

# The Myneighbourhood Project: Towards the Human Smart City

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**Abstract.** MyNeighbourhood is a European project, part of the ICT PSP Program in the field of Smart Cities, aiming at recreating and strengthening the social ties within neighbourhoods, envisioning a new approach to the City. The project is based on an innovative vision, methodologies and tools which intend to create a Human Smart City starting from the neighbourhood and scaling up to the city. The project is a test bed of the Human Smart City concept that purposes at developing a citizen-driven, smart, all-inclusive and sustainable environment, with a new governance framework in which citizens and government engage in listening and talking to each other. This public governance model favours the emergence of a participatory innovation ecosystem that creates jobs, wealth and ultimately generates happiness for citizens.

## 1 Introduction

Cities face new challenges every day and, despite the evolution of the tools available for communication, social cohesiveness appears to have been progressively lost. Due to the urban and population growth over the years, it is becoming increasingly difficult for the city authorities to be able to provide suitable services to address citizens' needs.

Over half of the human population lives in cities today and this figure is estimated to evolve to three quarters in 2050 [1]. In such scenario, the role of cities is ever more important and strategic in the influence and definition of people's life.

Issues such as demographic shifts, desertification, sustainable housing, transportation and environmental impact have become a priority for most cities. Food and water sustainability, health care support, and questions related to security and safety are perceived by citizens as having a direct impact in the whole society.

In reaction to all these changes and possibly emphasized by the financial crisis, it seems that a new social consciousness arose in the last years.

Changes are happening very fast and both citizens and authorities are considering new approaches to face and adjust to these transformations. In fact, some signs of these new approaches are visible and new models of citizen-driven innovation, focusing on the re-definition of city services, are emerging.

The concept of the Human Smart City is build upon the need to address the global changes at the citizen level: Human Smart Cities use technologies as an enabler to

connect and engage government and citizens, aiming to rebuild, recreate and motivate urban communities by stimulating and supporting their collaboration activities, leading to a joint increase of social wellbeing.

This concept is based in the use of "smart" ICT services and citizen generated data aiming at recreating the social mechanisms that will ensure the link between urban neighbourhoods and a social system of connected and trusted communities, by enhancing the sense of belonging.

## 2 The MyNeighbourhood Concept

MyNeighbourhood aims at creating a new and "smarter" concept of a "Smart City" that focuses on people and their well-being rather than just on ICT infrastructures and dashboards. Paradoxically, the same ICT trends that have – in conjunction with other urban trends - helped to erode our connection to urban neighbourhoods and communities also have the potential to help reinvigorating them. A neighbourhood, in most urban traditions, is an area shaped or determined by a social group that is created through bottom-up local processes. In the MyNeighbourhood project the aim is to promote qualitative and innovative solution generation and the identification of a set of opportunities that will not only influence the neighbourhood but the surrounding ecosystem of the city.

The MyNeighbourhood project intends at implementing this concept at a neighbourhood scale, demonstrating its viability and positive impact. It will identify the wishes, interest and needs of the citizens (referred as the WIN methodology) by involving them in a co-design process leading to the co-creation of solutions. "Smart" ICT services building upon data provided by the citizens are used to recreate the social bond between neighbours and their link to the physical place of the neighbourhood.

MyNeighbourhood combines new digital technologies and techniques, such as social gaming principles (gamification), with the Living Lab methodology, to help strengthen existing ties and resolve community issues in the real daily life of the urban neighbourhoods. In so doing, it sets forth to unleash a new viral wave of locally driven innovations that will help make cities healthier, happier and smarter places to live.

With the continued advances of technology, cities have been pervaded by various information communication technologies (ICT) systems, which increase the physical capital of a city, thus contributing to the next phase of the urbanization process with the emergence of the designed smart cities. Although the initial vision of smart cities is to provide a smart environment for smart living of people with smart governance and economies, most solutions confine themselves to the physical, most of the existing solutions have neglected even further the truism that cities are about people.

A change is required in the current phase of urbanization, with cities facing big epochal challenges that can be effectively summarized by three phenomena:

- The devastating effects of the financial crisis undermining the European social model. This is leading to severe limitations in cities' abilities to invest in new infrastructures, and in some areas is even leading to severe reductions of

funds available for the provision of basic city services such as transportation and social services.

- The increasing threat and disruption brought about by climate change to our territories. Once perceived as a global issue, climate change by now directly affects everyday life in cities. As major floods and droughts become ever more common, the environmental effects of urbanisation and the lack of adequate tools and behaviour patterns becomes increasingly evident.
- The demand for more effective representation set forth by our constituencies. The so-called democratic deficit is a cause for alarm for governance at any scale, but it also adds to the difficulty of building trust and engaging stakeholders and citizens in collaborative processes aimed at addressing common problems.

These challenges call for a transformation in the way we all work, live, play, and build our future, which in turn places a special burden on those of us holding the responsibility to govern such processes with an optimum usage of the public resources available. To respond these challenges cities have been considering the promises offered by the “smart city” idea towards a sustainable growth and well-being. As such, smart cities are envisioned as contexts where whatever interaction is mediated by technologies

Building upon the six recognised levels of social innovation [2]<sup>1</sup> the MyNeighbourhood Living Lab approach will develop local socio-digital innovation environments that help to:

- 1) Rebuild neighbourhoods,
- 2) Empower neighbourhoods, and
- 3) Scale neighbourhood value up

In a manner that reconnects people, recreates communities and, ultimately, makes cities smarter.

