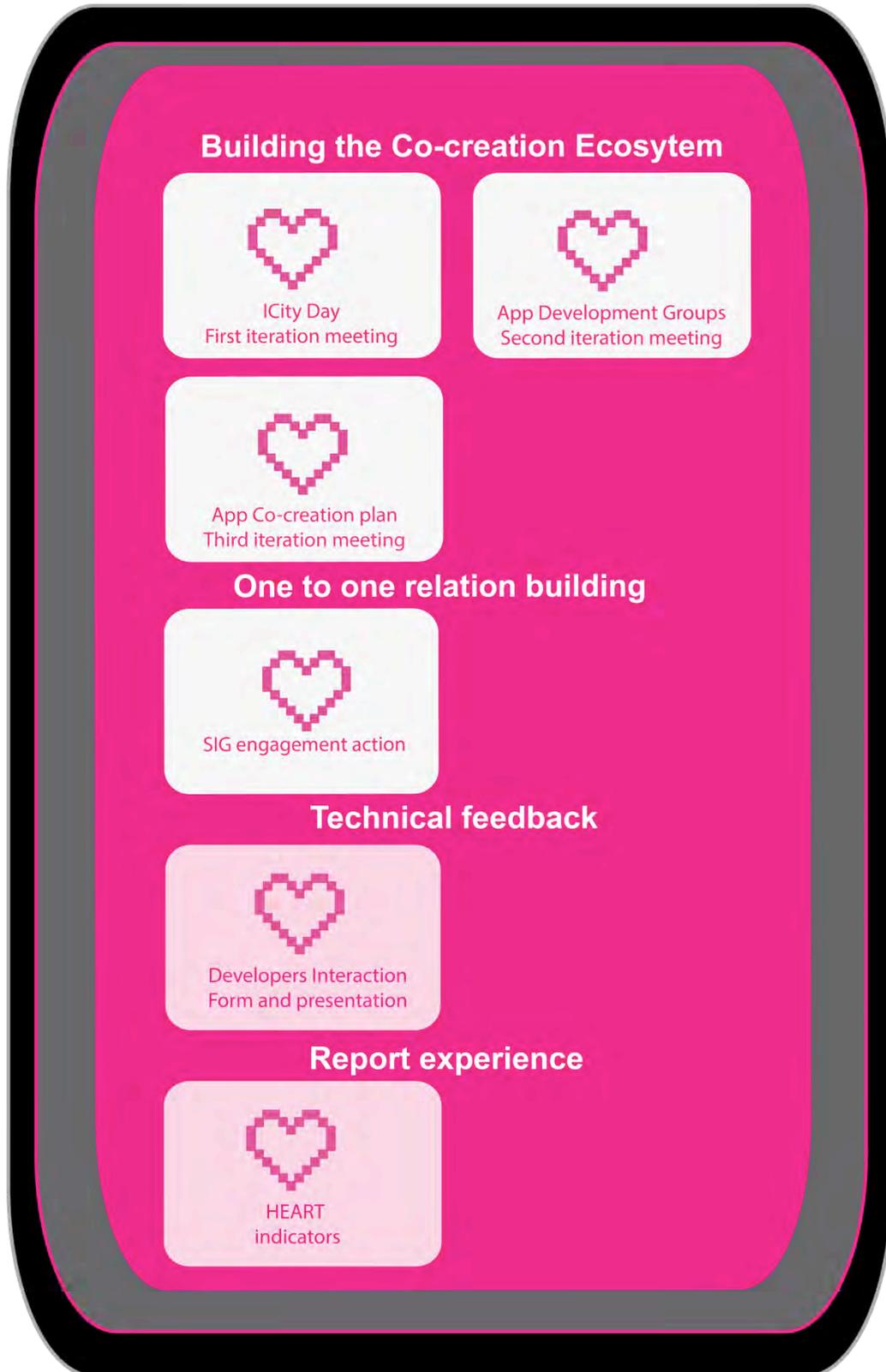
3.1 Heart activity toolkit

HEART ACTIVITY

Heart activities are aimed to deep the relationship with stakeholders active once they have been identified through the Head activities.

The main objective is to enhance their motivation in order to forge relationships among potential developers of the iCity apps.

Activity objectives:

- Make official the membership of participants by a formal letter to become Special Interest Group (SIG).

- Maintain an active dialogue with iCity stakeholders, informing them of the project possibilities and opportunities.

- Schedule project activities and respond to their concerns about the technical and governance issues that are key to validate application development able to meet the public interest criteria.

When the participant cities innovation ecosystems have been mapped (9M), their iCity staff should conduct regularly Heart activities at their city venues.

This motivational activity starts the first year within WP2 but should be sustained during WP5 until the iCity platform is active and ready to start the Hands on activity.

This action is addressed to potential users of the iCity platform. The majority of key users are developers and service providers that are based in London, Barcelona, Genoa and Bologna but it is also open to any international actor.

- By developer, WP2 understands those SMEs and freelance professionals focused on the design of technological applications. People able to propose and develop an app that uses the infrastructures that will be opened by the iCity platform in order to provide a service of public interest.

  It is also addressed to any service supplier which business plan covers public interest services and that may be motivated to associate with local developers in order to create apps that can provide new public interest services.

The Heart activities are organized under two main lines of work.

- The first one is a direct action and intends to achieve contingency indicators that assess the number of stakeholders as part of the iCity project SIG.

- The second, under the name "Dynamic ecosystem of tools", offers a Living Labs dynamic by applying strategies for the promotion of co-creation in the cities. This co-creation process goes from ecosystem mapping to its activation. Once scenarios and circuits are proposed, its motivational activity of engagement focus is to engage the developers so they are ready to get in action once the iCity platform is ready. To do so it is important to work with the stakeholders in order to get app development plans for each stakeholder circuit.

In both cases, the iCity representatives in every involved city provides stakeholders with content that inform and motivate them to follow the iCity roadmap.

3.1.1 One to one building tools

The one to one relation building methods are used to reach the stakeholders involved in the project. The method applied for that purpose and described below is the Special Interest Group (SIG) engagement action.

SIG engagement action

(Letter of ratify interest) & Contingency action for app proposals (call for ideas Hands On)

This is a direct action plan that aims to reach and exceed indicators of 50 Open Innovation Stakeholder Identified and contacted (No. 3) and 30 Open Innovation Stakeholders Identified developing applications (No. 7)

Starts in September 2012 and last until December 2013 within the WP2. Then it continues during WP5 activity in order to achieve the impact for the second and third year.

The SIG engagement action is carried out by the project city managers. They should lead this direct action addressed to the already identified stakeholders of each city.

Checklist:

Beforehand

- Have the database of identified stakeholders.

- The project city managers activate this action from its database of identified stakeholders.

- Every city project manager writes a personalized e-mail to contact each stakeholder. This email provides information about the project and invites stakeholder iCity to participate in a face to face or phone meeting.

During

- Contact by email the identified stakeholders.

- Program a meeting (either in person or on the phone) to clarify their doubts and to advance the process for formally establishing their relationship with the project.

  - Provide a general presentation of the project containing a project definition, examples, value proposals, potential list of infrastrucutres and basic information about the technical platform.

  - The technicians explain to the stakeholders the two letter templates and how they must be used:

    Template 1. Letter to Ratify Interest that documents the indicator n3. Upon signing it the stakeholder formally becomes member of the iCity SIG. See the letter template in the **[8.2.1 Annex]**

    Template 2. App proposal letter that documents the indicator nº7. This action activates the Call for Ideas (Hands on action nº10). The iCity manager helps the stakeholders providing them ideas, suggestions and examples to encourage their contribution. It is very important to pass on clear information on what does the iCity expects in terms of co-creation, open infraestructures, app validation and business models linked to the iCity public interest service development. It is also important to provide a general road map of the iCity so they can plan and align their contributions. See the App proposal letter template in the **[8.3.3 Annex]**

  - Get feedback and letters. Then send letters to the WP2 responsibles who keep track of them for the indicators and activate the stakeholders in the SIG.

Results

  - iCity gets the expected number of stakeholders to achieve the

proposed impact. This figure is 50 SMEs by city. (Indicators on ICT PSP fifth call for proposal 211).

- Ensure that both infrastructures and uses are clearly identified by stakeholders during the second iteration meeting and their follow up.

Bootstraping cases:

Barcelona has taken a leading role. It has achieved 22 ratified letters of the indicator nº 3 and 28 App proposals of the indicators nº 7.

3.1.2 Co-creation ecosytem building

The co-creation ecosystem building methods described below are applied to fortify the relation among stakeholders and their commitment to the project. The methods demand the stakeholders's active participation. The activities include an iCity Day as a First Iteration Meeting, App Development Groups as a Second Iteration Meeting. A Third Iteration Meeting for an App Co-Creation plan is also programmed. These activities to foster co-creation among the innovation ecosystem are developed in parallel with the One to One relation building. Below we explain how these methods work.

iCity Day, First iteration meeting

First iteration meeting is an activity that should be organized by each city council inviting potential platform users.

The activity helps to present the project and open a dialogue with the stakehoders. It is also used to create the iCity Commission and Scenario-commission by area of interest (health, environment, living....) that are configured with the interested participants. The activity aim is to connect the innovation ecosystems of the iCity with the iCity project to form an iCity co-creation community.

- The activity should be organized on site in the cities. It can take place in as many places as possible: city council facilities, museums, parks, business parks and research centres thus bringing the activity to the natural territory where the four helix model representatives of each city innovation ecosystem operates.

- This activity should be organized during an early stage, but it is important that the city can has their strategy in terms of infrastructure and priority scenarios to orientate their stakeholders.

- This action is addressed to innovation ecosystem representatives (the four helix model: citizens, companies, researchers, administration) all belonging to the cities innovation ecosystems.

- The ones who have already signed the Special Interest Group (SIG) letter could participate proposing activities or hosting events at their own venues. It will also be an opportunity for citizens to know who is

who in their cities and start networking.

Objective:

Extend the engagement and conform the iCity Scenario Commissions with the interested SIG members and foster the Hands On *Call for Ideas* action (app proposal letter).

Beforehand

The general communication an managment recommendations on the stakeholder involvement process are:

Stakeholder requirements

Communication:

Activate the Engagement Content Supply Chain to maintain the engagement process with the stakeholders after the in site meetings by sharing content of their own activity, and with periodical iCity related news, projects, events and other meetings that could take place in the other cities. See figure in the **[8.2.3 Annex]**

- To propose the mailing list as the most effective way to ensure a smooth communication.

- To use doodle service [14] to set the most available dates to schedule further meetings.

- To ask each stakeholder to grant permission to the iCity commission to use their email address to be part of the mailing list.

- To ask participants for Twitter accounts so iCity project can engage the stakeholders not only by email but also interact with them on twitter.

  Management:

- To make sure that participants are engaged in the iCity project activating the *SIG engagement* and to configure the list of participants to meet with them. For all the potential participants that aren't already in the SIG make sure to start the SIG engagement action to engage them before the meeting.

- To contact participants and to configure a list of attendants. Asking participants to introduce themselves to the mail list. (Task and Organization name).

- (HEAD) To ask participants to answer the Stakeholder Requirements Questionnaire (Companies, Researchers, Government, Citizens) before attending the workshop. That will be a requirement when submitting their application to participate in the

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[14] http://doodle.com/?locale=es

workshop. This information should be used to create the identifications of the attendees for the meeting.

- To confirm the venue of the meeting organized by the city managers.

- To set up the team of facilitators for the activity. To ensure that the general commission, sub-commissions and work-groups on each city have an iCity responsible and a spokesperson to dynamize their activity, and that there are technical partners that can answer any technical question that can arise during the workshop.

- To ensure that the iCity Commisson manager has a calendar of goals to reach, tasks and objectives as well as presentation materials to facilitate during the meeting

During

Welcome

To ensure that participants wear personal identification during the meeting.

Activity dynamic

To ensure that the iCity presentation and information given by the representatives during the meeting is clear, concise and engaging so the stakeholders have the impression that they belong to a challenging project connecting interests of society, companies, researchers and administration. The presenters should explain the iCity value proposition for each one. (see presentation nº1).

To split the group in ***Scenario-commissions*** related to the 6 smart city areas (Health, Education, Energy/Environment, Mobility, Urbanism, Planning, Administration/Governement, Citizenship) connected with City strategic scenarios where participants needs and app proposals can be shared, visualized and reported.

- All questions should be answered by the iCity team of managers, technicians and board members. Facilitators should ensure stakeholders participation during the activity of the sub-comissions and that co-creation is recognized as an important value.
- A board/slate to write and stick post-its are available to help to record the conversation on their needs and resources to co-create iCity App Proposals.

Activity closure

To facilitate that the commission, and ***Scenario-Commissions*** can propose and decide when next meetings will take place (on a date where more stakeholders can participate), the special tasks to be done and, in general, the further strategy regarding stakeholders.

- Explain that Scenario commissions remain open during all the

process and that they can invite any stakeholder that they consider important. To include new participants they have to connect them with the iCity managers to start with them the engagement process (*SIG engagement action).*

- Scenario-commissions vocals will mantain the group active within the mail-list or the Social network dispositive to track their achievements and dificulties of the group after the meeting. Sub-commission vocals will also comment with this group on the related news, and other iCity news, events or meetings that take place in the other cities.

iCity municipal explains to participants what will be the "Call for ideas" nexts steps to complete after the meeting to be able to send their **App proposals letters** as first Hands on activity.

Results

From the workshop there will be a list of potential App ideas that will be shared within the iCity Commission of the organizer city.

Bootstraping cases:

- GLA organized in February 2012 a first workshop to introduce iCity concepts to representatives from London Boroughs and academic institutions. GLA and Cisco presented to the audience. There were different key points arising from workshop tha coul be divided into 4 different thematic areas: Citizen choice for personal data, Business benefits for local authority and different stakeholders, Real Time Data, What are the data. There were other issues discussed such as Benefits take up – know your rights take up campaign initiative. An app to help people understand their entitlements after the benefits has changed and how to reach a different audience.

- COBO and WP2 co-organized a workshop presentation with WP2 and WP3 to explore with a selected group of Bologna's municipality technical responsible and close stakeholders related to two different scenarios: 1. Work panel on: an intermodal and crowdsourced approach for mobility open apps and Iperbole wireless civic network and kit: environment, data, support to develop open/codesign apps.
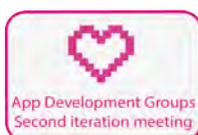
Second iteration meeting

Going from mapping the ecosystem to activation of the community users. The strategy for the activation of proposals (Connected with the Hands on Call for ideas objectives) should rely on Development groups that are encouraged to map circuits of co-creation related

their app use case.

This tool proposes to identify the circuits (events, sites, publications, ...) of co-creation for each app proposal and understand the drawing power, impact, operation and access roads to assess their contributions.

The activity is organized in the cities. It can be hold in as many places as possible: city council facilities, museums, parks, business parks and research centers thus bringing the activity to the natural territory where the four helix model representatives of each city innovation ecosytem operate.

This activity should be activated once the comisions and the relation with its members are defined.

Four helix model respresentatives of each city innovation ecosytem

Checklist:

The output of this workshop is to confirm **Development groups** with participants that want to develop an iCity app.

Beforehand

Follow the General Communication and Management recommendations described in the *First iteration meeting*

- City project managers will invite *iCity day* participants to attend to the *Second iteration meeting* to continue the co-creation in the sub-commissions.

- To ensure that **Call for ideas process** is followed by participants before their attend this meeting. This means that the majority of participants already has sent their App proposal (Letter of proposal Apps SIG- indicator nº7). These letters will be analysed by the technical partners (RET, CIS, FRA) and with this information the iCity team will draw the Circuits of stakeholders so partners can complete and understand them during workshop. The purpose of this work is to encourage the creation of different **Development groups** from each Scenario Commission.

- When the *Scenario commissions* attendants will be confirmed, the facilitators will ensure that the groups will be broad enough to allow stakeholders that have proposals for co-creation to share them. It

is important to keep the Scenario-commission small enough to be manageable. Each scenario commission should have up to 15 participants. No more. If is bigger it should be split to ensure the dialogue. Each group should have a facilitator asigned.

- To ensure that each stakeholder can manifest their scenario preferences regarding their area of interest to develop a public interest services App and to use that information to configure the Scenario commissions

- HEAD) Ask participants to answer the Stakeholder Requirements Questionnaire (Companies, Researchers, Government, Citizens) before attending the workshop. That will be a requirement when submitting their application to participate in the workshop. This information should be used to create the identifications of the attendees for the meeting.

During

Welcome

- Facilitator welcome participants and presents the results of the last meeting and the iCity last news.

