WeLive

A neW concept of pubLic administration based on citizen co-created mobile urban services

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D5.5 – SOCIAL, ECONOMIC AND TRANSPARENCY ASSESSMENT AND RECOMMENDATIONS V2

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TABLES

1. INTRODUCTION

WeLive anticipates a high impact in the territories where it will be deployed. Three cities and one territory of different size and belonging to very different geo-economic backgrounds have been selected to trial the huge potential brought forward by the collaborative innovation and public-private partnership solution pushed forward by the project. WeLive pushes co-innovation where everyone, especially citizens, shares resources, harnessing the power of mass collaboration and becomes a stronger part of the social ecosystem. WeLive includes four types of stake-holders (research, companies, public administration, citizens/users of stakeholders in the co-creation of services) as to overcome the limits in the traditional provisioning of public services, but also the generally to put life into the static nature of open government data, which will be enriched and made more dynamic thanks to the active participation of all stakeholders in the value-chain of a city.

What is more, "The benefits of open data can be self-reinforcing: they will increase as individuals perceive the advantages and help to improve the accuracy and detail of the information available. However, this cycle can gather momentum only if private industry and public agencies cultivate a vibrant open-data ecosystem and implement policies to protect stakeholders. For companies, that means putting in place the technologies and talent to collect and analyse data. For individuals—as both consumers and citizens—it means being vigilant, savvy providers and users of open data [1]."

This paper intends to give insights on social, economic and transparency point of view paying special attention on how WeLive addresses these issues arising from deployment and use of open services while producing impact not only to each of these sectors, but to overall behavioral changes within WeLive ecosystem. Moreover, we intend to research possible methodologies to be applied when conducting assessment whereas we need to define research indicators and identify the data collection methods for documenting. The D5.4 & D5.5 implementing participants (BILBAO, FBK, TRENTO, LAUREA, NS) chose what to monitor on an ongoing basis and what to evaluate in depth in the frame of WeLive project duration. In each case, they will have to revisit the indicators on a regular basis for the best impact (indicative milestones are M25 and M36).

The aim of the exercise undertaken in D5.5 is also to determine economic/social/transparency outcomes and impact of WeLive after the lessons learnt in Pilot Phase I, applied in Pilot Phase II and new insights gained towards the climax of the project. What is more, these should also serve so that appropriate follow-up action can be taken by all WeLive ecosystem stakeholders to possibly improve its performance as well as to secure the appropriate tools which will ensure the sustainability of the project, possibly even after its official closure.

This second issue of the deliverable provides an update of the contents provided in the first issue in D5.4, both by completing and extending the information already provided – for instance, improving the information about the first pilot phase outcomes with more updated information about the usage, enhancements, datasets and their quality, KPIs, social and economic environment etc.

This deliverable also considers the recommendations received by the project reviewers in the previous iterations, and describes those actions that represent the consortium's reply to such recommendations. Similarly, to what has been done for the second iteration of the other deliverables, also within the current document, all the major updates will be highlighted using the blue colour.

As usual, the description will be enriched by a (updated) discussion of possible ethical issues involved in the activities described, and we will provide some final considerations about the work that was executed.

2. RATIONALE

Open data fuels economic growth. One can choose to believe in the theory and ask for the proof. However, strong evidence on the long-term impact of open data initiatives is scarce. One might perceive that there is a lack of compelling proof, which is partly due to the relative novelty of the open government field, but also to the inherent difficulties in measuring good governance and social change. For instance, we know that much of the impact of policy advocacy occurs even before a new law or policy is introduced, and thus it is difficult to evaluate. Likewise, it is also very hard to detect the causality between a direct change in the legal environment and the specific activities of a policy advocacy group. In the same way, the process of attribution is equally challenging when it comes to assessing behavioural changes, hence it is arguable who gets to take credit for increased political engagement and greater participation in democratic processes.

Economists use terms such as information asymmetry [2], allocative efficiency and network effects to explain why open data creates this return [3]. To put it more simply, by publishing data openly and utilizing them in the form of open public services we may be able to make better use of existing resources and create new products and services. One can conclude that these can be of huge benefit to an economy — since it may help people decide where to build a new house, look up the weather, choose the type of transportation to use, and all these on their smartphones. Indeed, there is a growing body of evidence, which quantifies the utility of open data and demonstrates its impact in many countries and sectors, based on several studies and varying approaches.

Macroeconomic studies create models that estimate the impact of change on an economy. They may consider countries or geographies of very different sizes, and by considering the whole economy they often produce large numbers. To make these numbers comparable it is useful to consider them as a percentage of the gross domestic product for the economy that they are focused on. The applied methodologies may differ, but in the essence, the studies determine a financial value for similar economic effects, such as better consumer decision-making, optimized business operations (including processes and procurement) and maximizing the value obtained from existing and new infrastructure [4].[1]

While big numbers can be useful for high-level analysis, microeconomic studies focus in more detail on the behaviour of individuals and organizations, usually focused on a specific sector (s).

We can look more closely at those specific examples themselves through case studies. In the UK, the London transport authority, TfL, commissioned a report into the release of their data. This report concluded that the value of the time saved by passengers due to better access to information can be estimated at between £15m and £58m in 2012 [5].

Similarly, Citymapper app currently provides public transport advice in 29 cities and general manager Omid Ashtari has recently said that “Citymapper was created [in the UK] because of the existence of open data. It’s the essential backbone of what we’re working on.” In Spain, it was found that at least 150 companies like Citymapper sell products or services using data published through the nation’s data portal, employing around 4,000 people in 2012[6].

One additional conducted case study shows widespread usage of similar products and services based on open data, finding that at least 84% of Americans with a smartphone have used open data through their phone’s applications [7].

In relation to these and many more, WeLive will ensure that the developed solutions will not only comply with technical and user requirements, but are also feasible from a business point of view. The Business Model Canvas (BMC), which is a conceptual tool that contains a set of elements and their relationships while expressing a company‘s logic of earning money, will be utilized in this particular task to assess the business feasibility of the WeLive Ecosystem.

[1] McKinsey found potential benefits amounting to 4.1% of global GDP for data across all sectors. Those studies focused on the value of public sector open data alone found that it is worth between 0.4% and 1.5% of an economy’s GDP. Indeed, a UK study found that we may underestimate the gains from lower prices of public sector information because of the difficulty in valuing the full effects of downstream and future activities.

What is particularly important is that WeLive as the Open services and We-government project tends to operate in an environment where the contribution of other stakeholders and initiatives is essential to achieving sustainable change, making it even more difficult to show the causality between a project's activities and the impact it strives to achieve. Therefore, these initiatives cannot be described through simple "cause and effect" relationships, as they mostly achieve changes through their contribution to outcomes produced by a complex ecosystem of stakeholders — including journalists, think tanks, civil society organizations, public officials and many more — making it even more challenging to measure their direct impact.