In MyNeighbourhood, the meaning and value of socio-spatial communities connectedness is re-created thanks to the Living Lab approach, which lets the communitarian *Gemeinschaft* (close attachment between people, their places of physical dwelling and their material, social and environmental concerns) come to life and scale up to the urban level, driven by the engaging power of existing ICT. Plural and shared conceptions of what liveability and sustainability of places mean are co-created from the inside of daily neighbourhood practices. ICT and Future Internet technologies widen the sense of the “collective”, augment the perception and awareness of lived experiences, emphasise meanings and value sharing. This vision is being experimented in the four City pilots of Aalborg (DK), Birmingham (UK), Lisbon (PT) and Milan (IT) that will use our proposed solution to kick-start a viral effect wherein neighbours and friends adopt the open MyNeighbourhood portal to reconnect with one another, share ideas, create new ways of interacting and help make their daily lives ‘smarter’ in the target subject areas of: health, environment, participation, and transport.

Combining the elements provided (the Human Smart Cities approach and the promising potential of ICT for socio-spatial connectedness), the neighbourhood of MyNeighbourhood is where:

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<sup>1</sup> The six levels are: 1.Prompts, inspirations and diagnoses; 2. Proposals and ideas; 3. Prototyping and pilots; 4. Sustaining; 5. Scaling and diffusion;6. Systemic change.

- 1) there is close attachment between people, their places of physical dwelling and their material, social and environmental concerns comes to life driven by the engaging power of existing ICT;
- 2) Stakeholders collaborate with the public actors and with the citizens to develop needs-guided solutions from the neighbourhood up to the urban scale;
- 3) plural conceptions of what liveability and sustainability in places can mean are co-created from the inside of neighbourhood practices and daily lives, where technologies widen the sense of the “collective”, augment the perception and awareness of lived experiences, emphasise meanings and values sharing;
- 4) People invest in what and whom is around them and develop ability to influence their own life out of a self-perspective, through a community awareness, up the urban scale.

### 3 The Methodology and Tools

The MyNeighbourhood project proposes to build a socio-technical system whereby existing communities can interact in a synergic way, in order to:

- a) Strengthen and widen a sense of belonging from a single community to the neighbourhood.
- b) Assure mutual interdependency characterized by a multiplicity of urban dimensions (social, economic, environmental,...).
- c) Redirect the singularization mechanism that is typical of contemporary urban societies towards a highly connected one.

In fact, individuals are nowadays more and more focussed on personal utility and satisfaction, which demolishes the relevance of common, social, collective values (social capital) able to develop reciprocity and solidarity mechanisms, which we consider at the base of the neighbourhood's life and conception.

The solution deployment in MyNeighbourhood is based upon three key phases:

#### Phase I: Rebuilding Neighbourhoods

- Use the Living Lab methodology to deploy and promote a MyNeighbourhood website that builds upon and improves existing City Information Apps by enabling local residents to connect with each other and share resources – user data such as time, assets & knowledge, ICT tools/ apps - to improve their own neighbourhoods;
- Work with pilot cities, to ‘kick start’ the site in the target subject areas: health, environment, participation, transport;
- Embed a gamification layer in the MyNeighbourhood site that motivates users to 1) keep returning to the site, 2) do more for their neighbourhood and 3) engage their friends to set up a new MyNeighbourhood site in their own neighbourhood.

#### Phase II: Empowering Neighbourhoods

- Use the MyNeighbourhood portal to feed a resident query or need into a ‘Neighbourhood Advisor System’;
- Establish a database that will understand the request and map it against potential outcomes – ranging from a relevant existing app through to direct contact with others

in the neighbourhood who can help or potential crowdsourcing options to create new solutions;

- Include a feedback loop into each solution to draw the user back into gamification.


### **Phase III: Scaling Neighbourhood Value**

- Ensure the MyNeighbourhood portal offers a quick and easy one-stop portal for people to add local content, ideas applications and needs about their own neighbourhood – thereby facilitating a viral effect;
- Make ideas and apps widely and openly available – whether newly created or already existing – through on- and offline channels and tactics such as developer competitions;
- Aggregate and navigate needs at the neighbourhood, city and EU level to provide scalable intelligence at all three of these levels.

The government and public administration is challenged by the need to improve the quality of the services provided to the citizens. This is a big challenge, because it clashes with the inertia of bureaucratic structures and requires higher flexibility of the structure and a positive attitude towards innovation. It is important to include all the actors of the cities (and therefore of the neighbourhood) in the co-creation of consistent and coherent solutions, by stimulating citizens' creativity. This process needs to be supported by proper tools that support the various phases of implementation, from the early ideas for service scenarios and for a service structure. Therefore a handbook was created to provide tools, developed by designers or adapted from other disciplines. In order to create this handbook two activities suggestive and supportive examples of existing engagement tools and approaches used in living lab environments as well as co-design methods were collected. Forty seven cases have been collected, analysed and synthetically described in a table while twenty of them have been described in detail in dedicated cards as in the figure 1.