- Facilitate that participants can present their ***App proposals*** to their Scenario Commission. They should explain what they need to make it possible. It can happen that a participant has a proposal but need the skills of another participant. In this case a workgroup can be created. It will be welcome too that participants that want to develop an App by their own, can do it.

- A surface to write and stick post-its will be made available to help to record the conversation on their needs and resources to co-create iCity App Proposals.

- All questions should be answered by the iCity team of managers, technicians and vocals. Facilitators should facilitate that the participant stakeholders play a key role during the conversation of the sub-comissions and that collaboration will be important for both the project and themselves
- Facilitator will promote co-creation among the participants so they join forces and work together with a main objective and asking them to contribute providing their know-how.

Organization and group dynamic

After the presentation of App proposals the facilitators encourage scenario commission members to choose some relevant use cases for the different open infrastructures that have been presented to them by the city, in order to start their activity to arise its related circuits (new stakeholders and final users).

In this way, scenario-commissions formed during the iCity day (economy, people, living, governance, mobility, environment) are split to do the next acitvity in Development groups that are interested in an App proposal use case.

- Task and objectives are first to define the stakeholder circuits from each app proposals with its development group can and to start its use cases.

- Technical partners should provide support regarding infrastructures, and the platform SDK when the stakehoders require this information.

- Scenario spokesperson provide value proposals, and explains the iCity governance process to validate an app when the stakehoders require this information.

Second iteration meeting closure:

Ask their stakeholders their agreement to become active members of the different Development groups.

- To explain that Development groups remain open during the entire process. They can invite any Stakeholder that consider important. To include new participants they have to connect with them with the iCity managers to start the engagement process (*SIG engagement action)*.

- The Development groups spokesperson will maintain group activity within the mailing list or the Social network to track their achievements and difficulties of the group after the meeting. Sub-commission vocal will also comment with this group on the related news, and other iCity news, events or meetings that take place in the other cities.

Facilitator explains to participants when the Third iteration meeting will be scheduled, what will be their objectives regarding the future Hands on "Call for App" action.

Results:

- **Development groups will be configured.**

Bootstraping cases:

TBD. It will be defined once this activity takes place during the next quarterly.

App Co-creation plan meeting

(Third iteration meeting:From ecosystems to circuits and its strategic plan)

To assess the potential interest of each circuit and iCity access capabilities and to develop the circuits as a way to activate the ecosystem. Then the iCity will begin to define strategic plans with the working groups. Each group should develop their own work plan targeting their own objectives, aligned with iCity purposes. This is the main goal of this iteration.

- The activity should be organized on site in the cities. It can take place in as many places as possible: city council facilities, museums, parks, business parks and research centers thus bringing the activity to the natural territory where the four helix model representatives of each city innovation ecosytem operate.
- This activity should be activated once the commission and the relationship with its members are defined.
- During the second year one in person iteration meeting two months after the second iteration meeting would be recommended. After that meeting each work group will define its own road map aligned with the iCity one.

Four helix model respresentatives of each city innovation ecosystem.

Checklist

How to organize the *third iteration sub-commissions meetings* on the four involved cities (Related to an open infrastructure of the city).

Beforehand

Communication

- Call the members of the commission

Management

- Meeting of iCity representatives and sub-commissions.
- iCity representatives and spokesperson for the commission attend and lead the meeting
- HEAD) Ask participants to answer the Stakeholder Requirements Questionnaire (Companies, Researchers, Government, Citizens) before attending the workshop. That will be a requirement when submitting their application to participate in the workshop. This information should be used to create the identifications of the attendees for the meeting.

During

Welcome

iCity managers will present the iCity news to the participants, facilitate the information related to the iCity platform and Development tools. And ensure that each Scenario-Commission presents its work groups results.

Organization and group dynamic

- Allow each work group to follow their own agenda to develop **public interest service application projects** while coordinating them with their sub-commission.
- Help different work-groups to get a clear map of insfrastructure uses defining its uses and its circuits of stakeholders and users at each city level.
- Help each work-groups to develop their own use cases giving technical information and getting technical feedback on the available infrastructures.

App co-creation p*lanning*

- To encourage working group members aligned with same interests as well as contacting and engaging the potential co-creation circuits involved at each city to foster the development of public interest apps.
- To facilitate that working groups can work on the development and completion of a circuit of stakeholders and final users around each use case.
- To foster that each work-group defines the circuit of stakeholders and final users from their use case.
- To facilitate that each work-group will define and lead their own action plan for the development of their public interest app use case aligned with the iCity pilots (WP5).
- To promote and to amplify until each sub-commission and their subgroups work-plans purpose is to become a set of 30 public interest service app development projects at the M12.
- To ensure that each group develops their own work plan targeting their own objectives.
- To align workgroup plans with the iCity one, the commission will set goals and a calendar which will be integrated along the main task calendar.
- To facilitate that the work-groups define circuits from their use case for the development of public interest apps

App co-creation plan meeting closure:

- Facilitate that the sub-commission meeting should be broad to stakeholders that may want to become members of it.
- The sub-commission, once created, should decide when next meetings will take place, special task to be done and in general the further strategy regarding stakeholders.
- During the meeting sub-commissions work-groups can be

configured as their members propose use cases they want to develop.

- The work-groups can be created to allow stakeholders with different specialties to work with their own partners (communication, data, technology, city...) but they should be coordinated and report to the sub-commission.

The work goups will propose their work-plan their use case for the

development of public interest apps

Results

- Get a minimum of 30 participants among the four cities (M12) that can be considered as open innovation stakeholders identified and contacted developing applications

Bootstraping cases

- TBD. It will be defined once this activity takes place after the second and third years. (Per Hands On).

3.2 Technical Heart tools

Motivation stage developers interaction (workshop and social networks)

Form and presentation (see annex 2)

Presentation:

Provide information about the iCity platform to motivate 3rd parties to become part of the iCity developers' community.

Show different dimensions of a smart city to provide them examples of services and apps.

The objective is to supply information that promotes developers participation in the calls for app idea proposals, and also, to promote the development of iCity apps by creating new public interest services.

Form:

It is a questionnaire that aims to collect technical questions related with tools and functionalities of the iCity SDK, focused on questions that provide feedback information to improve the online web experience (see action *"Hands*

on developers interaction - Call for apps and development actions")

The form is short enough to make it easy to answer, and be non-intrusive. It promotes the participation in the engagement process.

The questionnaire is divided in 3 sections:

- Workshop feedback:
    - If the workshop has been interesting or not,
    - Availability to be contacted for new events, etc
- Technical aspects of SDK:
    - Rate of interest in developing an iCity app,
    - Experience in developing mobile apps,
    - Rate of interest regarding "community tools" like forums, chats, blogs, etc
    - Experience in different technologies like .NET, WS, REST, etc
- Project information:
    - Rate of interest (cities and opened infrastructures and services).

- Specific workshops with developers community and public information portal of the iCity.
- During the engagement process and during the deployment stage of the iCity platform.

Potential developers

Checklist:

Beforehand

- Elaboration of two non-technical presentation of the iCity platform to show to the stakeholders the functionalities of the platform.

- Elaboration of a specific questionnaire for developers in order to obtain information to design and build an SDK that matches with their requirements.

- Also a Spanish version of the specific developers questionnaire has been

prepared helping the engagement process to be closer to Spanish developers.

During

- Collect the answers of these questionnaires to analyse them. Whenever a developer is contacted, the action SIG Engagement Action (# 8) is running.

- Questionnaires can be filled online or in person.

  o An online version of the form is available to all the developers that get into contact with iCity community.
  o A paper version can be filled and collected during iCity events (workshops, call for apps ideas, etc)

Results

- Get information from 3rd parties regarding the desired tools for developing   apps.

- Align the deployment of the iCity platform with the requirements of the developers'   community.

- The information gathered from the 3rd parties will be used to align the deployment of the platform with their needs.

Bootstraping cases:

- TBD

3.3 Heart Evaluation tools

HEART Indicators

Indicators to follow up Each City Call for ideas

The tools that will be used to evaluate the Heart stage are mainly quantitative-based indicators which will provide information about the stakeholders involved in this stage of the project, the proposed apps to be developed, the content of these apps and the expectation of future performance of the projects made by developers. Taking into account that the goal is to provide public services or services of public interest, the performance will be assessed both in social and economic terms.

The indicators are:

- **Number of participating stakeholders and individuals**. We have to track how many and what developers and organisations participate

in each event and how many people attend individually. The goal is to create a database to make possible, in the future, to assess not only the level of attendance at each meeting, but also the continuity of stakeholders over time.

- **Type of stakeholders**. We want to know whether attendant stakeholders are public or private, public-private partnerships, associations or individual citizens. Depending on the type of stakeholder, we will be able to customize certain actions in the future, facilitate interactions, transfers of information and networking contacts.

- **Number of proposed apps to be deployed**. The number of presented apps indicates the potential productivity of each developer. These data can be crossed with the type of stakeholder to find out what type of groups are more productive and what are less, and redirect, if necessary, policies to attract new stakeholders for the benefit of the project.

- **Nature of public services or services of public interest provided through the apps**. Knowing the area covered by the service provided by each app is crucial to assess what areas are the most attractive for investors, what are the most covered, what have the greatest business investment for each type of stakeholder, etc.

- **Initial economic investment**. Invested capital for the development of apps provides information on the magnitude of the initial planning of each project.

- **Ability of stakeholders to engage new ones**. It helps to evaluate the involvement of new stakeholders in the iCity project due to the necessity to create working teams to be able to generate the apps. The existence of communication and data exchange channels among developers and their previous social capital can facilitate the engagement of new stakeholders to the project.

- **Expectation of social return**. Since apps involved in the project must be of public interest, it is essential that they expect a social return. This social return can be evaluated from multiple parameters depending on the areas in which citizens obtain benefits. That is why it is necessary to collect not only quantified assessments, but discursive ones also.

- **Expectation of economic return**. It refers to the economic viability of the projects, which is not necessarily linked to the social viability: a project can be socially viable but with high costs in economic terms, or viceversa. To find a balance between these kind of viabilities is important for the project to succeed, because it is going to be difficult to implement a socially viable project if it is not economically profitable.

- **Reasons for non-involvement** (if any). If a stakeholder decides not to get involved in the project, we need to know the reasons for this decision. This information will be useful to reformulate, if necessary,

some engagements strategies and make them more effective.

In addition, tools to follow up engagement activities organized by cities will also be used. It will be mainly qualitative-based information focused on dynamics of this kind of activities and its validity according to the obtained results. The goal is to be able to modify the patterns of event organization if they report problems and to rearrange the content, format or actors directly involved in these activities.
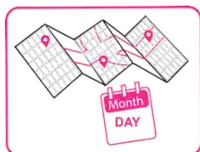
The information from detailed indicators has to be mostly collected in the context of the engagement events or meeting sessions organized by each of the cities. It will be necessary to fill out a template during the development of the sessions with all the required information for the evaluation of both co-creation presented projects and engagement activities.

To follow up the content of the meetings, semi-structured interviews will be arranged with people responsible for conducting the sessions in each city. These interviews will be held telematically when the sessions are finished.

The assessed target is, firstly, developers and their apps; and secondly, engagement activities organized by the cities. An iCity representative will be responsible for collecting the information about developers and apps, while UOC team will organize the interviews on engagement activities with the person who had conducted the events.

Information will be obtained from different tools:

- Number of stakeholders and individuals participating in the sessions: from the meetings organized by each city.

- Type of stakeholders participating in the session: from the developers questionnaires and the meetings organized by each city.

- Number of proposed apps: from both the meetings and the call for ideas organized by each city.

- Nature of services of public interest provided through the apps: from the proposal letters.

- Initial economic investment: from the call for apps.

- Ability of stakeholders to engage new ones: from the developers questionnaires, the call for ideas and the meetings organized by each city.

- Expectation of social return: from the questionnaires to developers for the initial expectation and from the workshops organized by each city for the follow-up.

- Expectation of economic return: from the questionnaires to developers for the initial expectation and from the workshops

organized by each city for the follow-up.

- Reasons for non-involvement (if any): from the meetings organized by each city (at the end of them if any stakeholder communicates it).

Evaluation will be done by analysing the obtained data, both crossing the quantitative-based information and making a discourse analysis from the qualitative-based.

Bootstraping cases:

- TBD

4. Hands on activity
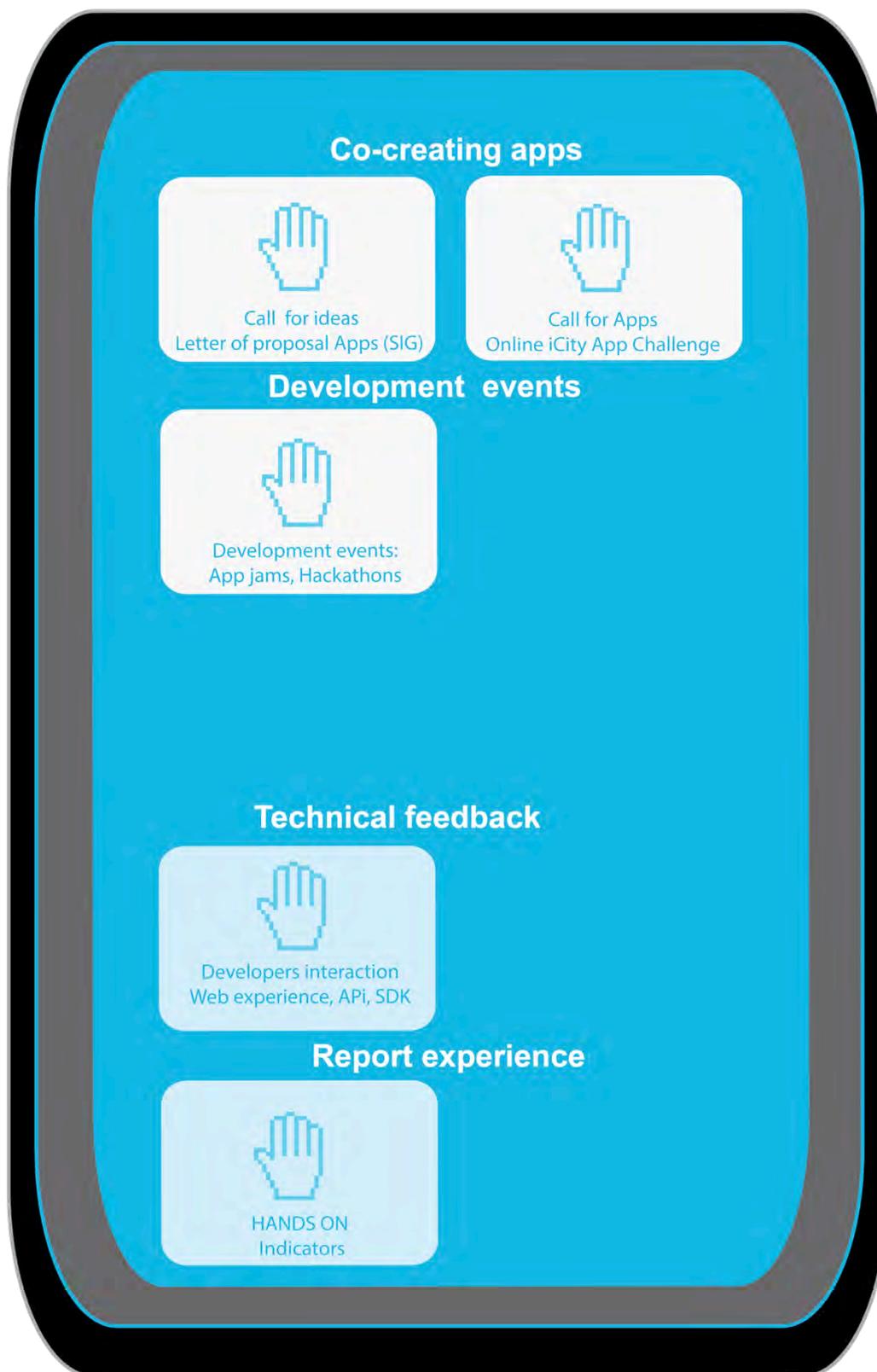
4.1 Toolkit

Hands on Activity

The goal of these activities is to involve iCity stakeholders (SIG) in co-creation of public interest services on the basis of opened through the iCity platform infrastructures. The main objective of all HANDS ON activity is to foster the co-creation of Apps providing services of public interest.
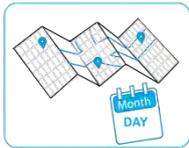
All involved in the project cities started their Hands on activity in October 2012 by implementing "Contingency action 1" described in more details in the HEART activity section (see the page 16). After that the first HANDS ON Action "Call for proposals app" was started and remains active until the project objectives are achieved (beginning of 2014). Before the active development process of selected applications can be started the iCity Platform including its SDK and app store have to be ready, and the iCity governance process for the apps validation have to be well defined and deployed.