During Pilot Phase I, in D5.4. WeLive task participants collected early evidence and examples on how users are empowered by WeLive open services and We-government initiative as well as how open data and digital transparency projects are changing the behaviour, relationships, activities and actions of identified end-users. Towards the more maturing phase, in Pilot Phase II we should seek evidence on how open data and technology that WeLive utilizes in the frame of the services help to influence governance and improve lives, both directly and indirectly. As during the first impact assessment given D5.4, in D5.5 after reviewing the examples, our research team should compile the data to form a database with basic facts, short descriptions and links, while categorizing the repository into a couple of significant fields/sectors.

The core idea behind the WeLive concept is that of an **assembly.** The Open & Collaborative Government ICT infrastructure proposed offers tools to **transform the Needs into Ideas**, then tools to **select the best Ideas** and **create the Building Blocks** necessary to build the envisioned solutions, and finally a way to **compose the Building Blocks** into **mass market Applications** that can be exploited through the WeLive marketplace. Briefly, stakeholder collaboration mediated through public-private partnership gives place to ideas turned into applications and exploited into a marketplace [8].

Moreover, it should be emphasized that "impact" can be assessed in various ways, ranging from mere **output** (such as publishing a certain amount of raw data), through **mid-term outcomes** (through, for instance, increasing participation in a democratic process), to **long-lasting impact** (such as increasing social equity). In some cases, the descriptions may focus on short-term outputs only, even when the project does seem to achieve long-lasting change, while in other cases claimed impact may not have credible proof on attribution. Likewise, several potential benefit categories/indicators for the project outcomes in the case of, for example, transparency /open government space may be identified e.g. Educate or inform citizens so that they can make more informed choices; Promote direct civic engagement and increase citizen participation in democratic processes; Gather feedback for policy-makers and/or the private sector; Monitor and hold officials and/or the private sector accountable and similar.

Assessing impact means we should be able to prove if there has been change in the ecosystem. Whether that change is "good" or "bad" will always depend on a normative position. The outcome mapping approach, as well as other robust evaluation methods, has a strong potential for the long-term evaluation of complex projects through detecting and documenting the desired change model in the behaviors, relationships and activities of people and organizations, i.e. identified user groups, an open data initiative interacts with. It might also provide a good framework for identifying other research methods (such as randomized control trials or quantitative surveys) to prove causality.

In the frame of WeLive project, public data, and their re-use, are key resources for social innovation and economic growth.

With respect to the aforementioned, in *D5.5* (and *D5.4*) the assessing of WeLive impacts took regard of the following components:

1) **Context/Environment** – The context within which WeLive is being deployed, as the national context, and the context in a particular sector. These correlate to legal and regulatory environment which differs significantly across WeLive territories; organizational and technical capacity; the wider social environment and the commercial environment, including the capacity of companies to engage with open data.

2) **Data** – The nature and qualities of open datasets. This includes the legal, technical, practical and social openness of data, as well as issues of data relevance and quality.

3) **Use** – The context of use of the open dataset in WeLive. This includes the category of users accessing (or providing) the dataset, the purposes for which the data is/will be used, and the activities being undertaken.

In the following pages, we provided suggested questions and indicators for each of these components, and deployed applicable methods as to assess benefits gained from using WeLive framework and tools across the following thematic chapters:

The value assessment (transparency, social innovation, economic value) – one for each criterion

- *Results of the assessment: scope of use*
- *Results of the assessment: direct benefits*
- *Method of calculation*
- *Other benefits*
- *Supplementary benefits further down the value chain*
- *Indirect and derived benefits*
- *Potential for further benefits*
- *Challenges – not all expectations realized*
- *Plan to secure further benefits – recommendations*

These were supplemented by the applicable SWOT analysis, evaluating the strengths, weaknesses, opportunities, and threats that affect WeLive deployment and impacts across its territories in the envisaged timeframe of three years. This should also help better understanding of WeLive competitive advantage and creation of enabling environment with tools to secure its sustainability in future.

3. IMPORTANT CONSIDERATIONS – SWOT ANALYSIS

3.1 SOCIAL AND TRANSPARENCY IMPACT MEASUREMENTS

Strengths The impact of open data and technology – enabled transparency does not lie solely in the economic sphere. There are numerous other benefits for our societies through increasing state of institutional responsiveness, reducing the levels of corruption, building new democratic spaces for citizens, empowering local and disadvantaged voices or enhancing service delivery and effective service utilization.

Having in mind the objectives of the project adopted by the WeLive Consortium, the main impact of the WeLive project will be in the social domain.

Deliverable partners should provide evidence base on the social and/or political impact of open data initiative/project such as WeLive as well as developing a methodological framework to unpack theories of change to evaluate social impact of open data services provided as well as their digital transparency impact.

Weaknesses On more general level, how effective open data and government transparency are at producing these social benefits is not yet at all evident, though. According to a comprehensive synthesis report prepared by the Institute of Development Studies, much of the existing literature seeking to measure impact and effectiveness of transparency and open data accountability initiatives face a common challenge: It is incredibly difficult to come up with definitive, evidence-based generalizations on how "x" type of initiatives produces "y". There are significant methodological challenges around compatibility and unevenness of evidence [9].

More recent academic literature suggests that evidence on the social and/or political impact of open data initiatives is incredibly scarce. The second edition of Open Data Barometer (2015), a global assessment of open data initiatives points out that most evidence remains anecdotal and describes output rather than outcomes and impact [10].

Opportunity Although WeLive value assessment will be directed across different sectors separately, it should be noted that they are not only inter-connected, but also co-dependent:

1) The underlying objective of the project is improvement of the quality of life in cities through creation of enabling technologies that will facilitate a range of new smart phone applications for dealing with the public administration and interacting with the city in general. This ecosystem will not only allow consumption of these new services, but will also enable citizens to actively contribute to creation of the services and even profit out of providing information required for the new applications to run or implementing the applications themselves. This new paradigm will inevitably impact the society in several ways.

2) In turn, the ability to directly influence development of the city where they live will empower the citizens means increased transparency of the way the public activities are organized and funded will positively influence satisfaction of the citizens with the public administration and the city itself. This will lead to better profile of the city in terms of the attractiveness for living as well as for commercial investments, which will lead to improvement of the local economy.

3) The ability to design applications for dealing with the city matters based on own interests will help citizens to deal with public administration more efficiently thus improving the overall satisfaction and the quality of life which will again lead to making the city a more attractive place to live and work, which will eventually lead to better economic development.