Following the work carried out on the cases, coherent guidelines have been developed for citizens and municipalities as main actors of the pilots' work in MyNeighbourhood Project.

The Methodology and tools used in the MyNeighbourhood project were created and shared amongst the pilot teams in order to facilitate the field work. A first transmission workshop among the project participants took place at the project meeting in Aalborg in June 2013. During this workshop, the pilots identified how some of their services can be gamified on the MyN Platform, thus expressing ideas of how the services could not only use the MyN Platform, but what capabilities can be supported to engage citizens to use the platform, using ideas from gamification. The co-design handbook general structure was also presented to the Pilot teams and represented the basis of the field work carried out in the project. The co-design work preceding the implementation and testing work, has been divided into two main phases: the context analysis phase and Service Design phase.




● ○ ○ ○ ○ **EMPOWERMENT**

## Parklets

### Description

"Parklets" are small urban areas formed by a platform installed in a public parking and extends for a maximum of three parking places. They don't require a reconfiguration of the streets and create new street fronts. These places are occupied by benches, bicycle parking, art exhibitions (etc.). The used objects are built with recycled materials that after can be reused in other ways. "Parklets" rises from the idea to transform parking in places that can be an occasion for social aggregation for local communities and for tourist and to redevelop public space. The vision of the project is to involve citizens in the design of small transformations of public spaces.

### Implementation strategies: top-down or bottom up?

The process of activating a parklet starts by citizens and then the public administration evaluates the proposals to give the permissions.

#### How does it work?

Citizens or small businesses directly choose the space to use, the street furniture that will be placed there and the size of the platform. Then the public administration evaluates the proposals and, if it meets the dimensional and functional requirements, allows the intervention. There are fees for construction and maintenance of the parklets, which is temporary. The private use of the parklets is not allowed, but private businesses as the obligation to take care of the platform. In some cases there are forms of partnership, between the public administrations and the inhabitants for the evaluation and construction of the parklets.

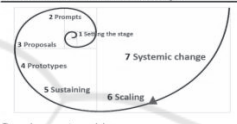
#### Where it is used?

Parklets are already used in San Francisco and New York. On the platforms different combination of benches, or bike parking, tables and chairs, planters landscaping are combined together to provide a new and better public space. For example in New York, the government will also issue the licenses for small businesses, as bars or pubs that can use directly in the parklets.

#### What is the level of engagement?


The main actors of all project are citizens and small businesses owner that move through a reappropriation of public spaces, but the all process is a strength collaboration between citizens, businesses and institutions.

#### What is the level of maturity?



#### Technological skills

#### Service networking



<http://sfgreatstreets.org/parklets/>

Fig. 1. Detailed case description card.

		March		April			May			June			July			Sept			Oct					
Week		1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	3	4	1	2	
<b>Context Analysis</b>	<b>Activity</b>																						<b>Total</b>	
	Stakeholders involvement																							-
	Field visits																							10
	Guerrilla Observation																							2
	Face-to-face Meetings with specific stakeholders																							7
	Post it sessions and Focus Group																							2
	Personnas Creation																							-
Pilot Video																							1	
<b>Co-Design Activities</b>	Face-to-face Meetings																						3	
	Workshops																						2	
	Stakeholders General Assembly																						1	
	Personnas Validation																						-	
	Services Storyboard / Costumer Journey Map																						-	
	Blueprints																							-

Fig. 2. Gantt chart of the co-design activities in the Lisbon Pilot.

### 3.1 Context Analysis Phase

The context analysis phase consisted in the identification of the stakeholders, the existing projects and all the factors that are considered to have influence in the social context and in the solution creation. The field work consisted of interviews, guerrilla observation and post-it sessions that created a link favouring the listening and the talking amongst the main actors, including citizens, professionals, experts and volunteers.

The data collection during this phase resulted in the identification of WINs (Wishes, Interests and Needs) of the citizens and also the needs of the local associations and the municipalities.

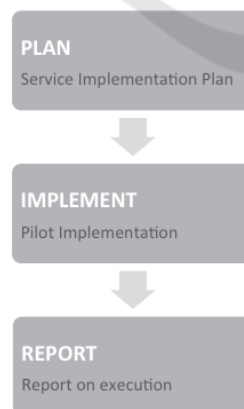
### 3.2 Co-Design Phase

During the co-design phase the data collected in the previous phase was used to co-create solutions and services to address the neighbourhood needs. Several workshops and meetings were held to share ideas and co-design services together with the local stakeholders and citizens. Some tools, such as Blueprints, Stakeholder maps and Journey maps, were used to facilitate the interaction and to progress quicker and obtain results.

### 3.3 Implementation Phase

The project entered recently in the application phase and solutions are being applied to each pilot context, in order to observe how the proposed concepts and their implementation fits to the real needs and how people are using products, services and technologies proposed as a result of the co-design process. The aim of this phase is to provide useful feedback from the users that can be used to improve the services and the Platform.

The following picture outlines the proposed, 3-stage methodology instantiation pathway.