Direct work with the already contacted stakeholders is performed using "Face to Face" and phone meetings to follow up the app proposal process started in the "SIG Engagement Action". Once activated, the Hands On Activity keeps running alongside with the on-site heart activities "First, second and third iteration meetings" to encourage the development of apps within each involved city (BCN; CDG, COBO, GLA) co-creation ecosystems.

HANDS ON activity targets potential users of the platform, public interest service providers and developers. It will take place in the involved cities London, Barcelona, Genoa and Bologna but the process is also open to other international partners.

- 3H methodology considers **developers** as SMEs, freelancers or other organizations willing and able to propose and develop applications providing services of public interest on the basis of the open infrastructure accessible through the iCity platform.

- iCity is also interested in including in this group the **public interest service providers** looking for partners to develop innovative iCity apps ffor providing commercial services of public interest.

- The HANDS ON activity will also be opened to any **associations or citizen group** that wish to propose an iCity app and is willing to work in a consortium for its co-creation with other iCity developers and service providers who are also interested in this development.

Proposed methods:

HANDS ON activity describes the following methods to activate the iCity development activity:

a) Call for Ideas:

    • ***Workshops and Letter of apps proposal (***"SIG Engagement Action", and First iteration meeting described in the HEART section)

b) Call for Apps:

    • ***Online Call***

    • ***iCity App Challenge***

c) Development Events:

    • ***iCity Platform Hackathon***

    • ***iCity Platform App-jam***

4.1.1 Co-creation and development tools

The methods applied at this stage are based on co-creation processes in which stakeholders co-create together. It includes three activities: Co-creation development, Call for Ideas with a Letter of proposal Apps (SIG) and Call for Apps with the organization of an online iCity App Challenge. There are also Development Events described such as App Jams and Hackathons, and Technical Hands on Tools to encourage Developers interaction (web experience, API, SDK).

a) Call for Ideas: **Letter of proposal Apps (SIG Engagement Action)**

The action objective is to obtain the highest number of potentials apps of services of public interest from the iCity stakeholders participants (SIG) in order to reach the planned value of the following indicator:

Indicator Nr. 7: **Open Innovation Stakeholders Identified developing applications**
            Total: 30 proposals apps for the M12, 75 for the M24, 150 for the M36.

This activity is performed using the co-creation format during the first iteration meeting workshop and with the follow up of the "contingency action" to obtain the "App proposal letter".
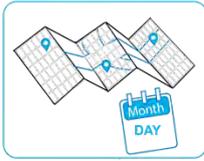
The activity "Call for Ideas" must be carried out in every involved in the project city. It will begin once WP2 has identified potential stakeholders from the ecosystem of co-creation and they have confirmed their participation in (SIG).

*See Fig 7 iCity innovation ecosystem of Deliverable 2.2 Evaluation of Co-creation reports bootstrapping.

The "Call for ideas" activity starts on the M10, and remains active until the M36 as part of WP5 activities.

The Call for Ideas activity is addressed to all members of the Special Interest Group (SIG) and those in future identified and involved stakeholders that are willing to submit a proposal for an iCity application development.

- Developers and other interested Stakeholders (SME's, start-ups, researchers, entrepreneurs.)

- Citizens and civic innovators.
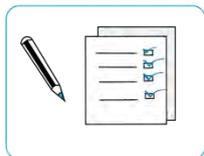
Checklist:

Beforehand

The dialogue with stakeholders starts in the Heart activity with the SIG engagement action. Then the dialogue continues In form of app proposal letter

- The identification of stakeholders (HEAD) and the "SIG Engagement action (HEART)".

- The technical information is ready

- Technical presentation for developers. See figure in the **[8.3.2 Annex]**

- List of available infrastructures provided by WP3. See figure in the **[8.1 Annex]**

During the action

- The Call for ideas activity can be activated in the **First iteration meeting** described on the HEART section of this document. In this activity the stakeholders, divided in groups, share their ideas, problems and needs to develop an iCity app. Then in the meeting the managers explain how to follow up with the app proposal letter process after the First iteration meeting.

- The iCity facilitators can also organize an individual meeting (either face to face or by telephone) to clarify their doubts and to encourage them to share their iCity App ideas.

- The iCity managers provide a technical presentation for app developers to explain the value proposals for each type of stakeholder, as well as the concept of the project and inspiring examples, the potential list of infrastructures and basic information about the iCity platform, app store and the SDK.

- The iCity managers provide and explain the template of the "App proposal letter" and its function, which is to obtain ideas and suggestions of potential apps and to collect suggestions on opening cities' infrastructures. It is important to work with the stakeholders to help them make good proposals. Give examples, discuss, resolve any doubts, explain the schedule of the project, etc.

Results

- *The iCity manager of each involved city should receive the Letter of Apps proposals from its stakeholders.*
- *(Start Technical section)*
- *Once WP2 receives the letters it can activate the technical tool Developers interaction. The Developers interaction tool gets feedback from the App proposal letters.*

Bootstrapping cases:

- *BCN* has achieved 28 Apps proposals (Heart Activities). It has been proved that when this action is followed up and stakeholders are accompanied through the process they are able to present their App proposals ideas to the iCity project. Therefore the iCity managers of each city must work strongly on the stakeholder accompaniment.

- **GLA** initiated its introduction of iCity concepts to citizens as soon as in February 2012 (M2) with a self-organized workshop. The attendees were representatives of London boroughs and academic institutions and the intention was to introduce iCity basic concepts. The second workshop was addressed to GLA authorities. On that workshop different app ideas were suggested for its development on different iCity thematic areas (transport, environment…). Then GLA organizes online and onsite events during the whole year giving strong visibility to the Project and the expected impact.

b) Call for Apps: iCity App Challenge Online Call

The aim of this tool is to create an online call to foster the iCity Apps development. This tool should be used as many times as necessary to contribute to the iCity project achievement of the expected indicators:

- Indicator nº 7: open innovation stakeholder identified developing apps. (M24: 75, M36: 15)

- Indicator nº 6, Request for approval of Apps M24: 85, M36: 330

- Indicator nº 4 Youth engagement in developing of Apps (M24: 25)

- Indicator nº 5 (M24: 75, M36: 300)
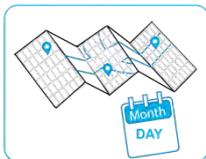
The Online Call for iCity apps is activated from the iCity project website. This action must be adapted to each participanting city (BCN, GLA, COBO, CDG) to address its innovation ecosystem (Activate the content supply chain for engagement).

This action is activated during the performance of the WP5. This action can only be activated once the deployment and integration of the technical platform is operative in each city.

Target: It is addressed to the largest number of possible participants. Both those who already belong to the SIG, as well as the new stakeholders who are interested in participating. This call is open to international developer communities and companies (Each new participant will be adhered to the SIG by the Contingency action described in the HEART section).
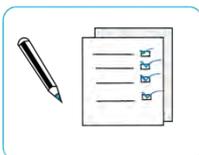
Checklist:

Beforehand

- iCity Platform, its governance model and its SDK should be ready to use by developers.

- SIG members should be informed of this activity calendar. They are the first to be invited to be part of these actions. They can follow up their strategic plan developed in the Third iteration meeting,

describe the HEART SECTION or present a new app proposal. This is established as an open contest call.

- Each city should decide the scope of the Call (adapted for their strategic scenarios).

- iCity platform website has to provide a protocol to present the app (iCity platform/ iCity app store?).

- The award and jury have to be defined. Awards can be economic or incentives in kinds.

- Rules and conditions should be prepared to be submitted to the call. Document TBD.

During

- Launch the call. The call should be published in the iCity project website. All cities should use all the potential of the City Content Supply Chain to maximize the impact of the call.

- Receive the apps, and manage all problems that can arise from the iCity app development based on the rules and conditions of the contest.

- Technical partners should provide online support to the developers in order to facilitate their work.

- Methodological partners should provide online support to solve dynamic problems.

- Winner apps have to be selected from all the contest participants.

- A final event to present the winners of the Contest should be organized and communicated.

Results

- Increase the iCity App developed.

- New stakeholders (each new participant should be included in the SIG by the activation of the "Contingency action 1").

Bootstraping cases:

- TBD

c) Development events: such as App Jams or Hackathon.

The aim of this tool is to organize an event to foster the co-creation development of iCity by developers, artists, and other creative people over a short period of time (weekend, day, or half day) during which a collective effort is made to develop one or more iCity apps.
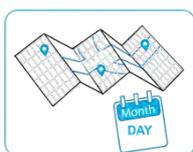
The Development event is organized by each city (BCN, GLA, COBO, CDG). Each city should adapt this activity in order to adress it to its innovation ecosystem.

This action is activated during the performance of the WP5 and can only be activated once the deployment and integration of the technical platform is operative in each city.

Target: Addressed to the largest number of possible participants from local innovation ecosytems. Both those who already belong to the SIG, as well as the new stakeholders who are interested in participating. These development events are open to international and local developer communities and companies (Each new participant will be adhered to the SIG by the Contingency action described in the HEART section).

Checklist:

Beforehand

Follow the General Communication and Management recommendations described in the *First iteration meeting.*

- iCity Plaform, its governance model and its SDK should be ready to be used by developers.
- SIG members should be informed of the schedule of this activity. They are the first to be invited to be part of these actions. They can follow up their strategic plan developed in the Third iteration meeting, described in the HEART SECTION or present a new app proposal.

- Each city should decide the format and scope of the development event (adapted of their strategic scenarios).

- One hundred participants (recommended)

- Each city can provide they scenario scope

- Rules and conditions should be prepared to be submitted to the call[15].

---

[15] Rules and condition document will be developed.

> • iCity platform website has to provide a protocol to present the app (iCity platform/ iCity app store?)

During

> • Launch the call. The call should be published in the iCity project Website but all cities should use all the potential of the City Content Supply Chain to maximize the impact of the call.
>
> • Define the scenarios for the app development.
>
> • Receive the apps, and manage all problems that can arise from the iCity app development based on the rules and conditions of the contest.
>
> • Technical partners should provide online/onsite support to the developers in order to facilitate their work.
>
> • Methodological partners should provide online/onsite support to solve dynamic problems.

Results

> • Increase the number of iCity apps developed.
>
> • New stakeholders (each new participant should be included in the SIG by the activation of the "Contingency action 1")

Bootstraping cases

> • TBD

4.1.2 Technical Hands on tools feedback

Hands on developers interaction (proposed apps)

Brief description:

> • Analysis of the proposed apps letters to identify both the infrastructures and services that should be opened to hold the proposed apps.

- Letters containing the descriptions of proposed apps have been received via e-mail.

3rd parties joined SIG engagement action and Call for Ideas receives App proposals letters. This action starts during M9 2012 and stays open during the 2nd and the 3rd year of the project. The reporting on the action progress will be done every six months.

3rd parties joined to SIG

Checklist:

Previous :
1. 3rd parties that joined to SIG engagement action were requested to propose apps to be developed through iCity.
2. With iCity manager support 3rd parties sent a brief description in their apps proposal letters.

During:

- Analyse the proposed apps letters to identify infrastructures and services that can support them.

- The analysis of each letter identifies also identifies the name of the stakeholder, title and description of the app, target city, target opened infrastructure or service, type of action (get information vs set), target smart city dimension, etc.

Results See figure in the **[8.3.4 Annex]**

1. Set a list of both infrastructures and services that should be opened to iCity to hold proposed apps.

   o First analysis shows that the most demanded opened infrastructures   /   services   are:

     - External platforms (20%)
     - Sensor platforms (14%)
     - Wifi (10%)
     - Parking   (10%)

2. Set a list of 3rd parties platforms ("external platforms") that should be connected to iCity to hold proposed apps.

   o   The analysis identifies 17 external platforms

Bootstraping cases:

Nearly 55 apps have been proposed by 3rd parties during this first action first iteration.

The analysis aim is to help government stakeholders to decide what infrastructures and services shall be opened to iCity, by identifying the most demanded ones and also the type of interaction.

- The analysis shows that almost 75% of proposal apps just only need to collect information from iCity opened infrastructures / services (GET).

The analysis also identified 3rd party platforms that may be connected to iCity.

- The analysis identified 17 external platforms offered by stakeholders from the 4 involved cities (Barcelona, Bologna, Genoa and London).

Hands on developers interaction (Call for apps and development actions)

Web experience and SDK (functions, documentation, examples, etc) (find more information about SDK in D4.5)

Web Experience: Information on the Web experience can be found in D3.4 Blueprint architecture (section 2.2.1 Developer Portal)

The iCity Platform must be an enabler to attract the 3rd party developers. The developer portal must be easy to register and use and should offer the capabilities to share documentations and get support through user forums.

The public portal will allow developers to use it in an autonomous way being able to both check documentation and participate in forums.

But there will be two access levels and documentation display:

One level will be for those developers interested in participating but who have not validated any proposed idea for app or are pending approval.

The second level, once the idea is validated, will contain specific documentation related to the interaction with the infrastructures used by the validated application.

- There are different circuits detailed on the Governance documentation detailing the main processes involved in the app development: Validation of a new idea (proposal of a iCity service, validation of a big update (a major change) of an existing application, validation of idea (of an iCity service development) and validation of a minor change of an existing application. (see section 6)

The developer also gets support regarding their app or platform request. The second level will only be visible for those whose app idea has been approved and therefore are already into the system.

The developer, in most cases, need support regarding the use of specific functions or features. To answer to their questions they can consult the iCity documentation or use the forum.

Technical partners (CIS, FRA, RET) and iCity municipal responsibles give support and answer developers requests. It is important that all questions are answered and every conversation thread is followed until its resolution either positive or not. Feedback should be given within 48 hours.

Once the developer is registered and has sumbitted an app proposal they need to have an access to the API and SDK.

iCity wants to build a brand around the APIs. It is recommended to build an API explorer, so that the developers do not need to write the full code to test the API.

Developers should be able to register with the iCity Platform and discover and request access to the API(s). This also includes the terms and conditions for iCity Platform usage (the orchestration background process links it with the City administrative approval process). This process will grant the API keys that allow the developer to make calls to the iCity APIs. The ability to create Forums (communities) will enable the development community to grow.

A good document handling capability is required to facilitate the management of all required development resources.

Developers should get reports on their API usage.

Screenshots examples can be found in Annex 4

All these resources will guarantee a comprehensive understanding of the project thanks to a complete documentation set as well as

downlodable materials, samples with past developed apps examples as well as a Frequently Asked Questions section.

SDK: The iCity portal will give access to the SDK documentation. This documentation is provided to already registered developers. They have access to full functionalities for the development to their already validated app.

- In order to be as generic as possible, SDK is based In the OGC standard Sensor Web Enablement (SWE), allowing later improvements and adding features.
  - o The Open Geospatial Consortium (OGC) was established in 1994 and it's composed by both many public and private organizations. Its main purpose is to define open standards and interoperable within the GIS and the World Wide Web. They pursue agreements between different companies that enable the interoperation of geo-processing systems and facilitate the exchange of geographical information.

- There are two different sides of the SDK: Server side and Client side

- Client side is composed by:

  - o Download section:
    - ▪ Libraries, Installation guide, Requirements & compatibilities, etc.
  - o Set of documentation:
    - ▪ Platform overview, components, configuration & connectivity, etc.
  - o Samples
  - o FAQ

- Server side is composed by:
  - o Operation services contracts: SOS & SAS
  - o System services contracts: like User Authentication, Idioms Services, Incidence tracking, etc.

More information on SDK can be found in D4.5

Both the developers portal and SDK experience should enhance the iCity app development process.

During *Heart* and *Hands-on* Activities (Co-creation ecosystem building Call for Apps and Developments Events)

During the deployment of iCity platform.

1st version of platform prototype (end Y1) should provide a basic SDK which must be enriched on later versions providing a comfortable suite of tools to the iCity developers' community. The SDK will be improved by addressing the

feedback provided by the developpers' community.

- 3rd parties joined to SIG
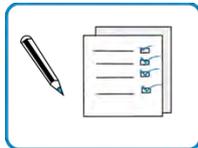
Beforehand:

- Design a basic SDK which provides the main functions needed to interact with the iCity platform, allowing the development of news apps

During:

- Build the 1st version of the iCity SDK and collect the feedback from developers in order to improve the functionalities of the iCity SDK.
- There are several actions useful to collect feedback from developers, in order to improve both the SDK and the web experience:
  - *Motivation stage developers interaction - workshop and social networks* action, described above.
  - Other *Hands on Activities* like
    - *calls* for proposal apps and other events related to the engagement process, workshops, etc.
    - Deployment of pilots (WP5) and gathering information from participating developers

Results:

iCity should provide an attractive SDK to help developers building apps in order to engage them and appeal new ones.