Threats WeLive as the Open services and We-government project tends to operate in an environment where the contribution of other stakeholders and initiatives is essential to achieving sustainable change, making it even more difficult to show the causality between a project's activities and the impact it strives to achieve. Therefore, these initiatives cannot be described through simple "cause and effect" relationships, as they mostly achieve changes through their contribution to outcomes produced by a complex ecosystem of

stakeholders — including journalists, think tanks, civil society organizations, public officials and many more — making it even more challenging to measure their direct impact. Likewise, it is also very hard to detect the causality between a direct change in the legal environment and the specific activities of a policy advocacy group. In the same way, the process of attribution is equally challenging when it comes to assessing behavioural changes, hence it is arguable who gets to take credit for increased political engagement and greater participation in democratic processes.

3.2 ECONOMIC IMPACT MEASUREMENTS

Strength In the United Kingdom, one of the leading governments in the field of Open Data and one where the economic benefit has always been strongly on the agenda, an independent review was commissioned as the evidence base for the next phase of the Open Data program and published in 2013. It "conservatively" estimated the direct economic benefits of public sector information at around £1.8bn a year, with an overall impact including direct and indirect benefits (such as time saved by access to real –time travel data) of around £6.8bn [11]. In Spain, a study found that the "infomediary" sector (companies that sell services on top of Open Data) has at least 150 companies and employs around 4,000 people and generates 330-550 million Euros annually that can be directly attributed to Open Data reuse [12].

These studies do not converge on a single, consistent, measure of the economic potential of Open Data. However, a common finding is that although the "direct" economic benefit of the business providing data – rich services is significant, most of the overall benefit is "indirect" in the sense that it accrues to the users of data-rich services, in the business and the personal sectors, rather than the providers of those services. Many data-rich services are themselves delivered over the internet and so have very low marginal costs of distribution and customer management so, freed of upstream data charges or restrictions, end-user prices can be driven down to reach a very large market. This in turn increases the consumer surplus. Second, there is some evidence that open data attracts new types of re-users, in particular SMEs, and new business models such as advertiser-pays rather than end-user-pays. For instance, because of the price cuts by the Dutch Meteorological Office KNMI, a new SME re-user launched an innovative service which allows anyone to find out whether it is going to rain in the current location over the next few hours. It generated around 300 million hits per year throughout Europe in 2010. This service is provided completely free of charge to end-users, and is paid for through advertising revenues. Third, it is also apparent that the value is not in the data by itself. **It is the combination of the data with one or more other factors such as an innovative idea, the inadequacy of existing services, the availability of new techniques to process data (such as "big data analytics" methods) or new technologies for the delivery services, including the use of smartphones or even the "internet of things"** (for instance in-car navigation systems).

Weaknesses Open Data is a relatively new concept in its current, recognizable, form, dating from 2006-07- although in some sectors and in some countries, there were earlier developments which would now be seen as Open Data. Even in countries, which started relatively early to release government information as Open Data the benefits still appear to be developing. Like other innovations, it is likely to be many years until there is full adoption and the implications for downstream users have been fully understood. Indeed, the usage of Open Data depends not only on the availability of the data itself but also on the ideas of how to use it and the tools to use it effectively [13].

In McKinsey and the UK Advisory Panel on Public Sector Information a range of holistic and sectorial studies were reviewed and some common difficulties noted, including the difficulty already discussed of separating the value of the data from the value of the innovation [14]. It is also increasingly difficult to attribute the total benefits to the individual factors.

It should be also noted that in many cases, economic benefits took time to emerge; moreover, even where entrepreneurs acted quickly it took some time for products and services to come to market and to be widely adopted. Simple applications for presenting essentially the original information in more attractive and accessible ways can develop quickly, as has been seen in the number of public transport applications in cities

such as New York (68 for the subway alone), London (500 in total) and St Petersburg (30 for buses); more analytical data services, particularly where the data is enriched, can take longer to design, develop and market widely [15].

Opportunity Since the first public administrations started sharing their data as Open Data, the idea of Open Government has been disseminated around the world rapidly. Despite this rapid diffusion of Open Government principles, they have not the same influence and the same grade of development in the whole world. For example, as described by the Open Data Barometer, Europe leads the region ranking, with widely known initiatives like data.gov.uk (UK) or opengov.se (Sweden). Apart from these well-known examples of Open Government, many European countries are developing their own Open Data portals inspired by the Right to Information legislation, political freedoms, and the quality of Data Protection Laws. Furthermore, the European Union is empowering the Open Government idea through its Open Data portal (http://open-data.europa.eu/en/data/). Very close to European initiatives, United States and Canada achieve high scores in Open Data Barometer's ranking due their Open Data portals (data.gov and data.gc.ca) [16].

Threats Another difficulty is that it can be harder to measure the indirect benefits to consumers than to measure the direct economic activity of data-rich service providers themselves. This is unfortunate since most of the benefits are usually in those indirect benefits. However, in some sectors progress has been made on measuring indirect benefits. For instance, in the transport sector the existing approach to cost –benefit analysis usually measures the value of any investment –for instance in a new road or a new public transit scheme –principally by the benefit to end users in terms of the economic value of time saved. The transport sector has developed robust methodologies to estimate this.

A final difficulty is that it has so far proved hard to measure the public-sector benefits of open data. Like other business consumers, public institutions are purchasers of data-rich services. Indeed, in some cases they buy back their own data after it has been aggregated or enriched by data –rich service providers. For example, in the Catalonia Region of Spain the cost savings and efficiencies to public institutions themselves of open metadata on geospatial datasets mandated by the EU INSPIRE Directive recovered four years of development costs in just six months [17]. In addition, most of countries which have started adopting Open Government policies have serious lacks on exploiting the potential of Open Data. Many of them have focused their attention only on implementing their open data portals, placing little efforts on bringing open data closer to entrepreneurs and citizens through suitable APIs, easily consumable by application developers.

Finally, in the frame of WeLive D5.4 and D5.5 economic assessments, it should be noted that DoW WeLive envisages for the aforementioned deliverables, among others, *"analyzing the market for the years 2015 and 2016, by providing an overview of current product and service offering and the state of the art in the industry. Different business opportunities will be identified and detailed and complete framework for commercial exploitation will be developed",* however, since these are the focal points of T5.3 and T5.4, they will not be treated separately, but deliverables in two other tasks of WP5, are to be referred instead.