**Fig. 3.** Methodology instantiation pathway.

In stage 1 (PLAN), the representatives of the four participant Cities, supported by the respective universities and technical developers (if present within the MyN partnership), have been asked to deliver a Service Implementation Plan, or a structured formalisation of the steps foreseen to finalize the co-design activities still on-going at pilot level, generate detailed (ICT/Human Resources/Communications) requirements for the specific service at hand, schedule technical delivery and setup a testing and evaluation environment.

### 3.4 The MyNeighbourhood Platform

The goal for MyNeighbourhood platform is to implement the technical solution that meet the goals and services envisioned from the MyNeighbourhood Vision and Concept and from the work done in the living labs and co-design activities within the pilots.

The MyNeighbourhood platform will provide technological solutions to help recreate a lost sense of neighbourhood that is rooted in the local place, where people share the same interests and needs. As such, the platform intends to provide the means of identifying, searching and managing the needs of the individuals within the context of the neighbourhood. This also entails the sharing of knowledge and expertise across the neighbourhood.

The MyNeighbourhood platform combines web technologies, existing products, social networks, semantic technology and gamification to ensure the engagement of the citizen and the effective response to their wishes, interests and needs.

The platform architecture takes into consideration the bottom-up design process derived from the co-design activities, enhancing the human focus. The design of the platform is based on user-centred methods, and includes a set of tools and principles that will be reflected in the system and in the user interface. The conceptual model, based in a user-centred design and needs and interests of the user is has a crucial role in the success of the platform, since it makes products usable and understandable for an easy use of the platform.

In the Product Discovery<sup>2</sup> activity, that was the base of the creation of the Platform architecture, we envision product solutions from the business intentions and the project vision. This activity will drive the development of the platform. The Product discovery is not just about the solution. This activity will lead the stakeholders to spend the required time understanding more than just what to build: the solution context, business and product strategy, customer segments, product usages, regulatory constraints, legacy product and architecture, users and user goals and how the product will touch the lives of its users.

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<sup>2</sup> The starting point and input for conceiving the Platform architecture was the Product Discovery Process. This process describes a set of system requirements and features that address the project goals and responds to the identified services and needs, captured from the field work. As a result of this activity a product roadmap was created and validated in a technical session in Lisbon in July.2013.



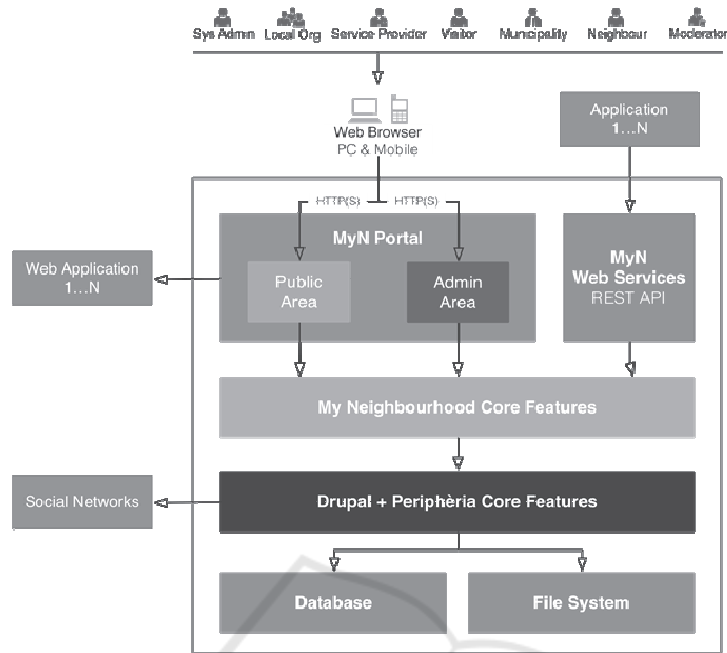


Fig. 4. System component model. (Source: MyNeighbourhood Project Deliverable 3.1 - Platform Architecture)

#### 4 The MyNeighbourhood Pilots

The MyNeighbourhood project has four pilots: Lisbon, in Portugal, Aalborg, in Denmark, Birmingham, in UK and in Milan in Italy. The four pilots have different issues and specific characteristics: the work developed in the Mouraria (Lisbon) neighbourhood, came up with services more oriented to the social inclusion and local economy issues; in Ladyhood (Birmingham) the challenges addressed were mostly related to transportation and mobility; in Quarto Oggiaro (Milan) the needs identification revealed issues related to maintenance of public areas and elderly people social integration; in Nørresundby (Aalborg) the solutions created concerned health care and social inclusion of people with disabilities.

The choice of these four places enabled the creation of a set of different solutions that can be replicable in other neighbourhoods:

- Aalborg (3 services) = Voluntary Help; Accessible City; Cultural Assistance;
- Birmingham (2 services) = Women on Wheels; Travel Buddies;
- Lisbon (2 families of services) = Ó Vizinho; Made in Mouraria;
- Milan (2 services) = Quarto Food Club; Quarto Gardening.