Bootstraping cases:
- TBD

4.1.3 Hands on Evaluation tools

Indicators to follow up Each City Call for apps

The tools that will be used to evaluate the HANDS-ON stage are mainly quantitative-based indicators which will provide information about the stakeholders involved in this stage of the project, the projects deployed, the success of the platform, the applicability in other locations, the fulfilment of expected returns at previous stages, the new co-creation environments and governance forms emerged and a qualitative approach based on a SWOT

analysis.

The indicators are:

- **Stakeholders involved**. With this indicator we will be able to analyse the extent of success of previous engagement stages, knowing how many of the initial stakeholders have been finally involved in the project. It is also an important indicator to evaluate the overall success of the iCity project in quantitative terms.

- **Projects deployed successfully and features (thematic areas)**. To know how many projects have been effectively deployed is one of the keys of the whole evaluation process. This is the main expression of success or failure of the iCity project. Its features are also important to know what thematic areas have been covered and how.

- **Projects not deployed and features**. In the same way, having information about the amount of projects which failed in its deployment and its features is valuable for the project to be able, in the future, to solve the problems that have caused this failure.

  - **% of implementation**. The phase of the process in which stakeholders decide to abandon will provide information about what parts of the project have led to problems or have had information deficiencies. Identifying the moment in which the deployment fails within the overall development of the project is crucial to understanding what are problematic stages.

  - **Reasons**. The reasons why there has been a failure in the deployment of the apps are necessary for the evaluation of the HANDS-ON stage. They indicate whether the responsibility lies mainly in the organization of the methodology of the iCity project or in external causes linked directly to stakeholders.

- **Level of success of platform and apps in delivering services**. WP6 will collect the opinion of end users, administrations and companies involved, analysing quality, readiness, extension, utility, frequency and simplicity of the delivered services to assess the impact in societal change.

- **Applicability in other locations/contexts**. The transferability of the deployed apps is another indicator of efficiency. Apps which can be applied to other cities or ICT contexts as problem solvers or demand satisfiers will increase the global value of the project.

- **Fulfillment of social return goals**. One of the indicators in the previous stage was the expectation of social return to citizenship. In the HANDS-ON stage, we must evaluate the performance of the expectation, knowing whether it was lower, higher or the same as the finally reached.

- **Fulfillment of economic return goals (efficiency)**. The performance of economic return has the same logic as the social one. Comparison between initial expectations and final

fulfillments will give information in terms of work efficiency.

- **Meaning and utility of the platform**. With qualitative information, we will evaluate if the new ecosystems have produced a meaningful and useful platform for those involved from the supply and demand side.

- **New co-creation environments and ICT-mediated governance forms emerged**. We need to evaluate how many new co-creation environments have emerged thanks to the developers involvement, the features of these new environments and its potential going forward. It will give answers to questions such as what is its expected duration, how many new private agents have been involved in public policies, what new synergies have been consolidated, what internal organizational changes in administrations have been introduced...etc.

- **Positive and negative internal and external factors to achieve goals**. In the qualitative approach of the evaluation we will summarize the contributions in a SWOT analysis. This evaluation will be the difference between internal factors of the iCity project, those that are positive to achieve the goals, and external factors, which hinder their achievement.

  o **Strengths**. Internal characteristics of the project that give an advantage to it over others.

  o **Weaknesses**. Internal features that place the project at a disadvantage relative to others.

  o **Opportunities**. External elements that the project could exploit to its advantage.

  o **Threats**. External elements in the environment that could cause troubles to the project.

Both technical and sociological pilots evaluation will be completed at the end of the project, although they are going to be carried out during the whole of the second and third year.

Data will be obtained from all the activities planned during the HANDS-ON stage, this is, call for ideas, call for apps and development events.

The evaluation will cover stakeholders, apps, the platform itself and the final users. For this reason, several actors will be requested to give information about the quoted indicators, although using different techniques. In the activities, events and workshops organized by iCity, representatives of the project will be responsible for doing this. Data collected out of these projects, mostly qualitative-based. UOC team will contact the assessed target.

A mixture of quantitative and qualitative methodological techniques to collect data will be used such as:

- Questionnaires to final users.
- Diary blogs by developers, SME and public administrations.
- Tracking of discourses and content of web 2.0 tools used (e.g. twitters, blogs) and policy and regulation documents.
- Recollection of views and experiences of participants in the co-creation labs.
- Semi-structured interviews with participants, policy-makers and service users.
- Participant observation.

5. Governance (All Partners)

Infrastructures Governance

Governance of policies modifying of a new infrastructure

Governance of adding a new infrastructure

Service ideas Governance

Governance of an new idea (proposal) of a city service

Governance of an idea (of a iCity service) Development

App development governance

Governance of a big update (major change) of an existing App

Governance of minor change of an exixtin iCity App

Service use governance

Governance of the use of an iCity based service

Governance of the use of iCity services

5.1 Introduction

The operational governance of the iCity platform should provide to the developer community a policy framework to operate fluently for the development of innovative new open apps of public interest service.

By opening infrastructures, local government should facilitate the SMEs and entrepreneurs an agile and flexible protocols to create new services. The iCity project pretends to build a common framework for the new smart PPP service to provide negotiated access highlighting merits and identifying benefits. It is important to unblock the access to the datasets and interoperability of the opened infrastructures to the iCity developers.

The iCity governance framework provides a common basis that should have in consideration the different governance needs of each city. This is a complex issue and the four cities are working to explore their own governance needs in terms of intellectual property, security, privacy, data aggregation, superfast, spectrum, repudiation and licensing.

The end of this process should be a smooth iCity app validation process. It must start with the signature of the iCity Open Charter between top executives of the participant cities. This agreement is basic for creating a collaborative management entity formed by the local authorities and the participants of each local Open Innovation Ecosystem that has agreed to formalize his contribution.

Each iCity municipal team is making internal research to provide their political and legal approach (see 3rd consortium meeting contributions- a task that will be carried out during next months. (See annex)

The GLA London's approach is non intrusive and it could be a starting model for the rest of the cities to discuss with their lawyer teams. Italian cities have a very complex legal framework. To provide their governance approach, Genoa and Bologna have agreed to work together because they share the Italian legislative system. Finally Barcelona has started an internal research with their legal department. It could use the work done by CISCO students on legal framework in relation to the infrastructures.

WP1 states that Governance document should be clear on obligations and liaison of both parts, and must grant permissions for a period of time and clear on exceptions. Both the cities and stakeholders must be legally protected.

5.2 Platform governance

A project such an iCity, with the participation of four different cities, the involvement of various city bodies and the permanent interaction between the private sector, researchers and citizens, needs a strong governance framework. iCity Governance should contain regulations regarding legal processes, technical requirements and strategic requirements.

All applications approved by cities for development have to pass different test through a validation circuit. The first iteration of a process is described bellow. It will be further reviewed as it is deployed and its efficiency is tested.

The governance framework and procedures applies to 5 different areas

• A new service creation
• The modification of a service that already exists
• The opening of a new infrastructure
• The modification of policies regarding the usage of a new infrastructure
• The governance of iCity's platform own functionalities

After the approval of the proposed service by the council, which is ultimately responsible for urban infrastructure, iCity should provide a formal agreement.

Governance of a new idea (proposal) of a iCity service

How a new idea obtain the approval in order to develop a new iCity Service.
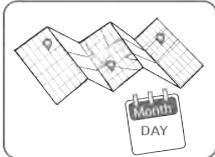
Context: CDG, COBO, BCN, GLA and iCity Platform (test mode).

Target: Developers (third party), iCity Portal administrator, cities responsible people: city strategy responsible, legal responsible and technical responsible (this could be the infrastructure responsible).
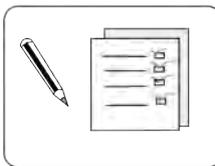
The process is ([Rol] Action):

1. [Developer] A new idea arrives at iCity Platform (at public area of portal). This idea includes a metadata as the city and the infrastructure that will be used.
2. [Cities] Is this idea approved?
    o [Strategic] Is this idea according to city strategy?
    o [Legal] Is this idea according to legal framework?
    o [Technical] Is this idea according to technical requirements?
3. If step 2 is NO then this idea is rejected.
4. If step 2 is YES then [iCity Admin] provides access to private area for [Developer].
5. [iCity Admin] provides to [Developer] a new identification for the idea.

[Developer] At this point the developer can develop his idea helped by the iCity resources (this is the Governance #14).

Governance of idea (of a iCity service) development

How to develop a new idea (this idea has been previously authorized to be developed).
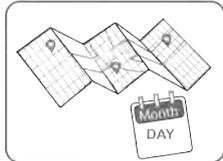
- iCity Platform (test & production modes).

- Developers (third party), iCity Portal administrator, technical experts.
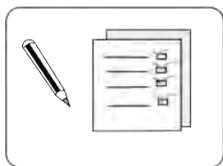
The process is ([Rol] Action):

1. [Developer] From Governance #13 the developer has the identification for this development (from now on, "application"), also the developer has access to iCity private area.
2. [Developer] New application development.
3. [Developer] Does this application pass the tests? (iCity private area has a testing iCity Platform, testing infrastructures included).
4. If step 3 is NO then the developer needs to improve the application development, go to step 2.
5. If step 3 is YES then [Technical] evaluates the technical point of view of application development.
6. If step 5 is NO then the developer needs to modify the application development, go to step 2.
7. If step 5 is YES then the development is OK to pass to production mode.
8. [iCity Admin] changes the inner BD, the identification of this application pass from test mode to production mode.
9. [iCity Admin] add the application in iCity Apps Store.

Governance of a big update (a major change) of an existing application

How to update – major changes – an application (this application has previously developed and running in production mode).

A "major changes" is equal to changes in application functionality.
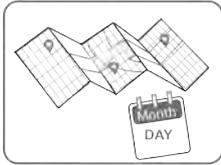
- iCity Platform (test & production modes).

- Developers (third party), iCity Portal administrator, technical experts.
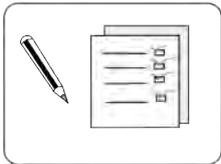
The process is ([Rol] Action):

1. [Developer] He notifies to [iCity Admin] a big update for his application.
2. [Cities] Is this new functionality approved?
   - [Strategic] Is this new functionality according to city strategy?
   - [Legal] Is this new functionality according to legal framework?
   - [Technical] Is this new functionality according to technical requirements?
3. If step 2 is NO then this new functionality is rejected.
4. If step 2 is YES then [iCity Admin] asks to [Developer] if he want to maintain the application in production mode.
5. If step 4 is NO then the [iCity Admin] changes the inner BD, the identification of this application pass from production mode to test mode. The [Developer] does the changes of application's code, this is the first step of Governance #14.
6. If step 4 is YES then [iCity Admin] create a "new identification"[16], this will be used by [Developer] in order to develop the "big update" of the application (in test mode).
7. [Developer] Development of a new version of application (in iCity private area).
8. [Developer] Does this new version of the application pass the tests? (iCity private area has a testing iCity Platform, testing infrastructures included).
9. If step 8 is NO then the developer needs to improve the application development, go to step 7.
10. If step 8 is YES then [Technical] evaluates the technical point of view of application development.
11. If step 10 is NO then the developer needs to modify this new version of the application development, go to step 7.
12. If step 10 is YES then this new version of the development is OK to pass to production mode.
13. [iCity Admin] changes the inner BD, the new identification of this application replace the old one, the new version pass from test mode to production mode.
14. [iCity Admin] add the new version of the application in iCity Apps Store and delete the old version.

---

[16] This new identification has a "link" with the old identification, this is in order to save the data accounting registered with the old id.

Governance of a minor change of an existing application

How to update – minor changes – an application (this application has previously developed and running in production mode).
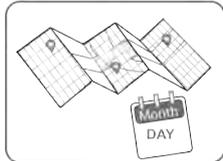
- iCity Platform (test & production modes).

- Developers (third party), iCity Portal administrator, technical experts.
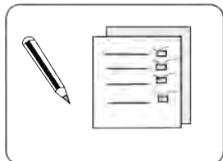
The process is ([Rol] Action):

1. [Developer] He notifies to [iCity Admin] a minor update for his application. ([iCity Admin] assume that the [Developer] wants to maintain the application in production mode).
2. [iCity Admin] create a new identification[17], this will be used by [Developer] in order to develop the "minor update" of the application (in test mode).
3. [Developer] Development of a new version of application (in iCity private area).
4. [Developer] Does this new version of the application pass the tests? (iCity private area has a testing iCity Platform, testing infrastructures included).
5. If step 4 is NO then the developer needs to improve the application development, go to step 3.
6. If step 4 is YES then [Technical] evaluates the technical point of view of application development.
7. If step 6 is NO then the developer needs to modify this new version of the application development, go to step 3.
8. If step 6 is YES then this new version of the development is OK to pass to production mode.
9. [iCity Admin] changes the inner BD, the new identification of this application replace the old one, the new version pass from test mode to production mode.
10. [iCity Admin] add the new version of the application in iCity Apps Store and delete the old version.

---

[17] This new identification has a "link" with the old identification, this is in order to save the data accounting registered with the old id.

Governance of the action of add a new infrastructure

How to add a new infrastructure in the "iCity offering".
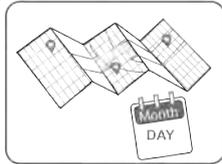
- CDG, COBO, BCN, GLA and iCity Platform (test & production modes).

- iCity Portal administrator, cities responsible people: city strategy responsible, legal responsible and technical responsible (this could be the infrastructure responsible).
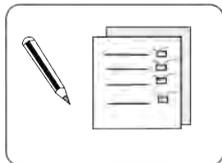
The process is ([Rol] Action):

1. [City] have a new infrastructure to add in "iCity Offering". [City] notifies this addition to [iCity Admin].
2. [iCity Admin] prepares the inner BD needed.
3. [City] add (in the iCity Platform [18]) the policies of this infrastructure.
4. [City] notifies the API of this "new" infrastructure to [iCity Admin]. This is the API for production mode and, also, the "other" API for testing mode.
5. [City & iCity Admin] Does this infrastructure pass the tests (test & production modes)? [19].
6. If step 5 is NO then the [City] needs to improve the API of the infrastructure in order to pass the tests, go to step 4.
7. If step 5 is YES then [iCity Admin] does the changes needed to offer this infrastructure as another infrastructure of iCity.

Governance of the action of modify the policies of an existing infrastructure

How to modify the policies of an infrastructure.
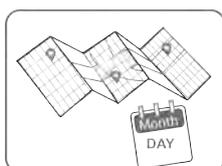
Context: CDG, COBO, BCN, GLA and iCity Platform (test & production modes).

---

[18] We assume that iCity Platform will have this functionality.

[19] We assume that in the iCity private will have an area for testing infrastructures.

- • iCity Portal administrator, cities responsible people: city strategy responsible, legal responsible and technical responsible (this could be the infrastructure responsible).
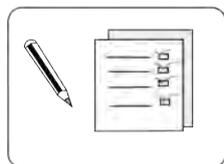
The process is ([Rol] Action):

1. [City] have an infrastructure in the "iCity Offering". [City] notifies to [iCity Admin] that a modification of infrastructure polices is needed.
2. [City] modifies the policies (in the iCity Platform[20]) of the infrastructure.
3. [City] notifies when this new policies will be in force, at that moment the new policies will replace the old ones.

---

[20] We assume that iCity Platform will have this functionality.

Governance of the use of an iCity based service

How to governance the utilization of a service that use iCity Platform.
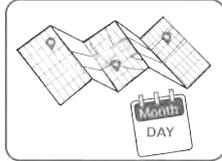
- iCity Platform (production mode).

- End user, iCity Platform.
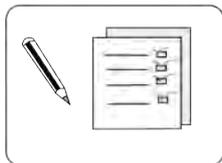
The process is ([Rol] Action):

1. [End user] uses a service (that use iCity Platform). This service has its iCity Id.
2. For each use of iCity infrastructures, [iCity Platform] logs the petition data.
3. [iCity Platform] controls if this petition has the rights needed; this is if the iCity Id is correct.
4. If step 3 is NO then the [iCity Platform] reject the petition with an error. End of process.
5. [iCity Platform] controls if this petition is according to the infrastructure policies.
6. If step 5 is NO then the [iCity Platform] rejects the petition with an error. End of process.
7. If step 5 is YES then the [iCity Platform] accepts the petition and pass it to the infrastructure API.
8. If the infrastructure API returns data, the [iCity Platform] logs this action and returns the data to external service.