3.3 WELIVE PROJECT SWOT ANALYSIS WHEN ASSESSING SOCIAL, ECONOMIC AND TRANSPARENCY IMPACTS

In relation to WeLive project implementation in different European countries and their cities and one region, SWOT analysis was performed as to gain clearer insights in task milestones' implementation for the Pilot Phase I Designing the impact assessment to take account of emergent of the outcomes, it allowed project partners to respond to them in a more agile way, thus giving more room for movement and improvement in project management. Towards the project climax we all agreed, however, that quantitative methods are far from outdated or useless, but it is rather that combined methodologies work best — providing us with both the bigger picture (quantitative) and the more nuanced, but just as important human impacts (qualitative). If the set WeLive objectives and goals are achieved, then we can claim positive change, and thus that the project had a good impact on the community, but the question to ask ourselves right now is if it should that really be where impact assessment ends, or should it go further? How do we secure the project sustainability? Are these individuals and organisations going to continue using the gained skills and tools, and are they going to continue to have a positive impact on their work and lives? Additional question to ask ourselves at this stage is: What about unanticipated impacts? Moreover, different countries with their policies and open data readiness continue to provide different contexts of the project. So, the same project, done in the same way, but by different organisations and in different countries could have completely different impacts. As it was seen during Pilot Phase I, for some partners (as it was the case with Novi Sad pilot) domestic policies did not correspond fully to EU open data regulations, while domestic public institutions did not necessarily have the capacity to produce impact-driven research and projects. The following analysis serves as an important instrument when assessing impacts and provides wider context crucial for project's vitality and its overall impact estimate. Therefore, with the experience gained it is important that for one, project partners do not push for unrealistic goals, as this can lead to a lack of tangible impact. In addition, instead of spending time and energy on short-sighted efforts, it is important that we work over a longer period and invest in community engagement, thus making it easier to observe and measure impact.

3.3.1 BILBAO SWOT ANALYSIS

Strengths

Pilot Phase I: Bilbao City Council has made a clear commitment to create a "Leader City in Technology, Innovation and Knowledge Management". The formulation of this goal is concretized in the "construction of a competitive city based on knowledge management and innovation".

Bilbao City Council has a long history and recognition of Transparency practices in the City's management including the development of Transparency, Open Data and Participation portals. In the area of participation, important processes of citizen participation have been developed in different areas, highlighting those related in the definition of Works of Rehabilitation of neighbourhoods and participatory budgets.

In the area of data opening, the City of Bilbao has a strategic project to open data and an Open Data service with a degree of definition and maturity.

In the area of economic development of the city, the City of Bilbao has developed important innovation initiatives in different programs aimed at entrepreneurs and start-ups and small and medium enterprises.

Pilot Phase II: Bilbao City Council is going to increase its support to digital entrepreneurship projects to reinforce initiatives which aim to transform the city into a knowledge center in this matter. This approach can offer more opportunities to projects like WeLive which are focused on supporting the entrepreneur community by facilitating the development of new urban services for the city.

During the last months, the global economic situation of local administrations has improved and this has a direct effect in the increase of initiatives for the promotion of co-creation, such as Idea Contests, Hackathons for apps developments, etc. These initiatives are related with the social challenges proposed by the public administrations and, with the collaboration of the citizens and other agents of the city ecosystems, results in new ideas and collaborations for searching new solutions focused on new urban apps.

Weaknesses

Pilot Phase I: At present there is an insufficient level of training of citizens and other agents of the city's ecosystem in the use of data. Entrepreneurs, research centers and companies are not yet in the key of reusing public data. Policies are needed to promote reuse in order to capture the value of the data. Discontinuity of Initiatives and projects of Innovation and absence of a relational map that allows focusing each one of the innovation initiatives with the corresponding departments of the City council. Implication of companies and the infomediary sector in promoting the use and development of a dynamic ecosystem around data capable of creating solutions that bring knowledge and business intelligence. Lack of visibility of projects and initiatives through social networks to be able to link them with the objectives of public policies of the city council.

Pilot Phase II: Initiatives developed by public administration for publishing public data and other initiatives like WeLive project which aim to reuse this data are still insufficient to promote the publication and use of open data.

Except for academy sector and some commercial development initiatives, the rest of sectors like citizen communities and non-commercial innovative initiatives have a low participation in open data and open services development. Some events like Idea contests, informative sessions and hackathons are very valuable to promote the reuse of this data but they are still very few and it is necessary do a considerable and continuous effort to reach other sectors that are not so aware of open data.

The lack of models and sustainability mechanisms for these initiatives avoid that they can be developed in a sustainable way, being always dependent on the budget to complete the necessary tasks like updating and formatting data, giving proper incentives, having insufficient human and material resources from PAs, etc.

Opportunity

Pilot Phase I: Opening data provides raw material for transparency. For the City Council, the data are the basis of accountability and evaluation of public policies. Civil society allows it to exercise a social audit function. The Open Government is the natural setting for these policies as it promotes access to information, collaboration and participation of the public, contributing to the improvement of public management, transparency and increased confidence in their administrations. Technology allows us to connect with a more active and autonomous citizenship in their social performance. That does not mean that administrations have less to worry about. On the contrary, it demands more information, more transparency, more openness and more collaboration. A very interesting fact is that the cities that foster and incorporate innovation are cities in which the collaborative economy – the prosumer – is penetrating more. By themselves, the data are often difficult to interpret by the final recipient, so it is important to have a broad base of information intermediaries – or infomediarios – among which play a prominent role and journalists, professionals and amateurs, through the practice of so-called "data journalism".

The infomediary sector can generate an active data market and a volume of business that even translates into generation of quality employment. As already mentioned, the data alone do not generate value and it is necessary to promote a dynamic ecosystem around them capable of creating solutions that contribute knowledge and business intelligence.

Pilot Phase II: Pilot phase II has been successful in completing the whole co-creation cycle starting from the challenges, generating ideas, promoting the use of new published open data and concluding by implementing new building blocks which are reused in new services for the city. These new services are the response to the citizen needs and the result of different stakeholders working together.

The detailed analysis of the chained processes where different actors of the city ecosystem interact has made possible to include many improvements in the new version of the platform. The main conclusion of the analysis of this second phase pilot is that it has completely validated the co-creation process, achieving an acceptable level of functionality.

In the same way, the dynamics created between the entrepreneur community and the Administration regarding the key events for the pilot, such as hackathons, besides promoting the concretion ideas and the reuse of open data and building blocks, it is helping in consolidating the initiatives for creating new companies in the city.

Threats

Pilot Phase I: Lack of involvement of citizens in the definition and implementation of public policies in the city. Lack of creation of local economic fabric, difficulties in attracting talent to the city and lack of access by SMEs to city-building processes.

Limits on transparency in public management and lack of accountability on the part of public officials.

Pilot Phase II: To progress in the data reutilization, the effort of publishing new data from the PAs should be increased, as well as the capacity for reaching data publication agreements with other key private sectors such as transport, financial services operators, advanced services operators, etc. Also, it should be improved the awareness of the existence of this data which would lead to attract new users that are not active yet or whose activity is very low. These new users would be mainly new starts-ups, noncommercial developers, social innovators and investigators and the academy sector.