The Pilots' work will be briefly described below pointing out different aspects, tools and results for each pilot. It is important, nevertheless to keep in mind that the

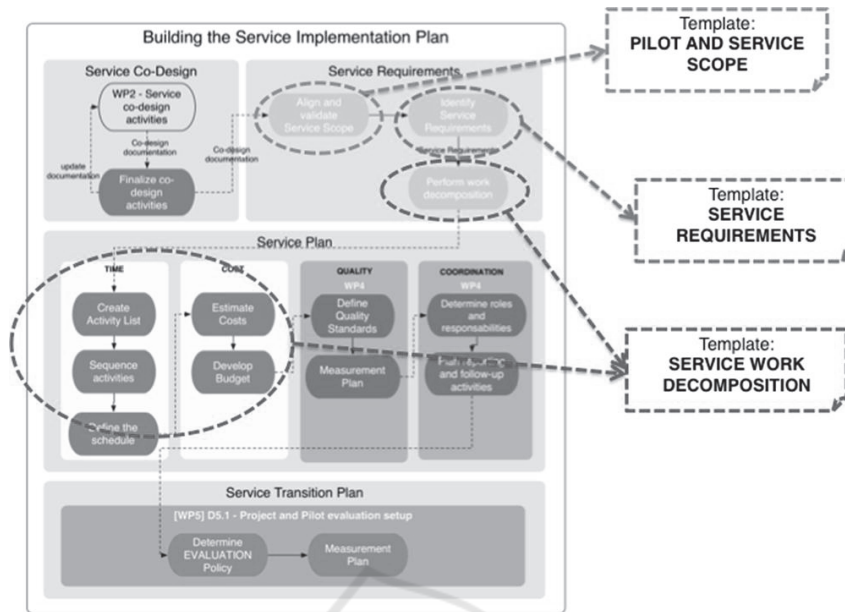


Fig. 5. Methodology for the Implementation plan.

methodologies and tools used were the same in all the pilots, this resume only aims at showing the most variety of results.

#### 4.1 Aalborg Pilot

The specific pilot goals in the Aalborg Pilot are to improve quality of life for people with disabilities and relieve (in)formal caregivers, by:

- Engaging citizens from the neighbourhood to perform voluntary work;
- Engaging people with disabilities to share own knowledge and retrieve knowledge from others, thus creating awareness about accessibility per se and the city service offerings in this domain;
- Engaging businesses/institutions of the city in offering new services to people with disabilities.

In order to realise those goals, three services are to be implemented:

- Voluntary Help: consisting of volunteer support in visiting / helping disabled citizens when at home or accompanying them when going out;
- Accessible City: consisting of information sharing about accessibility facilities and friendliness of local businesses towards disabled customers;
- Cultural Assistance: consisting of local businesses offering free assistance to people with disabilities on the occasion of cultural events.

The contextual analysis supporting service development focuses on a target group that is broader than a specific geographical neighbourhood. This because the propor-

tion of people with disabilities in one single neighbourhood is relatively low. Therefore, the pilot instead engages people from both the neighbourhood of Nørresundby and the entire City of Aalborg, in order to reach a sufficient number of users.

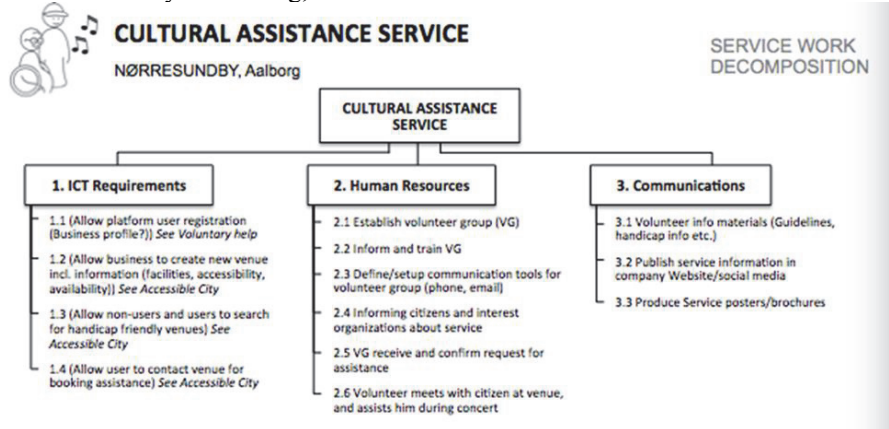


Fig. 6. Requirements for the Implementation plan.

## 4.2 Birmingham Pilot

The specific pilot goals in the Birmingham Pilot are twofold:

- Give local women the opportunity to learn a new skill, increase fitness, build confidence and meet new contacts/friends in the neighbourhood;
- Help BCC make cycling an integral part of the city transport network, with cycling being a part of everyday life for all and mass participation a reality.

In order to achieve those goals, two services are being implemented:

- **Women on Wheels:** consisting of the promotion of healthy lifestyles in women through a new, dedicated social networking facility focused on cycling;
- **Travel Buddies:** consisting of the provision to lone women of the opportunity to meet a female chaperon and be accompanied by her on public transport trips.

The contextual analysis supporting service development focused on a target group that is located in the neighbourhood of Ladywood, Birmingham.