Governance of the use of iCity services

How to governance the utilization iCity inner services.
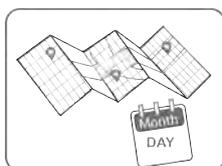
- iCity Platform (production mode).

- iCity Portal administrator, developer, cities responsible people: city strategy responsible, legal responsible and technical responsible (this could be the infrastructure responsible).
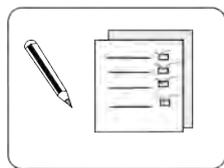
The process is ([Rol] Action):

1. [City or Developer] wants to use a iCity Platform service (for instance, in order to know the use of his infrastructure/external service).
2. [City or Developer] ask for a usage report in the private area.
3. [iCity Platform] generates this report from its accounting BD.

6 Engagement methodology annex

6.1 Head annex

6.1.1 [D.2.1] Stakeholder feedback Questionnaires

Companies questionnaire

Area:	☐ Smart Education ☐ Smart Energy/Environment ☐ Smart Urbanism ☐ Smart Administration /Governance ☐ Smart Citizenship ☐ Other
• **If you have a brochure of the project, would you be willing to share it with iCity?**	
Please attach it	

2. REQUIREMENTS FOR ENGAGEMENT

• **Do you want to be informed?**

Yes or not	

• **On what specific issues?**

Multiple selection	☐ Co-creation activities ☐ Learning activities ☐ Information activities

• **Would you help us to map SMART CITIES in your innovation network adding the relevant partners and actors that you know?**

Please list them:	

Would you participate on future SMART CITIES activities on?

* Definition of co-design: In co-design there is an understanding that all human artifacts are designed with a purpose. In co-design one tries to include user needs, experience, and ideas in order to include them from the begining of the design process. It is generally recognized that the quality of design increases if the stakeholders interests are considered in the design process.

* Co-creation has to do with incorporate "lead users" and different actors into the innovation process of a product, a service, etc. On a Co-creation process consultants, companies and academic institutions use co-creation as a tool for engaging customers in product design. That means designers, engineers can't design products or services alone because they need users. User centered design, participatory design, and innovation needs to develop co-creation strategies.

Multiple selection	☐ Inspirational and discovery activities on smart new public interest services. ☐ Positioning and networking activities of the open innovation community of your city ☐ Training activities Tech () value proposal () user involvement () ☐ Co-design and co-creation activities to develop public interest new services ☐ Public interest new services co-creation activities ☐ Public interest new services testing activities

Examples of public interest services (Multiple selection) :	☐ public car parks ☐ telecommunications networks ☐ transportation ☐ public broadcasting ☐ electricity ☐ social services ☐ environmental protection

- **What kind of public interest service do you you think your city could implement in your community/neighbourhood according to the following areas and the above mentioned examples of Smart City Actions?**

If you have a similar experience please provide a brief description of it?	

- **Have you ever worked with the public service?**

Yes or not	

2. AREA STRATEGY TO DEVELOP SMART PUBLIC INTEREST SERVICES

The iCity project aims at making a step forward in fostering the co-creation of services of public interest based upon the exploitation of available public information, digital assets and infrastructure provided by third parties (developers, SMEs...) in urban spaces.
The scope of a Smart City can be included in 7 modules (Energy and Environment, Transportation and Mobility, Health, Education, Security, Administration and Economy). All of them bring together applications and services with similar objectives and benefits for the cities.
iCity proposes the involvement of civic society, companies and governments to work together into the strength of the open innovation ecosystem of your city.
One of iCity main challenges is the development of a plattform that will integrate all information of your city that can be used in real time by your company.

2. 1 PUBLIC SERVICES

- **Which public services (non e-services) does your area offer?**
  Note: A public service is a service which is provided by government to its citizens, either directly (through the public sector) or by financing private provision of services. For each open:

Please list them.	

- **Which public e-services does your area offer?**

Yes or not	

2. 1 PUBLIC INTEREST SERVICES

Note: Public interest service is a service provided by the private sector but addressed to general public interest.

- **Does your company offer a public interest service or product? Please list them and briefly describe it.**

3. IMPLICATION OF THE AREA IN THE SMART CITY STRATEGY

Which public e-services does your area offer? For each project listed: open:

Project name:	
Call:	

Researchers quesionnaire

Research Refined Questionnaire

1. PERSONAL DATA

Responsible by area	Name
Position	e-mail address
Office address	

2. IMPLICATION OF THE AREA IN THE SMART CITY STRATEGY

- If you have participated or coordinated any ICT or Smart City project, please help us to map them:

Project name:	
Call:	
Area:	☐ Smart Health ☐ Smart Education ☐ Smart Energy/Environment ☐ Smart Urbanism ☐ Smart Administration /Governance ☐ Smart Citizenship ☐ Other

- If you have a report of the project, would you be willing to share it with iCity?

Please attach it:_

- Help us to map the implication of the stakeholders within the project

Please list academic stakeholders that were implicated. (Once listed open)

- Which where their motivations to participate?   *[Multi selection]*

☐ Find funding for research
☐ Smart cities are an strategic field to study current systemic change
☐ Smart Cities are an opportunity to apply your research in a new field
☐ Smart Cities join Social sciences, ICT and economy interdisciplinary approach
☐ Smart Cities offer an International impact
☐ Other (_____)

- Which where the barriers for academics   *[Multi selection]*

☐ High complexity at smartcities research field. Briefly explain the success level in facing those barriers.
☐ Lack of funding. Briefly explain the success level in facing those barriers.
☐ Out of scope for their research discipline or field. Briefly explain the success level in facing those barriers.
☐ Difficulties to carry out an interdisciplinary research. Briefly explain the success level in facing those barriers.

Please list companies that were implicated:

- Which where your motivations to participate?   *[Multi selection]*

☐ Reduce cost	☐ Increase security
☐ Reduce waste	☐ Remote access
☐ Increase efficiency	☐ Remote control
☐ Increase knowledge	☐ Increase status
☐ Increase comfort	☐ Remote control
☐ Increase usability	☐ Open new economic model
☐ Increase accessibility	☐ One interface
☐ Awareness	☐ Standardization
☐ Stabilization	☐ Environment
☐ Other (_____)	

iCity

• **Which do you think that were the main barriers to engage the companies?**   *[Multi selection]*

☐ Dispense on R+D. Briefly explain the success level in facing those barriers.
☐ Technological gaps. Briefly explain the success level in facing those barriers.
☐ Risky market. Briefly explain the success level in facing those barriers.
☐ Lack of funding. Briefly explain the success level in facing those barriers.
☐ Lack of time. Briefly explain the success level in facing those barriers.
☐ Lack of knowledge. Briefly explain the success level in facing those barriers.

Technical knowledge on:
a. Ubiquity connectivity
b. Mobile devices
c. Collaborative platforms
d. Cloud IT
e. Open standards
f. Open access
g. Geo-location
h. Analytics
i. Digital controlled devices

Open innovation knowledge on:
j. Living lab
k. Co-creation
l. User-centred design
m. Co-creation
n. Value proposal

Please list citizen associations that were implicated:

• **Which where your motivations to participate?**   *[Multi selection]*

☐ Reduce cost   ☐ Increase security
☐ Reduce waste   ☐ Remote access
☐ Increase efficiency   ☐ Remote control
☐ Increase knowledge   ☐ Increase status
☐ Increase comfort   ☐ Open new economic model
☐ Increase usability   ☐ One interface
☐ Increase accessibility   ☐ Standardization
☐ Awareness   ☐ Environment
☐ Stabilization
☐ Other (_____)

• **Which do you think that were the main barriers to engage citizens?**   *[Multi selection]*

☐ Lack of motivation. Briefly explain the success level in facing those barriers.
☐ Lack o awareness. Briefly explain the success level in facing those barriers.
☐ Lack of interest. Briefly explain the success level in facing those barriers.
☐ Lack of time and personal resources. Briefly explain the success level in facing those barriers.
☐ Other (_____), Briefly explain the success level in facing those barriers.

Please list governmental agencies and departments that were implicated:

- **Which do you think that were their motivations**   *[Multi selection]*

  ☐ Reduce cost   ☐ Increase security
  ☐ Reduce waste   ☐ Remote access
  ☐ Increase efficiency   ☐ Remote control
  ☐ Increase knowledge   ☐ Increase status
  ☐ Increase comfort   ☐ Open new economic model
  ☐ Increase usability   ☐ One interface
  ☐ Increase accessibility   ☐ Standardization
  ☐ Awareness   ☐ Environment
  ☐ Stabilization
  ☐ Other (_____)

- **Which do you think that were the main barriers to engage local agencies and departments.** *[Multi selection]*

  ☐ Lack of motivation. Briefly explain the success level in facing those barriers
  ☐ Lack of knowledge. Briefly explain the success level in facing those barriers
  ☐ Lack of interest. Briefly explain the success level in facing those barriers
  ☐ Other (_____). Briefly explain the success level in facing those barriers.
  Briefly explain them most relevant lessons learned during the engagement of stakeholders.

3. AREA STRATEGY TO DEVELOP SMART PUBLIC INTEREST SERVICES

The iCity project aims at making a step forward in fostering the co-creation of services of public interest based upon the exploitation of available public information, digital assets and infrastructure provided by third parties (developers, SMEs...) in urban spaces. The scope of a Smart City can be included in 7 modules (Energy and Environment, Transportation and Mobility, Health, Education, Security, Administration and Economy). All of them bring together applications and services with similar objectives and benefits for the cities. iCity proposes the involvement of civic society, companies and governments to work together into the strength of the open innovation ecosystem of your city. One of iCity main challenges is the development of a platform that will integrate all information of your city that can be used in real time by your company. If you have participated or coordinated any ICT or Smart City project, please help us to map them:

- Is iCity public interest services development linked to your research. *[Multi selection]*

  ☐ Yes
  ☐ No

4. REQUIREMENTS FOR ENGAGEMENT

- Do you want to be informed:

On what specific issue	☐ Co-creation and co-design activity* Note: Definition of co-design: In co-design there is an understanding that all human artifacts are designed with a purpose. In co-design one tries to include user needs, experience, and ideas in order to include them from the begining of the design process. It is generally recognized that the quality of design increases if the stakeholders interests are considered in the design process. Note: Co-creation has to do with incorporate "lead users" and different actors into the innovation process of a product, a service, etc. On a Co-creation process consultants, companies and academic institutions use co-creation as a tool for engaging customers in product design. That means designers, engineers can't design products or services alone because they need users. User centered design, participatory design, and innovation needs to develop co-creation strategies. Smart Education ☐ Learning activity ☐ Information activities

- Would you help us to map your SMART CITIES innovation network adding the relevant partners and actors that you know?

Please list them:

- Would you participate on future SMART CITIES activities on?   *[Multi selection]*

  ☐ Inspirational and discovery activities on smart new public interest services.
  ☐ Positioning and networking activities of the open innovation community of your city

Citizen questionnaires

Citizens questionnaire

**1.	PERSONAL DATA**

Name:	Surname
Position	e-mail address

**2.	IMPLICATION IN THE SMART CITY STRATEGY**

The iCity project aims at making a step forward in fostering the co-creation of services of public interest based upon the exploitation of available public information, digital assets and infrastructure provided by third parties (developers, SMEs...) in urban spaces.

The scope of a Smart City can be included in 6 modules (Energy and Environment, Transportation and Urbanism, Health, Education, Administration and Economy). All of them bring together applications and services with similar objectives and benefits for the cities.

iCity proposes the involvement of civic society, companies and governments to work together into the strength of the open innovation ecosystem* of your city.

One of iCity main challenges is the development of a plattform that will integrate all information of your city that can be used in real time by your company.

*in open innovation ecosistem a different companies can join forces to develop complex and new products or services. Firms can share technology and profits and also overcome barriers or reduce their research and development cost. They may also trade their resources so that others can use them to develop their product or service. In this regard, companies are going to be part of joint ventures, because together they can produce better solutions to complex problems to have a stronger impact on the market. But to achieve this type of innovation companies have participate of an open innovation ecosytem were companies, researchers, and goverments meet each other openning its research and development processes with the users to co-design, co-create and co-produce new and usefull products and servies.

Smart City areas and examples of actions:

1. **Smart Health:** Aiming to improve care to the patient, optimize precocious detection of diseases and epidemics, guarantee the equity in the quality of the service, get real time information of the medical history of the patients in all the medical centers and interconnection between health professionals, among others.
Examples: Remote medicine, remote consultation, remote education, remote monitoring, remote surgery, medical history sharing, etc.

2. **Smart Education:** A modul that seeks the improvement of the academic quality, customization of student learning, the equity in the quality of the information, more learning services for the city and the general improvement of the management of the educational centers and the relationship between fathers and school.
Examples: Remote education and multimedia resources sharing, augmented reality apps in museums, educational centers, etc.

3. **Smart Energy/Environment** encompasses the reduction of CO2 emissions, increase efficiency,	quality and sustainability of gas, water and electricity networks and awareness of citizens and businesses about their actual consumption so they can act accordingly, among others

4. **Smart Urbanism:** Looks to wider social, economic and environmental issues that good urban design can address and to foster innovation within our cities to make them resilient, talented and civil cities.
Examples: Dynamics route planning based on traffic, traffic light management, indoor and outdoor parking management, integrated smart card for public transport, traceability hazardous substances, etc.

5. **Smart Administration/Governance:** Seeks the efficiency and transparency in the APPs, the optimization in the internal processes of the APPs, the improvement of the services offer to companies and citizens, participation in political solutions and the spreading of information of interest at each moment.
Examples: Intelligent systems to streamline internal management of APPs in order to make it more efficient, Open Data, dissemination of public information, e-participation and people's, etc.

6. **Smart Citizenship:** The social and human capital of a city is measured by the level of qualification of	its citizens, the social and ethnic plurality, flexibility, creativity, cosmopolitanism, and participation in public life.
Examples: "Fix my street", where citizens can warn other citizens about street issues by phone applications, traffic incidents, consultes populars telematiques

Area:	☐ Smart Education ☐ Smart Energy/Environment ☐ Smart Urbanism ☐ Smart Administration /Governance ☐ Smart Citizenship ☐ Other

• Do you know any SmartCity project?	
National projects on ICT and SmartCity:	
European projects on ICT and SmartCity:	
Other:	

Have you ever participate or have you ever been involved somehow in any ICT Project?	
Yes or no	
If yes, please provide a brief description:	

• Help us to map it:	
Project name:	
Area:	☐ Smart Education ☐ Smart Energy/Environment ☐ Smart Urbanism ☐ Smart Administration /Governance ☐ Smart Citizenship ☐ Other
If other, please describe	

3. AREA STRATEGY TO DEVELOP SMART PUBLIC INTEREST SERVICES

3.1 PUBLIC SERVICES

A public service is a service which is provided by government to its citizens, either directly (through the public sector) or by financing private provision of services.

• What kind of public services do you use in yor day to day?	
Please list them	

3. AREA STRATEGY TO DEVELOP SMART PUBLIC INTEREST SERVICES

• What kind of public services do you use in yor day to day?	
Please list them.	

• Examples of public services	
	☐ refuse collection ☐ education centers ☐ health care ☐ libraries ☐ roads ☐ environmental protection ☐ water suppply network ☐ other
If other, please describe	

• What kind of public service do you you think your city could implement in your community/neighborhood according to the following areas and the above mentioned examples of Smart City Actions?	
Area:	☐ Smart Education ☐ Smart Energy/Environment ☐ Smart Urbanism ☐ Smart Administration /Governance ☐ Smart Citizenship ☐ Other

3.2 PUBLIC INTEREST SERVICES

Note: Public interest service is a service provided by the private sector but addressed to general public interest.

- **What kind of public interest services do you use in your day to day? Please list them.**

Examples of public interest services (Multiple selection) :	☐ public car parks ☐ telecommunications networks ☐ transportation ☐ public broadcasting ☐ electricity ☐ social services ☐ environmental protection

- **What kind of public interest service do you you think your city could implement in your community/neighbourhood according to the following areas and the above mentioned examples of Smart City Actions?**

Area (Multiple selection) :	☐ Smart Education ☐ Smart Energy/Environment ☐ Smart Urbanism ☐ Smart Administration /Governance ☐ Smart Citizenship ☐ Other

4. STAKEHOLDER'S REQUIREMENTS FOR ENGAGEMENT

- **Do you want to be informed?**

Yes or not	

- **On what specific issues?**

Multiple selection	☐ Co-creation activities ☐ Learning activities ☐ Information activities

- **Would you help us to map icity innovation network adding the relevant actors that you know?** __

Please list them	

Would you participate on future SMART CITIES activities on?

* Definition of co-design: In co-design there is an understanding that all human artifacts are designed with a purpose. In co-design one tries to include user needs, experience, and ideas in order to include them from the begining of the design process. It is generally recognized that the quality of design increases if the stakeholders interests are considered in the design process.