It is very important to achieve a better alignment between the published data thematic, the needs detected by the citizens and the created services. Also, it is important to improve the connection between different actors to improve the app development industry value-chain. To achieve this goal, it is important that initiatives like WeLive get a great maturity level and have a long-term planning.

3.3.2 HELSINKI SWOT ANALYSIS

Strengths

Pilot Phase I: Corruption Perceptions Index (CPI) assesses the occurrence of corruption in the public sector in 176 countries. According to Corruption Perceptions Index 2016 estimated incidence of corruption within the public sector in Finland is the third lowest (89 points). In 2015, Finland was the second. Typical for countries with low level of corruption is government transparency, extensive freedom of the press and independent courts, which do not place the citizens in an unequal position. According to The Chairman of Transparency International, José Ugaz, only freedom of expression, transparency of political decision-making and strong democratic institutions guarantee the civil society and low level of corruption. (Transparency International).

Finland is a society strongly based on information and its utilization. Finnish information policy covers the activities of both the public and the private sector, and it cannot be allocated to any specific actor or administrative branch. Information policy is linked to all other policies because the objective is that any issue will be prepared and decisions will be made based on comprehensive information. Other goals of information policy include improving services, developing administration, sustainable economy and promoting democracy. (The Ministry of Finance).

Information resources have been opened in Finland in diverse subject areas, including data and information related to terrain, weather, climate, maritime, traffic, financial and cultural materials. Public access to information resources has been outlined as a part of the preparations related to the government spending limits and current public finances. The Ministry of Finance has requested the ministries to provide their plans as to which information resources in their administrative branch should be opened and what would be the economic and social impacts. In addition, it is important that government agencies and public bodies continue to open also public information materials, which can be opened without additional financing. An increasing number of municipalities are also opening access to their materials. (The Ministry of Finance). International surveys have also shown that Finland has managed to open access to information resources very well. (The Ministry of Finance).

Since 2011, Helsinki metropolitan cities have been opening their data. The **Helsinki Region Infoshare (HRI) service** aims to make regional information quickly and easily accessible to all. Essentially, HRI is a web service for fast and easy access to open data sources between the cities of Helsinki, Espoo, Vantaa and Kauniainen. The data published is mainly statistical, giving a comprehensive and diverse outlook on different urban phenomena, such as living conditions, economics and well-being, employment and transport. A good proportion of the data material offered by the service is GIS based. (HRI.fi).

The data can be used in research and development activities, decision-making, visualization, data journalism and in the development of apps. The data may be used by citizens, businesses, universities, academies, research facilities or municipal administration. The data on offer is ready to be used freely at no cost. There are no limitations on users; anyone interested in open data can participate. **For example**, existing open data has already been utilized in different ways [18] for an overview of apps and services created with the use of open data. (HRI.fi).

There are **four operational areas** in which the HRI service mainly operates in: producing data, opening data, sharing data and utilising data. The main operational activity is to support the producers of information in opening their data and to increase its utilization by multi-channel communication. The data can be downloaded as files and is also available as raw data via various network services or technical interfaces:

- Downloadable file formats are generally XLS, PC-AXIS or CSV files.
- Data for map materials may be available in KML or GML format.
- Data available via technical interfaces may be in JSON or XML format. (HRI.fi).

Pilot Phase II: In Helsinki Region, the collaboration between WeLive and Six City Strategy, in which the six largest cities in Finland have joined forces to tackle urban challenges and especially the collaboration with

Vantaa City have revealed many similarities within the goals, methodologies and themes of the projects Six City and WeLive. The Six City Strategy's focus areas are (1) Open data and interfaces, (2) Open participation and customership and (3) Open innovation platforms. These all are strongly related to WeLive, which brings forth that WeLive has taken crucial themes under discussion and finding solutions to contemporary topics in public service development. In addition, in WeLive, the refinement of open data has been a pivotal element, as well as REST interfaces and taking citizens' self-organized activities into account as a formidable source of service development.

The insights gained in WeLive are taken into further use and exploitation in Helsinki Region via collaboration in healthcare sector, in which Laurea will participate in cooperation with four cities. The collaboration will focus on the same themes that have been pivotal in WeLive as the pilot areas will harmonize their activities and goals. This derives to a conclusion that in Finland, WeLive and its results have been beneficial to the innovation activity field in the public sector in terms of citizen engagement, co-creation and open data usage in digital service design.

Weaknesses

Pilot Phase I: According to Final report of the Finnish Open Data Programme [19] very little is known about the underlying economic and organizational mechanisms and implications of open data use at the organizational level or at the level of economy. To my best knowledge, there is no reported comprehensive country-level ex-post impact assessment of opening government data. (The Ministry of Finance).

The impacts of opening government data can be divided to economic impacts and to other social impacts. The prerequisite for this is a careful development of the monitoring and evaluation model for opening government data as well as a systematic gathering of data for the impact assessment. Furthermore, the usability and usefulness of different public data resources for consumers, firms and public-sector organizations can be accessed via the users' own evaluations. In addition, it is important to assess appropriate means to disseminate and promote efficient utilization of information on the best practices of open data re-use in different organizations. (The Ministry of Finance).

All this poses challenges to evaluate the impacts of social and transparency issues in the WeLive project. On practical level challenges to the achievement of these objectives are e.g.: how to motivate citizens to develop public services and how to guarantee representativeness of the participants willing to participate?

Pilot Phase II: The distinctive obstacle for achieving objectives like how to motivate citizens to develop public services and how to guarantee representativeness of the participants willing to participate is that the co-creation process in cities is not yet coherent and the citizens are not a part of every phase of the process. The different stakeholders need sufficient information about their roles and possibilities in the whole process to truly understand their capabilities. In addition, the incentives in development and co-creation should be based on intrinsic motivational aspects rather than extrinsic factors like material rewards. The citizens need to identify the co-creation processes' affection to their everyday lives. In the current situation cities seem to categorize citizens' role more as a feedback giver than a developer.

Another distinctive element is that the open data as a concept seem to be a bit unclear for the citizens and public administration staff as well. There are some implicit presumptions about the threats to privacy, which may inflict to the willingness of opening data or encouraging to use or to do business with it.

Opportunity

Pilot Phase I: Various countries have implemented the open (government) data strategy aiming at providing wide access to government data in machine-readable format such that it can be freely used, reused and redistributed by anyone. Reported ex ante evaluations have estimated that the potential benefits of opening public data resources are substantial [20]. The benefits of open data can be categorized as follows:

- Transparency and democracy: Open data supports active citizenship, research and journalism by increasing transparency. For example, it facilitates discussions in social media by making it easier to reference to government information.
- Business and innovation: Giving access to government data free is good for Finnish companies. It breeds new markets and supports innovation. For example, new ways to use information have many times been found by people who have a different educational background compared to the usual users.
- Government efficiency: Increasing data openness makes it easier to use for other government agencies, too. Harmonizing information management practices brings economies of scale and makes knowledge transfer between organizations easier. Open data may also help in finding practices where the potential of digital information has not yet been realized. (HRI.fi)

Led by the Ministry of Finance, the Open Data Programme – 17 May 2013 to 30 June 2015 – was eliminating obstacles to the re-use of public data as well as creating the preconditions for open data within the public administration. Currently, Finland is among the leading countries in opening the government data, and it has also a chance to be among the most advanced ones in the impact assessment of open data. (The Ministry of Finance).