## 4.3 Lisbon Pilot

The context analysis generally starts with explorative activities aimed at entering the context trying to keep interaction with people as small as possible and to identify possible situations as possible context entry points. This explorative work is “expansive”, i.e. it is a process in which all the factors are considered that could influence a social context. It requires imagination and openness to any possibility and perspective



Fig. 7. Focus group in Birmingham.

and also a good capability to listen and to talk with the main actors in the context, including citizens, professionals, experts and volunteers.

An exploration Story of the Lisbon Pilot was written in order to better understand the context:

The Mouraria neighbourhood is a very special territory in the heart of the city of Lisbon. It is one of oldest neighbourhoods, full of earmarks and a very particular ancient soul and we knew from the begging that the analysis of this context would be a great challenge. We started the approach to the neighbourhood by contacting the key actors, starting with GABIP Mouraria (The Office for Support the Priority Neighbourhoods Interventions) which is a special office of the Lisbon Municipality located in the main square of Mouraria, called Martim Moniz Square. Through GABIP we were presented to the most important local stakeholders whom we thought were the mean to reach people in neighbourhood streets. This office has a strong work done in the field guided by PDCM (The Mouraria Communitarian Development Plan) which was produced based on many work-groups debates and Post-it sessions with the local community. In the first few meetings we understood that the contact with people had to be done by going to the streets. In spite of being a small neighbourhood with no more than 6500 inhabitants, about 40 local associations are working on Mouraria. Due to this we felt some difficulties to engage the neighbourhood through the associations since they represent very different sensitivities and sometimes the discussions were centered in bureaucratic issues and not so much in the people's wishes, interests and needs. Upon this, we decided to go to the field and talk with people with the support of Nuno Franco, a neighbour who works for Renovar a Mouraria – one of the most important local associations. We started the Guerilla Observation and the Walks in the streets which were very important for analyzing the urban and social contexts and also for identifying the neighbourhood most important characters. In all this process, one of the most important steps was the Mouraria context analysis video through which we absolutely reached the associations and above all the neighbours' trust.

The specific pilot goals in the Lisbon Pilot are twofold:

- Getting and providing services and products through exchanging: Provide means to respond to people identified necessities in the neighbourhood in general but also in specific social groups. The purpose is to promote the exchange of experiences and knowledge in order to create a social cohesiveness in the neighbourhood.
- Empowering neighbourhood economy through mentorship: Empower the local businesses through a mentorship process. The goal is to build the capacity of people from Mouraria, especially unemployed people, to open their businesses in Mouraria and also provide tools that allow existing businesses to create innovative and creative products that bring new value to Mouraria.

In order to achieve those goals, two services are to be implemented:

- Oh Vizinho!: consisting of establishing a mechanism of credits for products and services exchange;
- Made in MourariaA: consisting of a mentorship and consultancy network supporting new and already existing businesses in the neighbourhood.

#### 4.4 Milan Pilot

The specific pilot goals in the Milan Pilot are to:

- Improve the social life of a vulnerable group of elderly citizens from Quarto Oggiaro;
- Give young people (esp. students) an opportunity to be recognized while doing practical training, having the possibility also to test new business model hypotheses;
- Allow the Municipality to access the competences of the students of the local Agricultural School and Hotel Management School to take care of some of the urban issues of the Neighbourhood: the green areas and some social clusters.

In order to realise those goals, two services are to be implemented:

- Quarto Food Club: consisting of a meal preparation service for elderly people that is totally managed by pupils of the local Hotel Management School;
- Quarto Gardening: consisting of a green area maintenance service that is totally managed by pupils of the local Agriculture School.

## 5 MyNeighbourhood Project Results

The Project is already creating and testing in practice ecosystems of urban innovation in which the city government, citizens and their organizations work together in a transparent, open, participatory and efficient way. The city government acts then in full knowledge of the citizens' will, based on a strong relationship of trust that aims

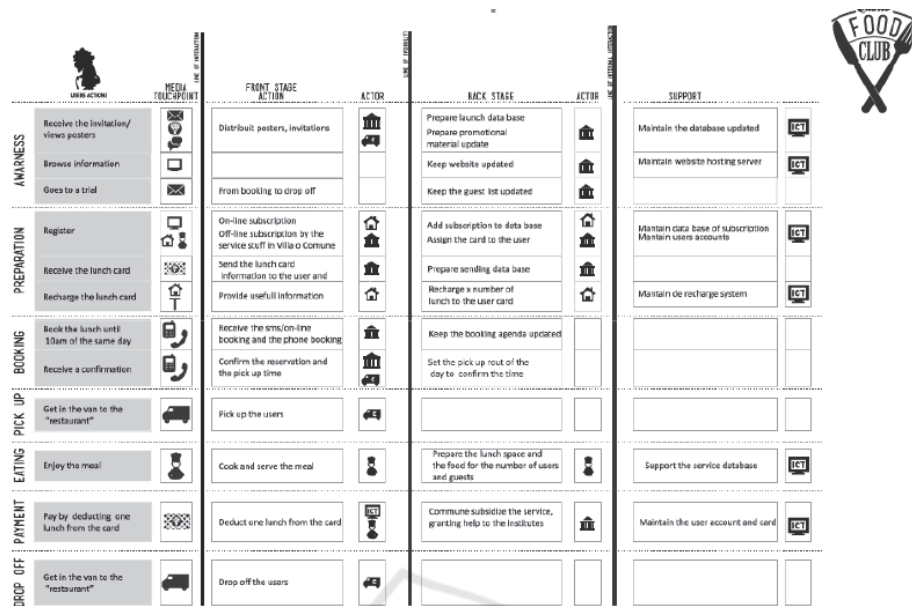


Fig. 8. Blueprint for Quartofood service.