* Co-creation has to do with incorporate "lead users" and different actors into the innovation process of a product, a service, etc. On a Co-creation process consultants, companies and academic institutions use co-creation as a tool for engaging customers in product design. That means designers, engineers can't design products or services alone because they need users. User centered design, participatory design, and innovation needs to develop co-creation strategies.

Multiple selection	☐ Inspirational and discovery activities on smart new public interest services. ☐ Positioning and networking activities of the open innovation community of your city ☐ Training activities Tech () value proposal () user involvement () ☐ Co-design and co-creation activities to develop public interest new services ☐ Public interest new services co-creation activities ☐ Public interest new services testing activities

Governemental questionnaire

ANNEX 1   **Government Refined Questionnaire**

iCity

Government Refined Questionnaire

1. PERSONAL DATA

Responsible by area	Name
Position	e-mail address
Office address	

2. IMPLICATION OF YOUR DEPARTMENT IN THE SMART CITY STRATEGY

- If you have participate or coordinate any ICT or SmartCity project, please help us to map them:

Project name:

Call:

Area:
- ☐ Smart Health
- ☐ Smart Education
- ☐ Smart Energy/Environment
- ☐ Smart Urbanism
- ☐ Smart Administration /Governance
- ☐ Smart Citizenship
- ☐ Other

- If you have a report of the projecte, would you be willing to share it with iCity?

Please attach it

- Help us to map the implication of the stakeholders within the project.

Please list academic stakeholders that were implicated. (Once listed open)

- Which where their motivations to participate?   *[Multi selection]*
  - ☐ Find funding for research
  - ☐ Smart cities are an strategic field to study current systemic change
  - ☐ It is an opportunity to apply your research in a new field
  - ☐ Social sciences, ICT and economy interdisciplinary approach
  - ☐ International impact
  - ☐ Other (_____)

- Which where the main barriers for the academics involvement.   *[Multi selection]*
  - ☐ High complexity at smartcities research field. Briefly explain the success level in facing those barriers.
  - ☐ Lack of funding. Briefly explain the success level in facing those barriers.
  - ☐ Out of scope for their research discipline or field. Briefly explain the success level in facing those barriers.
  - ☐ Difficulties to carry out an interdisciplinary research. Briefly explain the success level in facing those barriers.

Please list companies that were implicated:

- Which where your motivations to participate?   *[Multi selection]*

☐ Reduce cost	☐ Increase security
☐ Reduce waste	☐ Remote access
☐ Increase efficiency	☐ Remote control
☐ Increase knowledge	☐ Increase status
☐ Increase comfort	☐ Remote control
☐ Increase usability	☐ Open new economic model
☐ Increase accessibility	☐ One interface
☐ Awareness	☐ Standardization
☐ Stabilization	☐ Environment
☐ Other (_____)	

1

ANNEX 1   **Government Refined Questionnaire**

iCity

| • Which do you think that were the main barriers to engage the companies? | [Multi selection] |

☐ Dispense on R+D. Briefly explain the success level in facing those barriers.
☐ Technological gaps. Briefly explain the success level in facing those barriers.
☐ Risky market. Briefly explain the success level in facing those barriers.
☐ Lack of founding. Briefly explain the success level in facing those barriers.
☐ Lack of time. Briefly explain the success level in facing those barriers.
☐ Lack of knowledge. Briefly explain the success level in facing those barriers.

Technical knowledge on:
    a. Ubiquity connectivity
    b. Mobile devices
    c. Collaborative platforms
    d. Cloud IT
    e. Open standards
    f. Open access
    g. Geo-location
Open innovation knowledge on:
    h. Living lab
    i. Co-creation
    j. User-centred design
    k. Co-creation
    l. Value proposal

Please list citizens associations that were implicated:

| • Which where your motivations to participate? | [Multi selection] |

☐ Reduce cost   ☐ Increase security

☐ Reduce waste   ☐ Remote access
☐ Increase efficiency   ☐ Remote control
☐ Increase knowledge   ☐ Increase status
☐ Increase comfort   ☐ Open new economic model
☐ Increase usability   ☐ One interface
☐ Increase accessibility   ☐ Standardization
☐ Awareness   ☐ Environment
☐ Stabilization   ☐ Environment
☐ Other (_____)

| • Which do you think that were the main barriers to engage the citizens? | [Multi selection] |

☐ Lack of motivation. Briefly explain the success level in facing those barriers.
☐ Lack o awareness. Briefly explain the success level in facing those barriers.
☐ Lack of knowledge. Briefly explain the success level in facing those barriers.
☐ Lack of interest. Briefly explain the success level in facing those barriers.
☐ Other (_____). Briefly explain the success level in facing those barriers.

iCity

Please list governmental agencies and departments that were implicated:

- **Which do you think that were their motivation**   *[Multi selection]*

  ☐ Reduce cost   ☐ Increase security
  ☐ Reduce waste   ☐ Remote access
  ☐ Increase efficiency   ☐ Remote control
  ☐ Increase knowledge   ☐ Increase status
  ☐ Increase comfort   ☐ Open new economic model
  ☐ Increase usability   ☐ One interface
  ☐ Increase accessibility   ☐ Standardization
  ☐ Awareness   ☐ Environment
  ☐ Stabilization   ☐ Environment
  ☐ Other (_____)

- **Which do you think that were the main barriers to engage local agencies and departments.** *[Multi selection]*

  ☐ Lack of motivation. Briefly explain the success level in facing those barriers
  ☐ Lack of knowledge. Briefly explain the success level in facing those barriers
  ☐ Lack of interest. Briefly explain the success level in facing those barriers
  ☐ Other (_____). Briefly explain the success level in facing those barriers.
  Briefly explain them most relevant lessons learned during the engagement of stakeholders:

3. AREA STRATEGY TO DEVELOP SMART PUBLIC INTEREST SERVICES

The iCity project aims at making a step forward in fostering the co-creation of services of public interest based upon the exploitation of available public information, digital assets and infrastructure provided by third parties (developers, SMEs...) in urban spaces.
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iCity proposes the involvement of civic society, companies and governments to work together into the strength of the open innovation ecosystem of your city.
One of iCity main challenges is the development of a platform that will integrate all information of your city that can be used in real time by your company.

3.1 PUBLIC SERVICES

- **Which public services (non e-services) does your area offer? Please list them.**

  Note: A public service is a service which is provided by government to its citizens, either directly (through the public sector) or by financing private provision of services.

- **Which public e-services does your area offer?**

3. 2 SERVICES OF PUBLIC INTEREST

Note: Services of Public interest is a service provided by the private sector but addressed to general interest.

- **Are there services at your that could be extended or done by 3rd parties?**

3

iCity

Please list governmental agencies and departments that were implicated:

- **On what specific issues?** [Multi selection]

☐ Co-creation[1] and co-design[2] activity	☐ Learning activity	☐ Information activities

- **Would you help us to map SMART CITIES your innovation network adding the relevant partners and actors that you know?**

Please list them:

- **Would you participate on future SMART CITIES activities on?** [Multi selection]
  - ☐ Inspirational and discovery activities on smart new public interest services
  - ☐ Positioning and networking activities of the open innovation community of your city
  - ☐ Training activities Tech () value proposal () user involvement ()
  - ☐ Co-design and co-creation activities to develop public interest new services.
  - ☐ Public interest new services co-creation activities
  - ☐ Public interest new services testing activities

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[1] **Note:** Co-creation has to do with incorporate "lead users" and different actors into the innovation process of a product, a service, etc. On a Co-creation process consultants, companies and academic institutions use co-creation as a tool for engaging customers in product design. That means designers, engineers can't design products or services alone because they need users. User centered design, participatory design, and innovation needs to develop co-creation strategies.

[2] **Note:** Definition of co-design: In co-design there is an understanding that all human artifacts are designed with a purpose. In co-design one tries to include user needs, experience, and ideas in order to include them from the begining of the design process. It is generally recognized that the quality of design increases if the stakeholders interests are considered in the design process.

Governmental Technical feedback

- Governmental questionnaire to be refined (TBD)

ANNEX 1   Government Refined Questionnaire

iCity

Technical feedback Government Questionnaire: *To be refined*

1. PERSONAL DATA	
Responsible by area	Name
Position	e-mail address
Office address	

2. DEPARTMENT DATA	
City Name	
Which of the following best represents the city office or municipal agency in which you work?	
(Please select only one response.)	
Municipal Agency (EMS, Police, Transport, Other, etc), Please specify. Specify.	
Which of the following best represents the city office or municipal agency in which you work?	
(Please select only one response.)	
Which of the following best represents your job title? (Please select only one response.)]	
(Please select only one response.)	
If other (Please specify) Specify	
Demography of the City	
Total population	
Kids (0-15)	
Youngsters (15-35)	
Adult (35-65)	
Senior (+65)	
Economy of the City	
Gross Domestic Product (GDP)	
GDP by sector	
City's ICT annual budget	
Employment rate	
(Q40_5) 42. Unemployment rate	
Other City Indicators	
Number of Annual Visitors [Question.	
Total Surface (HA)	
Surface of Parks (HA)	
Human density (people/HA)	
Krns. of Roads	
Krns. of Sidewalks	
Krns. of Streets	
Number of Streets	
Total Number of Trees	

1

Number of Trees in Streets
City Structure
Number of Districts
Number of Neighborhoods
Number of Administrative Municipal Buildings
Number of Other Municipally owned buildings (schools, libraries, sport centers, etc.)
Total number of municipal employees
Total number of municipal MOBILE ONLY employees
City Infrastructures. (Please indicate Yes or No and the amount where appropriate)
Tetra Communication System
Location / Positioning Service
Location / Positioning Service Type
Internet for Bus Users
Internet for Metro Users
Internet for Train Users
Global Call Center
If NO Global call center, How Many?
Information Kiosks
Garbage Containers in City
Public Lighting (Type and Amount)
Traffic Lights (Amount)
License Plate Recognition at Parking' Entrance
Traffic Info Panels for Parking Spaces
Traffic Info Panels for Reversible Lanes
Traffic Info Panels for Traffic Information
Traffic Cameras
Non Traffic Cameras
Magnetic Loops for Traffic Counting
Public Fountains (Amount)
Surface Parking
Underground Parking
Motorbikes Parking
Bikes Parking
Biking Stations (Public Bikes for Residents)
Buses (Amount)
Bus Lines (Amount)
Bus Stops (Amount)
Metro Trains (Amount)
Metro Lines (Amount)
Railway Trains (Amount)
Railway Stations (Amount)
Taxis (Amount)
Taxi Waiting Areas

2

Energy Metering in Public Buildings
Green Corridor Service (Green Traffic lights path for Fire Brigades)
Automatic Accident Detection (ej., in Tunnels)
If these Type of Sensor are present in your City
Describe what they are and what you use them for
List the Stakeholders, Including the Application development Co.
Technical contacts for further details (E-mail)
Subscribers of Digital Services
(Mobile Phones %)
(Smartphones %)
(Internet Access %)
(Broadband Coverage)
(High Speed Internet %)
Please provide some information on the current status and future plans.
If your city has introduced or plans to introduce a service based on the existing optical fibre network then _
Provide Geographical Coverage
Name the Company who provides the optical Network (if known)
Give a Contact for further Technical Discussions (E-mail)
Please provide some information on the current status and future plans and projects.
If your city has introduced or plans to introduce a free WiFi service then please
(Provide Geographical Coverage
Name the Company who provides thethe WiFi Service (if known))
(Give a Contact for further Technical Discussions (E-mail)
Digital Presence of Government (Please provide links) (Web Sites Open Data)
(Web Sites Open Data
Facebook
Twitter
YouTube)
Other
Assessment of City Infrastructure Platforms to be Open for use beyond the city departments
Traffic Sensors
Environmental Sensors
(In / Out Parking Sensors
GarbageCreated using Vovici Bins (in some cities)
WiFi Hot Spots
(Fiber Optic Networks
PublicScreens
(PublicBusiness Information (e-Government ej. http://www.bcn.cat/en/ihome.htm)
Which of the following best represents the city's approach to strategy and planning for ICTacross all city departments and municipal agencies? (Please select only one response).

Mayor
CO/ CTO
CFO
Citi manger
Other city
Municipal
Outside corporation
None of them
Which of the following best represents the city's approach to strategy and planning for ICT across all city departments and municipal agencies?
Eachcity
Each city
Tere is..
The city's
The city's
Which of the following best represents how budget for ICT is allocated throughout the city government? (Please select only one response.)
Each city
A few cities
Most city
All city d
Which of the following best represents how the city government determines which ICT projects to implement? (Please select only one response.) (Respondents could only choose a single response)
Eachcity
Each city
Tere is..
The city's
The city's
Which of the following best represents how ICT is implemented throughout the city government? (Please select only one response.)
Eachcity
Each city
Tere is..
The city's
The city's
11. 3.6. Of the following groups, which one has the greatest influence over identifying the city government's ICT priorities?(Please select only one response.)
Citizens and
City departments
Central IT departmen
A balance
Please Provide the ICT Contact person and Contact Details

4

ANNEX 1   **Government Refined Questionnaire**

Please Provide the Operational Contact person and Contact Details
What is the regulatory framework for the following aspects related to ICT?(please briefly describe in the space provided
Is current legislation allowing PPP models for ICT?
Is renting or leasing allowed for ICT related procurements?
Is renting or leasing a common practice for ICT related procurements?
Is legislation allowing the city to rent its excess of capacity of existing infrastructures (dark fibre,Created using Vovici outdoor wireless, etc.) to the private sector?
How and who is managing the security and legal aspects of your city infrastructure and especially egovmnt and Platform and/or Open Data aspects of it
Please provide the legal contact person name and contact details of people involved in the legal/operational aspects
Who is managing the intellectual property rights in the city such as license fees for software, use of applications etc.
There is a policy in place to cross charge departments?(Please select only one response)
Cost is between
Cost is between
Cost is between
There is no cost
Can you describe your deployment process for services (from development to testing to deployment – to user acceptance)
Please indicate to which extent each of the following technologies are made available within the city government?(Please select one response per row.)
Broadband
ERP
IP
Unifide
Video conference
VPN
Dociumnts
Shared...
Are some or all of the above services being offered in mobility to public employees from the different departments or municipal agencies?
Yes
No
If other, please specify
Please indicate which of the following services are managed internally or outsourced? (Please select one response per row.)
Broadband
ERP
IP
Unifide

5

Video conference
VPN
Dociumnts
Shared...
What infrastructure does the city want to make available for the iCity project ?
Please describe the use case(S) (text format) that you want to implement using that infrastructure use cases
Please describe the actors (people and devices ...) that are linked to the use case
Please describe the actors (people and devices ...) that are linked to the use case
A detailed BPM needs to be created to document the use case; do you want help from WP3 to do this ?
Please provide main contact to work out use cases in detail.
What governance model (if any exist) is the city using to automate workflows, processes etc. to facilitate the day to day management of the city
What platform (software/HW) is used for this automation if any
Please name the Open Data Officer, who is the primary point-of-contact for city data (with contact details), if applicable.
Please name Open Data Evangelists, if any, in your city (with contact details)
Please indicate any existing city-sponsored open data offerings, including, but not limited to websites.
The web address of the offering
The department, division, and/or agency providing the offering
Is this open data offering should be integrated in the iCity platform for pilot use-case?
If the Open Data (OD) offering is provided on a basis of dedicated Open Data platform:
Which software is used for realization of the OD platform (CKAN, Virtuoso, relational database, etc)?
(Does the OD platform provide an API to other applications? How this API looks like?)
OD documents are published with meta-data. What is the structure of the meta-data?
Which document formats are supported by the platform (rdf, csv, xls, pdf, etc
Please provide contact details of the person to provide further information about this OD offering
Please specify planned or ongoing open data activities, if any, in your city. Do you have a roadmap (timetable) for open data activities? If so, please provide a brief statement regarding the roadmap
Which of the planned or ongoing Open Data activities you would like to integrate in the iCity platform
Please indicate the planned classes of data to be rolled out for the iCity project (Please select all those apply)
Please indicate your reasons for pursuing Open Data. (Please select all those apply)
Transparency
Innovation
Public fee
Local budget
Legal purpose
Longitudinal
Enable data
Efficency
Trust
Crowdsourcing
Reuse
Verifiable

6

Planning
Data explotation
Quality
Media Feed
Participation
EconomicS
Cross Disc
Return on
Improve data sets
Other-----
What possible advantages does the city see in terms of international / EU collaboration in the field of Open Data?
What kind of help would the cities need, in terms of platforms, technologies, consultancy or otherwise that would facilitate the availability of open data in the city?