The open data goals and action proposals is discussed and brought to the digitalization strategy and the digitalization processes of the Finnish Government in 2015-2020. One of the objectives of Finnish Government Programme is to create favourable conditions for new business ideas through open data and better use of information resources. The Government also wants to strengthen knowledge-based decision-making and openness. (The Ministry of Finance).

The open data activities support the objectives of the EU Public Sector Information Directive concerning the reuse of public sector information resources. In addition, Finland takes part in the Share-PSI 2.0, which is the European network for developing open data best practices internationally. The Nordic countries are also starting cooperation in open data contexts. (The Ministry of Finance).

There are excellent premises in Helsinki region to achieve the objectives related to social and transparency objectives of the WeLive project. In the light of the above presented, the Finnish information and innovation policy strongly supports R&D activities in line with the objectives of the WeLive project. The **Helsinki Region Infoshare (HRI) supports the WeLive project through a letter of support.** It provides for the project about 3500 open data sets to utilize.

Pilot Phase II: WeLive as a project gives a relatively comprehensive view on data refinement exploitation in public service application design in different operational environments (Bilbao, Novi Sad, Trento and Helsinki Region), in which varying co-creation tests have been executed. Helsinki Region pilots have shown that if the co-creation process will become coherent, the developer citizens can contribute to the digital service creation effectively. Laurea will continue to work with collaborative innovation and co-creation themes in cooperation with four Finnish cities and the results of WeLive will be used in further development of the public services. WeLive has created knowledge on the co-creation platforms and how to combine physical and technical elements in collaborative innovation activities. In addition, WeLive Design game has proved itself as an effective tool in need identification and service design and ideation. This has been a step further in need identification and service design processes and Laurea will use this tool in the future co-creation activities.

One tangible conclusion related to SO1 and promoting the economic growth and job creation is that when the open data is refined and tested in a 3D-environment, it creates a better understanding of its usage possibilities for citizens and companies. The abstract concepts need to be taken into concrete environments and let people test the outcomes.

Threats

Pilot Phase I: There is no city from Helsinki metropolitan area as a partner in the WeLive project. Finnish pilot area is just a letter of support from the City of Espoo. At the very beginning of the project, they made it clear that their participation in the WeLive project work is limited to few meetings not, for example, their participation in the pilots is totally out of the question. The Helsinki pilot region is succeeding to create a very fragile and unsettled relationship with the city of Vantaa.

The overall approach and methodology in the execution of the project has been technical-driven. Stakeholder involvement, user-centered approach, user-driven innovation, co-creation methods, or early phase evaluation have not been seriously taken in account in the execution WeLive project (e.g. development of the technical platform and business model).

According to the results of user feedback citizens do not want to use the platform because of complicated structure of the information system and the lousy usability of the user interface.

According to the results of the usability evaluations representatives of the City of Vantaa will not use the platform because of platform's incongruity with the innovation process of the cities and because they have more appropriate platforms in use already.

Pilot Phase II: The components of WeLive Platform are delivered by different stakeholders and consist of varying appearance and terms of use, which makes the harmonization more difficult and therefore the users don't have uniform user experience, which lowers the attractiveness and continuous use. In addition, the platform doesn't offer the developers sufficient support after the ideation phase and a distinctive link into the city's processes. In Helsinki Region and Finland exists lot of competition among technical co-creation platforms in both, public and private sector and the service providers develop their platforms actively based on user feedback and in close cooperation with the users.

3.3.3 TRENTO SWOT ANALYSIS

Strengths

Pilot Phase I: The "We-government" approach fostered by the WeLive project shows different point of strength in its application to the context of the city of Trento. From a general point of view, this stems from the possibility of building its results on top of pre-existing activities and achievements that are already in place since years and that, by now, are deeply embedded in the tissue of this territory. The attention paid by the municipality of Trento to participation and co-creation is witnessed by the projects, initiatives, tools, and resources that are devoted to listening to people's needs and to the suggestions from the users of the available IT services about how to improve their already high-level quality. Another example of how fertile is the soil in which WeLive is operating in Trento is the effectiveness of the Open Data movement in the province in which Trento is located. Both from the qualitative and the quantitative point of view, the interest and the promotion of the Open Data initiative, amongst the public administrations, is outstanding and perfectly matches the focus that the WeLive project puts on the exploitation of data for enhancing the quality of life.

Pilot Phase II: Also during pilot phase II, the Trento task force demonstrated its capability of attracting the interest of people, engage them to improve the offer of services and to support them by both making available those basic elements that are at the basis of the WeLive approach and by accompanying them in their usage. Opportune challenges, devised by the municipality following careful listening activities about citizens' needs, have constituted the right trigger to kick-start the co-creation activities that went as far to reach the latest phases of the WeLive process. New basic resources (data and services), or improved versions of the existing ones, were readily made available to enable the implementation of new urban applications or to enhance existing ones. The lively Smart Community Lab, a true territorial asset consisting of a Trento's quarter where people is continuously engaged in challenges related to the Smart Cities and Smart Communities, is becoming more and more a place where FBK and the municipality put to common factor technical expertise and engagement capabilities, to experiment new solutions in tight collaboration with citizens. Recent results conform that this lab represents a valuable strength that can be fostered and exploited more and more.

Weaknesses

Pilot Phase I: Most of the stakeholders involved in the WeLive co-innovation process are ready to accept the challenge proposed by this new paradigm of services co-creation. Citizens are used to be part of the innovation, the academia has a very long tradition in the Trento province about educating people and performing high quality research, the public administration is willing and ready to promote and sustain the overall WeLive process. Nevertheless, it is possible to envisage a weak ring in this chain: the involvement of businesses. Their participation in the process is by now quite limited from all points of view. The actual exploitation of the already big amount of open data available is not yet part of the habits of established companies. New start-ups are, by nature, more accustomed to a brand-new approach like the WeLive one and to taking advantage of this new resource that consist of open data.

Pilot Phase II: Pilot phase II confirmed the weakness elicited above about the involvement of businesses. The attempts made to involve companies more actively in the WeLive eco-system demonstrated the WeLive approach, as it is, does not match with the expectations of businesses and of the productive layer of the territory. The value proposition of WeLive is not sufficient to convince them to be part of its virtuous process. No other significant weakness showed up during the second pilot phase.