to recreate the values and the culture inherent to neighbourhood communities with a strong identity and willing to collaborate with each other. Ultimately, the approach adopted contributes to increase the satisfaction with the city administration and the services made available: happier, healthier and cohesive neighbourhoods as residents work together, creating and accessing services they want and need; cities and businesses feeling more democratically engaged as they have more influence through neighbourhoods; cities and businesses feeling greater ownership of their neighbourhoods and services, thereby reducing dissatisfaction with city. The four city councils partners in the MyNeighbourhood consortium – Aalborg, Birmingham, Lisbon and Milan are already feeling these results.

The services co-created and co-designed within the four neighbourhoods are the result of a great process of engaging and empowerment, talking, discussing, listening and cooperation with local neighbours. From this practice four big main intervention areas emerged: social, business, health and ecology.

In what concerns the social area, in Milan the "QuartoFood Club" service is being implemented with a great success. This service improves the social life of a vulnerable group of elderly citizens from Quarto Oggiaro neighbourhood, by giving them meals prepared by the students of the local Hotel Management School. This allows students recognition and also the integration of elderly who suffer from isolation. Also in Lisbon, the "Ó Vizinho" service aims at promoting services and products exchanges within the neighbourhood, thus promoting the interchanging of mutual help between neighbours and creating a huge social impact.

MyNeighbourhood aims to change the way citizens look to business and collaborate with each other to develop local services and regenerate social responsibility at a neighbourhood level. It also aims at stimulating the entrepreneurship inside each

community. New or enhanced business opportunities (including increased profits) may stem from using MyNeighbourhood. SMEs can use data extracted from MyNeighbourhood platform to create new applications and services that the market wants and needs and have access to a focus-group pool formerly only available to larger companies. In Lisbon, e.g., the Project supports the local businesses through a mentorship process. The goal is to empower people from Mouraria, especially unemployed people, to open their businesses in the neighbourhood and also provide tools that allow existing businesses to create innovative and creative products that bring new value to the community. As a tangible remark in Mouraria, we can give the example of "Pastéis da Mouraria" a new pastry brand run by a very young entrepreneur. João, the youngster, joined MyNeighbourhood and through the mentorship process is consolidating the brand and increasing the sales.

At the same way, MyNeighbourhood is also looking to improve quality of life for people and strengthen the participation in the city life. In what concerns health and wellbeing, for example, in the Aalborg Pilot, MyNeighbourhood is engaging citizens from the neighbourhood to perform voluntary work to support people with disabilities by sharing knowledge and time and is also engaging businesses and institutions of the city in offering new services to people with disabilities. In order to achieve those goals, three services were implemented: Voluntary Help – volunteer support in visiting/helping disabled citizens when at home or accompanying them when going out; Accessible City – information sharing about accessibility facilities and friendliness of local businesses towards disabled customers; and Cultural Assistance – local businesses offering free assistance to people with disabilities on the occasion of cultural events. At least more than 3 health centers and dozens of volunteers are working with MyNeighbourhood in Aalborg.

Regarding ecological impacts of MyNeighbourhood, the specific goals of the services in the Milan and Birmingham pilots are good examples of the results achieved so far. In Milan, QuartoGardening service allows the Municipality to access the competences of the students of the local Agricultural School to take care of some of urban issues of the neighbourhood: the green public areas and their maintenance. In the Ladywood neighbourhood in Birmingham the implemented services contribute to improve the air quality in the city and to strengthen a sustainable urban spatial development, as they encourage using soft modes of transport – cycling – and public transports, through the service Women on Wheels and Travel Buddies, respectively. The Women on Wheels service, e.g., consists on the promotion of healthy lifestyles in women through a new, dedicated social networking facility, something that in broader terms also contributes to the Birmingham City Council policy to make cycling an integral part of the city transport network.

#### **4 The Human Smart Cities Vision**

The Human Smart City concept is built on emergent, sustainable models for urban living, working and governance enabled by Future Internet infrastructures and services. At the core of the vision is the human perspective, as gained through the application of citizen-centric and participatory approaches to the co-design, development,

and production of Smart City services that balance the technical “smartness” of sensors, meters, and infrastructures with softer features such as clarity of vision, citizen empowerment, social interaction in physical urban settings, and public-citizens partnership. The HSC approach is gaining increasing support from city governments across Europe as well as the Smart City research community, as it more effectively addresses key challenges such as low-carbon strategies, the urban environment, sustainable mobility, and social inclusion through a more balanced, holistic approach to technology.

This vision is labelled ‘Human Smart City’, which focuses on people and their well-being rather than just ICT infrastructures and dashboards alone.