List infrastructures and services that may be potentially opened

- Networks
    - TETRA
    - WIFI
    - FO
- Internet services
    - Free internet access for citizens
    - Internet for bus users
    - Internet for metro users
    - Internet for train users
- Global call centre
- Information kiosks
- Tourism point information
- Public lighting
- Traffic lights
- License plate recognition
- Traffic information panels
    - for parking spaces
    - for reversible lines
    - for traffic information
- Public screens
- Cameras
    - Traffic cameras

- o   Non traffic cameras (surveillance)

- Parking

  - o   Surface parking

  - o   Underground parking

  - o   Motorbike parking

  - o   Load/unload areas

- Bikes

  - o   Parking

  - o   Stations

- Public transport

  - o   Bus

  - o   Bus stops

  - o   Metro

  - o   Metro stations

  - o   Train

  - o   Train stations

  - o   Taxis

  - o   Taxis waiting areas

  - o   Public transport vending machines

- Energy metering in public buildings

- Green corridor service

- Automatic accident detection

- Sensors

  - o   Traffic

  - o   Environmental

  - o   Works on street monitoring

  - o   Parking

  - o   Public fountains

  - o   Garbage containers

- Open data

- Automatic street bollards

Charging points for electrical car
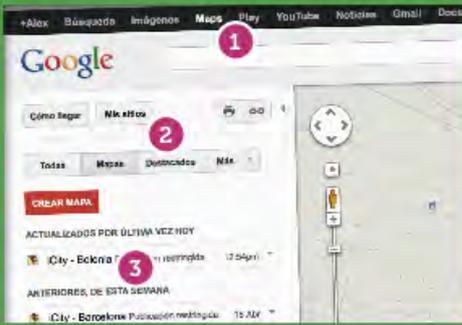
6.1.2. Visualization tools

Google map "How to"

Google Maps Tutorial

LOGIN / OPEN MAP

To login and open any of the iCity Google maps, just log into your gmail account and follow these steps:

1. Click on the 'Maps' option on the top bar of your browser.
2. Click on the 'My maps' button to open your maps lists.
3. Select any of the iCity maps in the list.

EDIT MAP

There are several ways of adding icons to the map.

- **Add Marker**: If you want to add icons directly on the map click on the *EDIT* option above the map title. A section of 3 icons will reveal in the map. Select the middle blue button to add a *MARKER*. A new dialogue box will show up where you can define a title and description for the marker as well as define a custom icon for it. You can include any kind of information in the description area, including links and videos from youtube.

- **Use the search bar**: Another option to add points to the map is to use the google maps search bar. In this ocasion I search for 'University' and some letters showed up. You can select any of these letters and click on *Save in...* then select the map in which you want to save the marker and click on *Save*.

Refresh your browser and follow the instruccions in the LOGIN seccion above to continue editing the map.

http://www.citilab.eu

Mind map

6.2 Heart annex

6.2.1 Ratify Letter

ORGANISATION
Address
Country

Joan Batlle
iCity Project Coordinator
Institut Municipal d'Informàtica
Ajuntament de Barcelona – Habitat Urbà

(Date)

Dear Sir,

<<NAME OF YOUR ORGANISATION>> has been informed about the aims and objectives of the iCity project and would like to join its Special Interest Group so that you will keep us informed of progress in the project.

We believe that the unique and exciting offer of the iCity project, to open up public infrastructure and enable us to develop services of public interest, will provide us with important opportunities for our organisation. We confirm that we are interested in exploring ways of getting involved in the iCity project activities and look forward to discussing in the near future suitable ways for us to cooperate with you going forward.
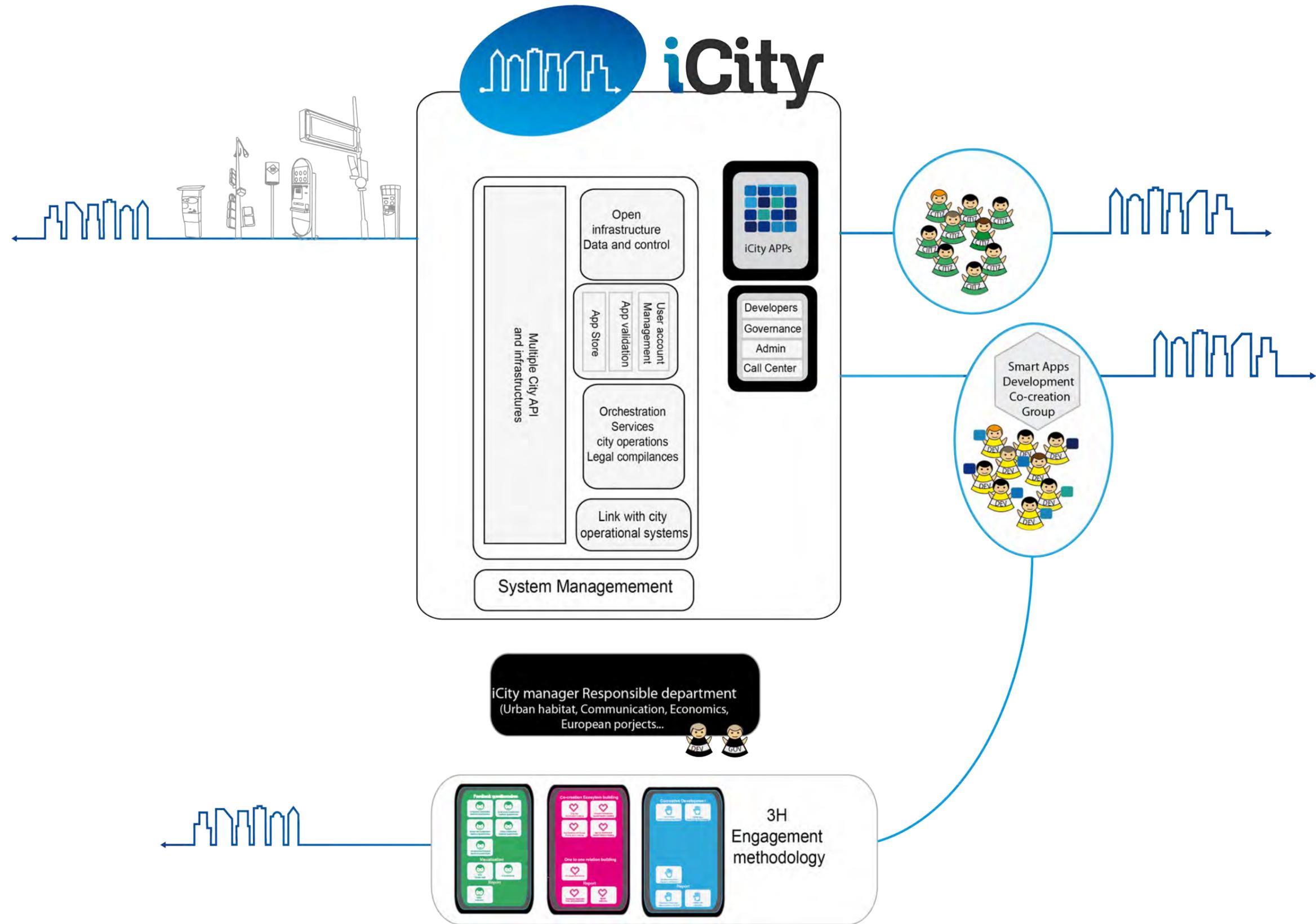
Yours faithfully,
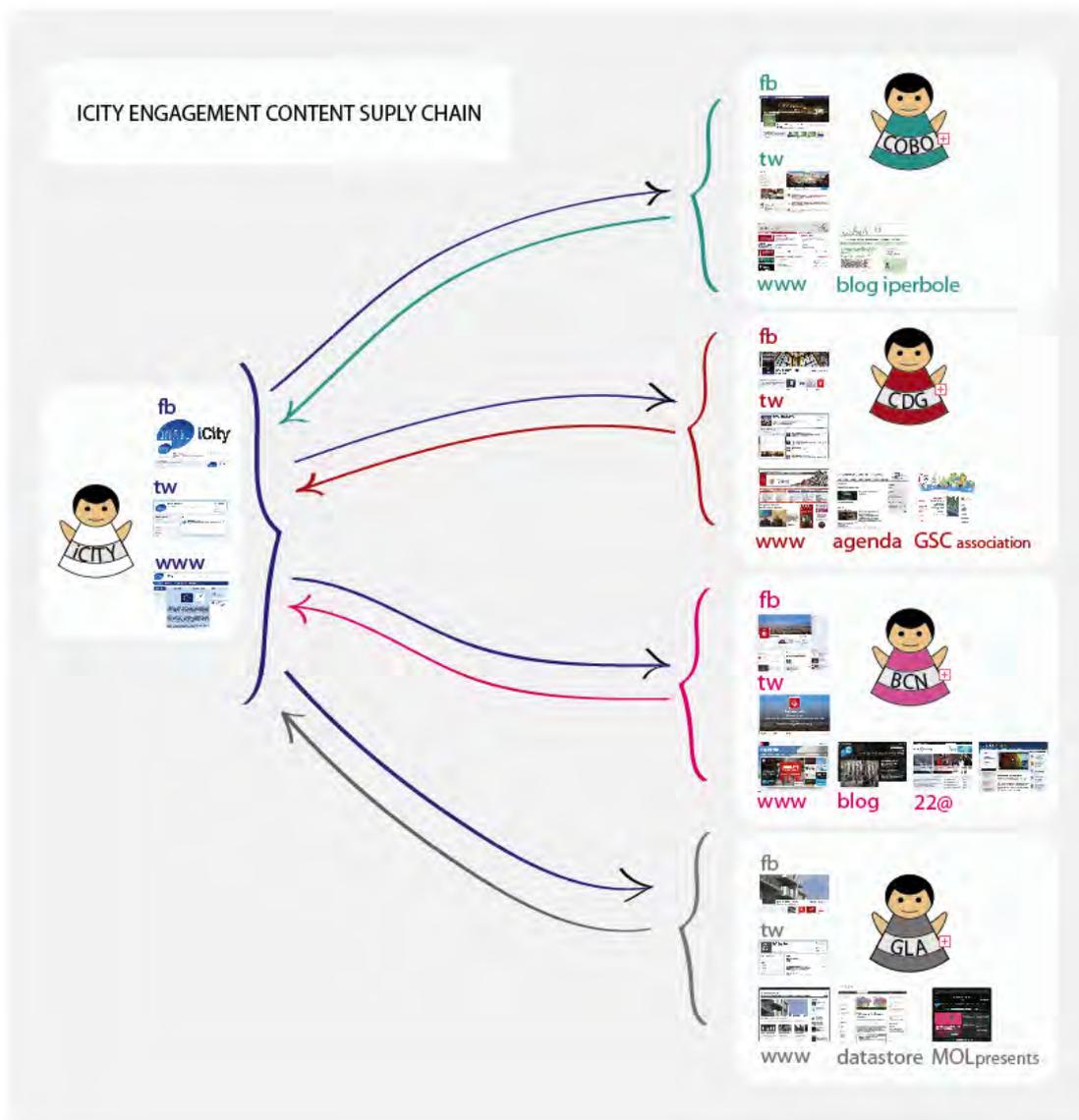
(signed & stamped)
<<Your Name>>
<<Your job title>>
<<Your organisation>>

6.2.2 iCity co-creation diagram

6.2.3 Content supply chain

6.2.4 Non-technical presentation

Slide 7

abertis telecom

2 Smart Cities Dimensions

Smart Health:

Principal Benefits:

- ❑ Improve care to the patient.
- ❑ Optimize precocious detection of diseases and epidemics.
- ❑ Guarantee the equity in the quality of the service.
- ❑ Get real time information of the medical history of the patients in all the medical centers.
- ❑ Improve interconnection between heath professionals.

Examples:

Remote medicine, remote consultation, remote education, remote monitoring, remote surgery, medical history sharing, etc.

iCITY project   7

Slide 8

abertis telecom

2 Smart Cities Dimensions

Smart Education:

Principal Benefits:

- ❑ Improvement of the academic quality.
- ❑ Customization of student learning.
- ❑ Guarantee the equity in the quality of the information.
- ❑ Have more learning services in the city.
- ❑ Improve the management of the educational centers.
- ❑ Improve the relationship between fathers and school.

Examples:

Remote education and multimedia resources sharing, augmented reality apps in museums, educational centers, etc.

iCITY project   8

Slide 9

abertis telecom

2 Smart Cities Dimensions

Smart Security:

Principal Benefits:

- ❑ Improve the time of response in front of emergencies, daily incidents and crimes.
- ❑ Improve the management of the different emergency groups and also the coordination among them.
- ❑ Increase the safety feeling among citizens.
- ❑ **Examples:**

Civil alert systems (sensors, hot lines into the urban space, etc) and fast response in front of emergencies and incidents, video intelligent systems, access control, etc.

iCITY project   9

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abertis telecom

2 Smart Cities Dimensions

Smart Administration

Principal Benefits:

- ❑ Efficiency and transparency in the APPs.
- ❑ Optimization in the internal processes of the APPs.
- ❑ Improve the services offer to companies and citizens.
- ❑ Participate in the political solutions.
- ❑ Have more information of interest at each moment.
- ❑ **Examples:**

Intelligent systems to streamline internal management of APPs in order to make it more efficient, Open Data, dissemination of public information, e-participation and people's, etc.

iCITY project   10

Slide 11

abertis telecom

2 Smart Cities Dimensions

Smart Economy

Principal Benefits:

- ❑ Improve business competitiveness.
- ❑ Contribute to a sustainable economy.
- ❑ **Examples:**

Smart Office Management, real State: Smarter spaces which offer more tax and infrastructures' benefits, intelligent tools to facilitate the creation of new businesses, Smart Banking, provide tools for collaboration between companies, universities, chambers of commerce, research centers, etc.

iCITY project   11

6.2.5 Developers questionnaire (English)

General Information		
Business Name		Contact person
Address	City	Position
State	ZIP code	Phone number	Fax number
Business activity		e-mail

Workshop Organization

Do you found interesting this workshop?	☐	YES	☐	NO
If Not, please tell us why:				
Are you interested in participating in other iCity workshops?	☐	YES	☐	NO

Technical Information

Would you like to develop an app for iCity project?	☐	YES	☐	NO
Have you ever developed a mobile app?	☐	YES	☐	NO

If YES, tell us the platform:

Please rate the following tools. 1 (uninterested) 5 (very interested)

	1 2 3 4 5
Forum	☐ ☐ ☐ ☐ ☐
Chat	☐ ☐ ☐ ☐ ☐
SDK	☐ ☐ ☐ ☐ ☐
Blog	☐ ☐ ☐ ☐ ☐
OTHER:	

Please, tell us your level of knowledge regarding the following technologies. 1 (worst) 5 (best)

	1 2 3 4 5
Web Service	☐ ☐ ☐ ☐ ☐
REST	☐ ☐ ☐ ☐ ☐
JSON	☐ ☐ ☐ ☐ ☐
SOAP	☐ ☐ ☐ ☐ ☐
JAVA	☐ ☐ ☐ ☐ ☐
.NET	☐ ☐ ☐ ☐ ☐

Project Information

Please, rate your level of interest in open infrastructures of the participant cities. 1 (uninterested) 5 (very interested)

	1 2 3 4 5
Barcelona	☐ ☐ ☐ ☐ ☐
London	☐ ☐ ☐ ☐ ☐
Genoa	☐ ☐ ☐ ☐ ☐
Bologna	☐ ☐ ☐ ☐ ☐

Please, tell us in which of the infrastructures are you interested to develop an app

Comments / Questions:

Spanish Developers questionnaire

Datos generales			
Nombre o razón social		Persona de contacto	
Domicilio social	Municipio	Cargo	
Provincia	Código postal	Teléfono	Fax
Actividad económica		e-mail	

Organización del Workshop					
¿El Workshop ha sido interesante?	☐	SI	☐	NO
En caso negativo, explica los motivos:				
¿Te gustaría volver a asistir a otros workshops relacionados con el proyecto iCity?	☐	SI	☐	NO

Información Técnica					
¿Te gustaría participar en el desarrollo de alguna APP para el proyecto iCity?	☐	SI	☐	NO
¿Has desarrollado alguna aplicación móvil?	☐	SI	☐	NO
En caso afirmativo, explica la plataforma:				

De las siguientes herramientas, puntúa con un 1 (poco interesado) y con un 5 (muy interesado)

	1	2	3	4	5
Foro	☐	☐	☐	☐	☐
Chat	☐	☐	☐	☐	☐
SDK	☐	☐	☐	☐	☐
Blog	☐	☐	☐	☐	☐

Otra, explica que otras aplicaciones consideras necesarias:

Indica el grado de conocimiento con respecto a las siguientes tecnologías:

	1	2	3	4	5
Web Service	☐	☐	☐	☐	☐
REST	☐	☐	☐	☐	☐
JSON	☐	☐	☐	☐	☐
SOAP	☐	☐	☐	☐	☐
JAVA	☐	☐	☐	☐	☐
.NET	☐	☐	☐	☐	☐

Información del Proyecto	
Valora el grado de interés en las infraestructuras de las ciudades participantes. Puntúa con un 1 (poco interesado) y con un 5 (muy interesado).	
Barcelona	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
Londres	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
Génova	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
Bolonia	1 2 3 4 5 ☐ ☐ ☐ ☐ ☐
Explica sobre que infraestructuras de las presentadas estarías interesado en realizar una aplicación:	

Comentarios

6.3 Hands on

6.3.1 Online experience
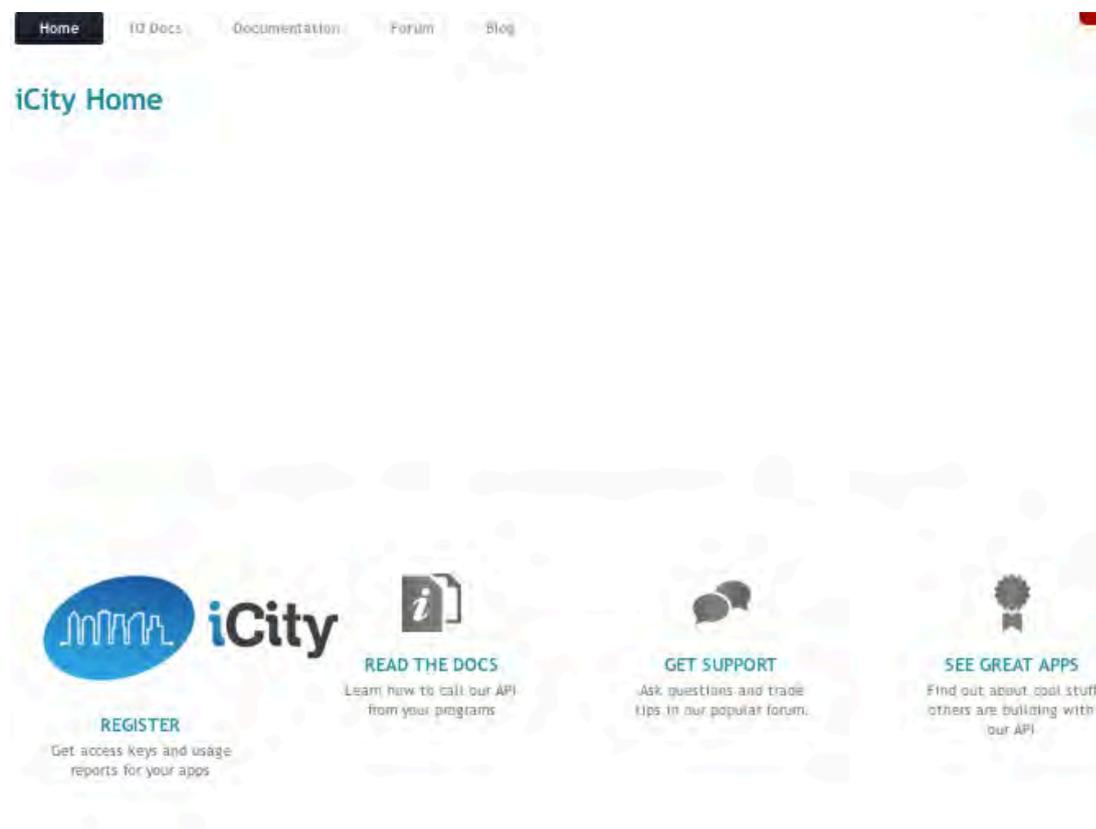
Figure 1 iCity Home page (Screenshots iCity Platform)

Home   ID Docs   Documentation   Forum   Blog

Register for an account

Register a new Mashery ID to access icity.mashery.com

* Username

* Display Name
This is the name which other users will see

* Email
A validation E-mail will be sent to this address. Validation is required to complete registration.

* Confirm E-mail
Please re-enter your e-mail address.

Password Requirements

At least one letter
At least one number
At least eight characters

* New Password
Passwords must be at least eight characters and contain at least one number and one letter.

* Repeat New Password

Register

Figure 2 Developer registration

Figure 3 ability to create Forums

Figure 4 Documentation example for Developers

6.3.2 Technical presentation

Traffic Live-information Signs

Potential:
Increased utility and information value…

Street Cameras

Potential:
Numerous useful software applications possibilities, live footage of many city locations and routes…

Public Transports Multimedia

Potential:
Contribution to the Network Society of today, improved utility and information value….

Fixed Projectors

Potential:
Enrich public experiences, public screens…

Parking Payment Machine

Potential:
New ticketing points, install of third party sensors…

Road Blockage Controller

Potential:
Services for better managing mobility, delivery of goods in pedestrian areas…

eGovernment Kiosk

Potential:
Citizens/customers authentication and services, third party advertising activities …

Explore opportunities with private infrastructures calling for corporate social responsibility

Potential:
Re-use of "useless" surfaces, valorising space and money committed, contribute to the digital public space…

iCity — A pool of Open Infrastructures

Parking Register, Traffic Lights, Cameras, Optical Fibre Network, WiFi Network, eGovernment Kiosks, Metro Multimedia System, iCity Platform, Real-time Information Signs, ATM (Automated Teller) Machines

iCity — It's not just about the infrastructure, it's about an ecosystem: the iCity playground

Future — Third party infrastructures, iCity Display Protocol, Open Data, iCity platform, Developers, Users, Ajuntament de Barcelona

iCity — Value proposal for developers: business opportunities using public infrastructure

Provides	Gets in return
App development	Access to platform
App adaptation	Access to data
	Access to market (a pool of authentificated users/ iCity store/segmented audience)
	Access to public infrastructure (developers may propose others to be opened)
	Access to visibility (Display infrastructure, city screens)
	Support for the definition of a business model and opportunities

iCity — Areas of interest

Mobility, Culture, Environment, iCity, Gaming, Social Services, Health

iCity   **Areas of interest**

Smart Energy & Environment

Principal Benefits:

❑ Reduce emissions of CO_2.

❑ Increase efficiency, quality and sustainability of gas, water and electricity networks.

❑ Awareness of citizens and businesses about their actual consumption so they can act accordingly.

Examples:

Intelligent management of electricity and gas network, intelligent management of waste, intelligent management of waste, sensors to capture data of pollution and noise, etc.

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iCity   **Areas of interest**

Smart Transportation & Mobility

Principal Benefits:

❑ Reduce emission of CO2 with a more efficient traffic management.

❑ Improve mobility in cities.

❑ Communications needs of citizens.

Examples:

Dynamics route planning based on traffic, traffic light management, indoor and outdoor parking management, integrated smart card for public transport, traceability hazardous substances, etc.

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iCity   **Areas of interest**

Smart Health

Principal Benefits:

❑ Improve care to the patient.

❑ Optimize precocious detection of diseases and epidemics.

❑ Guarantee the equity in the quality of the service.

❑ Get real time information of the medical history of the patients in all the medical centers.

❑ Improve interconnection between heath professionals

Examples:

Remote medicine, remote consultation, remote education, remote monitoring, remote surgery, medical history sharing, etc.

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iCity   **Areas of interest**

Smart Education

Principal Benefits:

❑ Improvement of the academic quality.

❑ Customization of student learning.

❑ Guarantee the equity in the quality of the information.

❑ Have more learning services in the city.

❑ Improve the management of the educational centers.

❑ Improve the relationship between fathers and school.

Examples:

Remote education and multimedia resources sharing, augmented reality apps in museums, educational centers, etc.

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iCity   **Areas of interest**

Smart Security

Principal Benefits:

❑ Improve the time of response in front of emergencies, daily incidents and crimes.

❑ Improve the management of the different emergency groups and also the coordination among them.

❑ Increase the safety feeling among citizens.

Examples:

Civil alert systems (sensors, hot lines into the urban space, etc) and fast response in front of emergencies and incidents, video intelligent systems, access control, etc.

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iCity   **Areas of interest**

Smart Administration

Principal Benefits:

❑ Efficiency and transparency in the APPs.

❑ Optimization in the internal processes of the APPs.

❑ Improve the services offer to companies and citizens.

❑ Participate in the political solutions.

❑ Have more information of interest at each moment

Examples:

Intelligent systems to streamline internal management of APPs in order to make it more efficient, Open Data, dissemination of public information, e-participation and people's, etc.

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iCity

Areas of interest

Smart Economy

Principal Benefits:

❏ Improve business competitiveness.

❏ Contribute to a sustainable economy.

Examples:

Smart Office Management, real State: Smarter spaces which offer more tax and infrastructures' benefits, intelligent tools to facilitate the creation of new businesses, Smart Banking, provide tools for collaboration between companies, universities, chambers of commerce, research centers, etc.

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iCity

Types of apps: content and location

Location   Content

Specific   General

General   Social

            Personalized

26

iCity

You can be part of it...

Join the iCity partner's list and start working with us!

f   t   .mmm.

iCity-Project   @icityproject   Icityproject.eu

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6.3.3 App proposal letter template and feedback

ORGANISATION
Address
Country

Joan Batlle
Cooperació Internacional
Institut Municipal d'informàtica
Ajuntament de Barcelona – Habitat Urbà

<<*Name of the organisation*>> has been informed about the aims and objectives of the iCity project and the opportunity to participate by developing services using public infrastructure. We are aware of the iCity platform overview and its associated software development toolkit that will be made available to us.

This letter is to declare our interest in exploring ways for us to develop and deploy applications that offer services of public interest using the iCity platform and to give you an introduction to the types of application that we are currently considering and to highlight the public infrastructure that we would like to access.

- *App proposal or idea of public interest service (that uses these Infrastructure) t[1]o be described in a few lines.*
  <<*repeat if more than one proposal*>>

We understand that the acceptance of our proposition is subject to the formal approval of the project's governance bodies and of the cities involved.
Our organisation is also interested in connecting our own platform or infrastructure[2] with any of the participating cities (Barcelona. London, Bologna and Genova) or with any other interested city willing to be incorporated into the iCity project.

We look forward to formalising our future involvement with the iCity project.

Yours faithfully
(signed & stamped)
<<*Your Name*>>
<<*position*>>
<<*Organisation*>>

---

[1]Dear contributor, Here you can find our list of potential available infrastructures:

WiFi Outdoor MESH Network// Barcelona WiFi Service Captive Portal // Barcelona Sensors Platform (BSP): Air quality, Allergy, Acoustic, Temperature, Fire, Humidity, Flooding, Wind, Wave, Luminosity, Seismometer, People counter, Street parking, Traffic, Mobile Phones as sensors, etc. (All of these sensors can be public or private ownerships). // Street Cameras // eGovernment Kiosks// Barcelona Optical Fiber Network// Barcelona Official Website (http://www.bcn.cat//// Barcelona Official Open Data Portal (http://www.bcn.cat/opendata/) // Backend public applications and Dbs// Hosting of external applications// Displays (in urban space). in the streets, in shopping malls, in facades, and TV: In buses/metros/trains/tramways, stops/stations, buses/metros/trains/tramways; (All of these displays can be public or private ownerships) Mobile surface charging points // Bicing Stations (rent-a-bike public service) // Automatic Bollards// Traffic barriers// Traffic Lights (in particular those traffic lights already adapted for blind people) // Lane control lights (reversible lanes, parking to traffic shift)// Street Lights.// Street Parking Registers.// Public Transport Vending Machines.// Loud Speakers.//Irrigation Network.// Etc.

Please, feel free to propose one, or more App's that develop services of public interest (your App's can use any or many of potential infrastructures but if your app would use another kind of infrastructure, It would also would be welcomed)

[2]If you only want to have access to the infrastructure offered within iCity please delete this paragraph.
If you want to connect a platform, sensor or any other infrastructure that your organisation owns, please describe it here.

6.3.4 App proposal report

a. List of infrastructures and services requested by the proposed apps
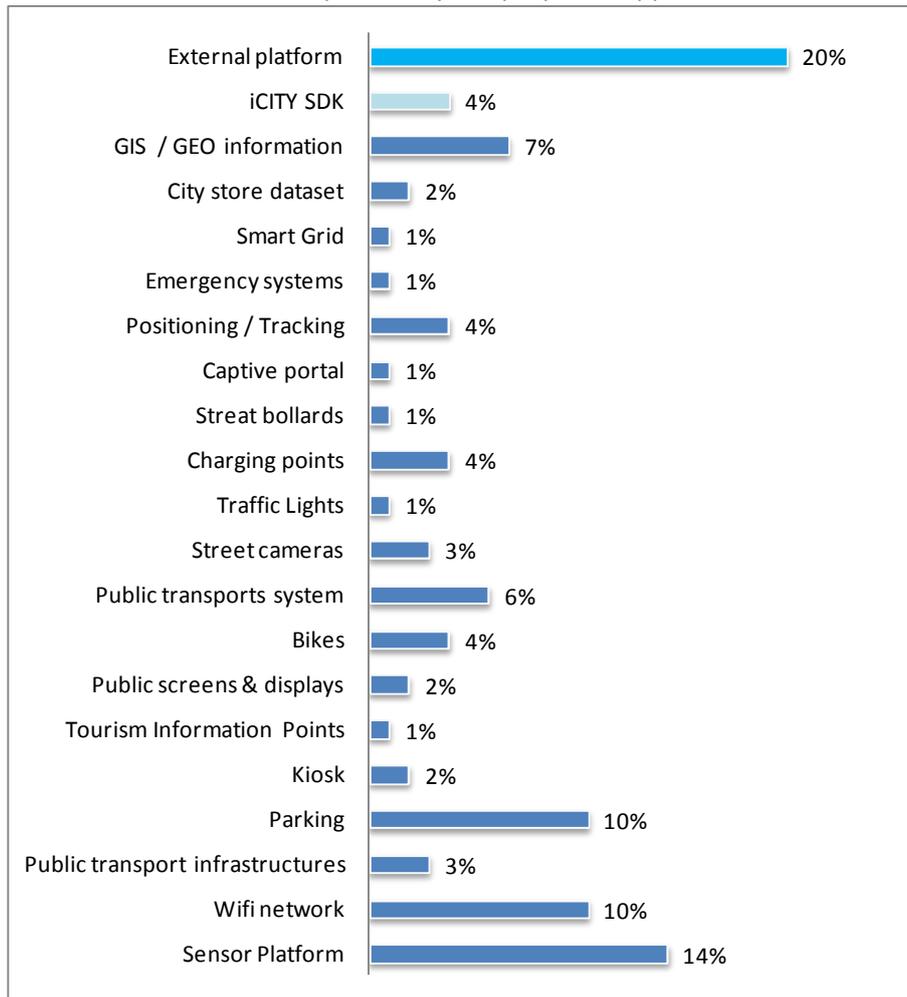
b. Type of actions requested by the proposed apps
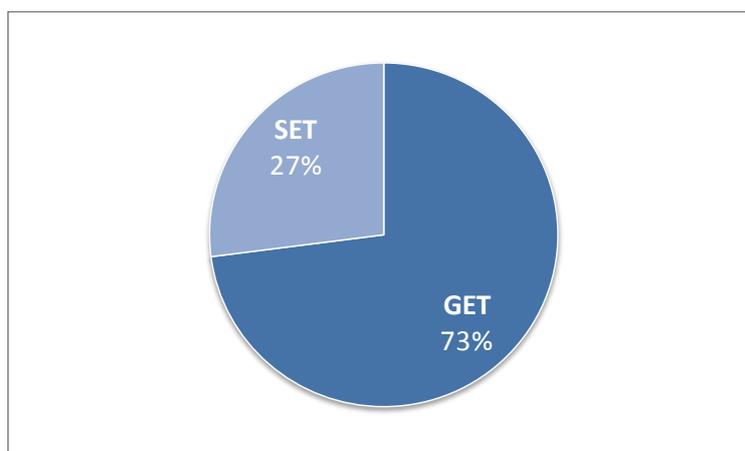
c. List of external platforms

- External CSS Iberica platform

- External By-Taxi Platform

- External Marketing Digital Signage

- External Socialbloo platform

- External Smart Citizen Platform

- External Ubiq. Platform

- External Epoca platform

- External Tapper Platform

- External "Artist view" platform

- External "Pixity" platform

- External "Happy2Recycle" platform

- External ChooseYRHealth Platform

- External "SmartMove" platform

- External "TasteWay" platform

- External "Problem-reporting" platform

- External "Homeless platform

- External "Citydashboard " platform