Opportunities

Pilot Phase I: One of the main opportunities that are triggered by WeLive, from the economical point of view, is bound to the effort that the territory around Trento has been putting in supporting the creation of an economy based on the exploitation of open data. Entrepreneurship, the one involving youngsters and the one

related to the re-use of data is highly encouraged and concretely sustained. From a social point of view, the actuation of the WeLive process can also give the opportunity to enforce the growing attitude of Trento people of taking part to the discussion about how to improve the quality of life, by providing a new facet that consist of the technological enablement. The promise of empowering citizens to create their own added value services, by wiring together building blocks consisting of open data and basic services, can be considered a realistic opportunity for Trento. Finally, the public administration has a real chance to climb another step in the transparency ladder. The municipality already stands for the enactment of the legislation about transparency. Nevertheless, opening a new window on the concrete results achieved through the engagement activities like the ones in WeLive, and not only those, can write another important chapter of this book.

Pilot Phase II: The activities conducted in the second phase of the engagement clearly highlighted the opportunity to rely on the technology made available by the WeLive platform and, above all, on the availability of the youngest layers of the population to collaborate with the public administration to improve the offerings of public services that resolve real needs. Through the technological mediation enacted by FBK young students and employees of the municipality jointly collaborated in actual and effective co-creation activities that led to the deployment of two mobile applications that have been made available to all citizens and that respond to the needs expressed by other citizens through the co-innovations engagement activities. The opportunity of having a high impact with respect to transparency is evident here whereby the civil servants collaborate side by side with citizens while addressing their requests of more personalized services that improve the quality of their life.

Threats

Pilot Phase I: The main threat pending on the effective establishment of the WeLive approach in the city of Trento, is the realization of the WeLive business model. The sustainability of the WeLive life cycle is still a question mark. The weakness elicited above about the participation of private companies makes the scenario even more fragile. The failure in setting up a completely self-sustaining eco-system of services co-created, that are promoted by participation and co-innovation, is a concrete menace. In particular, the expected continuous feeding of stable building blocks on top of which services should be developed and delivered to citizen seems at the moment a major concern, whose resolution is not fully clear.

Pilot Phase II: The considerations made for pilot phase I still hold for pilot phase II. The identification of concrete an exploitation strategy does not seems to be sufficient to guarantee the sustainability and profitability of the WeLive platform and approach in Trento. Despite the increasing number of available open data, and the seamless process by which they are used to solve real problems suggested by citizens, though supported by the proposition of a fully-fledged approach does not seems to be sufficient. The possibility that stakeholders prefer other partial and non-integrated solutions to cover the different steps of the process that lead from needs and ideas to real services is high. Many steps have been taken, within the project, in the direction of reducing the distance of common citizen from the realization of IT services. Nevertheless, the evidence is that, currently, without continuous activities of support to the different stakeholders the social, transparency and economic impact of the WeLive solution might not be satisfactory.

3.3.4 NOVI SAD SWOT ANALYSIS

Strengths

Pilot Phase I: In the context of Serbia and Novi Sad, WeLive is innovative in many ways, promoting transparency, participation, co-creation of government policies, framed as "We-Government", but above all it is recognized as very important ignition point addressing Open Data is Serbia, which is a question not yet legally binding by domestic legislature. In turn, WeLive has motivated us to be the first local self-government in Serbia, to be formally addressing the question of opening of data by institutions. In this multilayer way, WeLive sustainability is ensured, since it is the matter of time when the (local) government will understand Open Data importance and start to accept the principles of open government fully. At this stage, we can make benefits from new data sets in Open Data Stack. IT companies and developers that have participated in Novi Sad workshops during Pilot Phase I generally perceive WeLive as novel and interesting concept and like the idea of gathering of open data and making them available at one place. Likewise, they embrace the existence of a kind of WeLive as an intermediary between companies (developers), and the City that facilitates communication and ensures better cooperation between the City and the Company.

Pilot Phase II: Through Novi Sad pilot activities in Pilot Phase II, where much of the focus was put on examining the feasibility of hackathon and co-creation transparency and business models' potential among identified stakeholders with availability of open data being scarce or insufficient. The existing e-government strategy and open government action plan within the context of administrative reform provide a good general

base even if strong central high-level support for open data is still elusive. WeLive has been important tool to meet already well articulated societal and business demand, and counteract existing lack of trust between societal stakeholders and government bodies. With the Ministry of Public Administration and Local Self Government, and the Directorate for e-Government within it as an operational unit, there is also a logical home for an open data initiative in the structure of government, which provides a focus on both effective government and improved public service.

Our assessment during Pilot Phase II has found a wide range of government bodies willing to move forward with open data to increase government effectiveness. It also found strong demand from the business community and civil society (to decrease the cost of doing business, and to increase transparency in various policy areas). Several institutions, such as in particular the Ministry of Public Administration and Local Self Government, Ministry of Finance, Ministry of Interior, Ministry of Education, Statistics Office, Public Procurement Office, Agency for Medicines and Medical Devices, the Public Policy Secretariat, the Serbian Business Register Agency, and CROSO (Central Register of Compulsory Social Security) showed willingness while being realistic as to their current situation and opportunities. This provides strong opportunities for straightforward pilot projects like WeLive which in turn will provide the experience and motivation that will bring other agencies to the table as well. It is difficult to make an assessment of the competitive advantage of WeLive with other competitive solutions addressing the same objectives since very few open data activities have been encountered at lower levels of government (city, regional level). The City of Novi Sad, has been involved in only two European projects (Welive and CLIPS ww.clips-project.eu), focusing on increasing engagement and public service delivery, in which open data is mentioned as a building block. On the other hand, WeLive is the only project with co-creation model being at hand, incentivizing civic participation, developing feasible business models of interaction between industry, goverment and citizens.

In addition, thoughoughout Novi Sad pilot activities in Pilot Phase I and Pilot Phase II, WeLive project has influenced:

- Raising greater awareness on what open data is and its potential as a policy instrument;
- Through our workshops, questionnaires and interviews it influenced exploring creatively the possibilities of funding an open data program, or building blocks thereof, and showed present readiness for collaboration with donors;

- Identifying need for a strong collaborative effort between government agencies, civil society and the business and developer community, to build more trust between government and non-government stakeholders.
- Detecting the small clusters of relevant IT and data expertise across a wider section of government bodies.

What has also been encouraging is that the public administration reform strategy indicates that active participation of citizens in formulation and implementation of public policies is one of the key assumptions of government's transparency, likewise, new general e-government strategy is being proposed (by the Directorate for e-Government), which will be strengthened in terms of the role and impact of open data, as well as in terms of proposing relevant actions and law-revisions.