The Human Smart City concept appears as an improvement of the Smart City, focusing on creating a healthier and happier environment for citizens. Its aim is to develop and provide solutions by involving citizens in co-creation processes to address their own wishes, interests and needs (the WIN methodology). In the Human Smart City, the city government implements and supports an ecosystem of urban innovation (Urban Living Lab), which applies co-design and co-production of social and technological innovation services and processes, in order to solve real problems. The government agrees to be engaged and involved in citizens' initiatives on the basis of an open, transparent and reliable relationship. In this ecosystem, information technologies are used to solve social problems and address economic and environmental issues, focusing on the welfare and happiness of the citizens.

The Future Internet vision set forth in Periphèria project sees ICT as shifting from bounded, do-it-all applications to a universe of ubiquitously available “fragments” in the form of apps (Internet of People), sensor feeds (Internet of Things), resources (Internet of Services), etc. The integration of these elements occurs in part through technical interoperability, as has always been true, but also through an increasing role for people-citizens-end users who “compose” the way different apps fit together through human action: “People in Places”.

In addition, since this service composition occurs only in a sort of “run time” where actual people do something specific, the role of the “place” where this happens takes on increasing importance. The rise of location-based apps is a first testimony of the importance of place not only in defining the context for automatic service composition and delivery (see for example Google Now), but also for defining the human sequence of events that, in a city, gives meaning to the use of technology. Conversely, the use of a given technology (through the presence of a given infrastructure) in a given place changes that place as well.

Within such a Human Smart City approach, MyNeighbourhood exploits many ways of designing the interaction between people, urban spaces, and technologies), which could be supplied at many diverse urban scales. The neighbourhood scale is the most promising one in the MyNeighbourhood vision— having been already proved in the past to be effective in creating healthy, secure, liveable, happy cities.

Coherently, Human Smart Cities do not (only) focus on solutions, they rather found on the way solutions are created, implemented and scaled up to the urban scale: these solutions are rooted in citizens experiences of everyday urban problems and challenges; these solutions are co-designed, co-experimented and co-produced; these solutions consider that technology can contribute frugally rather than being the most significant element.



This adds new momentum to the co-production of public service concept, which becomes more sustainable and resilient in both time and scope, by embedding a proactive involvement of urban stakeholders in all aspects of the design and instantiation of neighbourhood services. This also paves the way to a new model of public service delivery, where those who have been normally targeted as passive end-users now tend to become collaborative co-producers, as an alternative, if not in substitution, for local public authorities; and to a next generation of urban smart citizenship, where those who have traditionally been considered as parts of the problem become effective agents of the most appropriate solution.

A Human Smart City is able to integrate, within a design thinking approach, creative citizens and communities, with collaborative enterprises and participative institutions in the production of collaborative services from the micro up to the urban scale thus being able to make the city making a process of socio-digital innovation. As such, the HSC approach is gaining increasing support from city governments across Europe as well as the Smart City research community, as it more effectively addresses key challenges such as low-carbon strategies, the urban environment, sustainable mobility, and social inclusion through a more balanced, holistic approach to technology. In the following some note on these components of HSC.

The Human Smart Cities Manifesto was publicly announced and signed in Rome on the 30th May 2013, during the Forum PA Conference, with the aim to address the main challenges that cities, all around the world, are facing today. As stated above, the new challenges call for a transformational change in the way we work, live, and play by applying optimization processes to the usage of public resources. If urban policies adequately consider citizens and their innovation capacity as their most valuable resource, technological and social innovation could be an important contribution to achieve those goals. The cities involved in this process want to reach out to citizens and enterprises in order to join them in an attempt to co-create and implement suitable strategies for each city.

In October 2013, in Bologna, the Human Smart Cities Network was launched having initially 70 cities expressing their interest in membership (including 27 cities, in 16 countries where Alfamicro lead Human Smart Cities' projects). On the 12th and 13th March 2014, in Lisbon, it was also organised the "Human Smart Cities conference - the future of cities today". Both can be considered as a starting point to affirm in the world scene the sense of urgency of adopting Human Smart Cities as a valid approach.

## 5 Conclusions

MyNeighbourhood established itself as a powerful test bed for the implementation of a Human Smart Cities vision and methodologies. The project is based on the premise that neighbourhoods represent a heretofore untapped, yet powerful, catalyst for human smart city change. MyNeighbourhood aims to transform the city governance by engaging citizens in an open, transparent and trusted dialog, enhancing and easing the interaction with the city administration: this makes it easier for citizens and business to transmit priorities and needs to city administration, reduces the need for time con-

suming face-to-face interactions with city administration and removes the burden of bureaucratic processes by facilitating greater neighbour-to-neighbour exchanges.

Human Smart Cities use technologies as an enabler to connect and engage government and citizens, aiming to rebuild, recreate and motivate urban communities, stimulating and supporting their collaboration activities leading to a joint increase of social wellbeing. Human Smart Cities "hear and speak" with citizens; policies and supporting services make the city government more transparent, participatory, efficient and a mirror of the citizens' will. Human Smart Cities empower citizens to co-design and co-create solutions for their Wishes, Interests and Needs, recreating a new sense of belonging and identity, leading to a better and happier society.

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