In the meantime, the Serbian Commissioner for Information of Public Importance and Personal Data Protection has an active role in raising awareness and application of access to information regulations, as well as data protection. This also takes the form of actively writing new law proposals.

Conclusevly, Serbia has joined the Open Government Partnership, and is currently executing its first National Action Plan, and since it is also working towards an EU Membership, this means that in many areas regulations will converge with their EU equivalents.

Weaknesses

Pilot Phase I: Open Data is Serbia is a question not yet legally binding by domestic legislature. Moreover, as promising as this all sounds, Novi Sad as the cities from the EU is not going to become smarter overnight. It takes time to adapt the technology needed for smart cities and put it into place. Although the whole initiative of WeLive has been perceived by companies as more than interesting and extremely useful for the wider community, unfortunately, presently companies do not have enough resources that they could set aside to deal with this issue. They also perceive that all variants of "subscription" can hardly survive in the market such as ours – stating even that they are not sure if the market is small or non-existent.

Pilot Phase II: As it has been mentioned previously, WeLive pilot, as an open data initiative in Serbia, requires the implementation of change, including legal, institutional, technological and even cultural changes. Focused, strong, sustained, political leadership is hence necessary as to overcome resistance and inertia of all kinds, to help incentivize actors to make the necessary changes in a timely and effective manner and to achieve the desired objectives and benefits. Likewise, it is still required that a range of policy and legal issues be addressed, for example, with respect to the licensing of data reuse. It is still important to identify at an early stage the existing policies, laws and regulations with respect to a set of issues, and to identify actual or perceived obstacles in order that policy or legal change can be initiated early. We have also come to realize that that a suitably qualifed and experienced local government information lawyer or a competent local lawyer is necessary to be established.

Moreover, WeLive could build on established digital data sources and information management procedures within government where they already exist, which is still realitively scarce. Where data is only available in paper form it is hard to release as open data and in reusable format quickly and cheaply. In additon, even for data in electronic formats, it needed much effort to motivate public companies, NGOs, civil sector, to release them as open data.

The Access to Information Law mandates the pro-active publishing of an inventory of publicly held information by public sector bodies. Some 70% of all national and large public sector bodies do this according to the Commissioner for Information of Public Importance and Personal Data Protection. However, the mandatory inventories are not standardized in terms of formats (nor machine readable), and can be hard to locate in practice.

Since paying for apps in Serbia in the Android app store only became possible in 2014, removing an important obstacle for a potential apps economy, it is fair to say that early pessimism of companies regarding the underdeveloped Serbian market is realistic.

Opportunities

Pilot Phase I: It is realistic to believe that Idea contest will populate the platform with variety of ideas and significantly push WeLive concept from theoretical and promising to one with concrete business models being offered to companies. Moreover, we have become aware that even more marketing is necessary which will let developers know that there are open data available which will also greatly help WeLive project to gain its momentum, since we also discovered large number of programmers do not know that there are open data that can be exploited. WeLive has huge potential to become useful tool to promote the publication and usage of new datasets, while it also has huge potential when involving citizens in the decision procedures, and the can also become a tool for reducing the existing gap between citizens' expectations and PPAA strategies allowing PPAA to know more about citizens needs even.

Pilot Phase II: Novi Sad pilot task force would like for outcome of this overall assessment to contain both the impact assessment and a suggested list of actions to ensure its sustainablity as a conslusion. Given the ongoing work of the Serbian government regarding e-government and administrative reform, focus of our actions has been making open data available where that is easy to do so, and to form pilot supporting groups of government agencies, civil society, business and developers to quickly create through WeLive platform a few practical examples of the usage of open data via developed apps and provide active involvement of citizens in the co-creation process of public services, which can serve as example for further extension of the open data program at national level. The Serbian context of the public administration reform strategy indicates that active participation of citizens in formulationand implementation of public policies is one of the key assumptions of government's transparency. In addition, a new general e-government strategy is being proposed (by the Directorate for e-Government), which will be strengthened in terms of the role and impact of open data, as well as in terms of proposing relevant actions and law-revisions (information obtained from the Directorate for e-Government at http://www.deu.gov.rs/index.php).

Novi Sad hackathon held in the period 16 – 17 December 2017, for young developers, students and start-ups, enabled development of apps based on the winning ideas of Novi Sad citizens in Pilot Phase I to improve efficiency of public services, which were admittedly framed by availability of open data. The apps developed in Pilot Phase II tackled the questions of culture and environment: **"Culture key"** shows the cultural and public events scene in Novi Sad for the desired category, institution, place and/or the date. It combines data repertoire in theatres, concert events, museum exhibitions, and galleries; literary, dramatic, artistic and musical events in the city, including information on the area of the events; **"Street Art"** shows street artistic works and interventions in the city area. This outdoors gallery includes presentation of the works of artists who use different techniques in their expression: stickers, Stencil graffiti, video, mosaic, sprays, liquid colour, etc. The future application offers three possibilities for research: Chronologically, by geo-location and Index - by the authors (with a short biography of each author).

These apps coincided with winning of the *European Capital of Culture in 2021* for Novi Sad, whereas the significant rise of touristic offer and cultural events have already been underway, accompanied with bigger numbers of visitors to Novi Sad, boosting the local economy, hence it is logical to see these apps grow in future as the number of its consumers grows. Moreover, this also coincided with current cultural project titled *"Novi Sad – City of Murals",* where many public spaces have become the outdoors gallery, which was later conjoined with winning of additional title of the *European Youth Capital in 2019*, with the abundance of programs planned, whereas young people are being regarded as typical consumers and target group of developed apps. It is realistic to trust in their sustainability and upgrading in future, as the City of Novi Sad, might show an economic interest to become owner of the aforementioned apps, while this can also be attractive to many other organizers of cultural events in our City. On the other hand, **City of Novi Sad Problems with Plastic"** detects the problem that there are no adequate containers for plastic in the City of Novi Sad and hence they are not listed on the city map. This idea also proposes a solution: Citizens collect plastic in their homes. In the application they insert collected plastics on a daily basis. The application calculates the weight of plastics that are collected (as it is already pre-defined weight of packaging that is used in the house). It is then delivered to collection points, pre-determined. At the end of the month or on every 3

months the citizens receive money for collected plastic or they can earn reduction in bill for utilities. This can also serve as an additional income to some citizens and it also provides them a possibility to compete with others in how environmentally responsible they are. After a year, the City of Novi Sad would have statistics how much plastic is recycled, and the amount of money available in the budget as the result. The app in question might be equally interesting to companies and industry in the field. Lastly, one more app was developed during Pilot Phase II based on the citizens' ideas from the Idea Competition: **"My Local Community "** app was created to enable citizens to see by GPS coordinates the borderlines between local communities, whereas they can also choose the local community and obtain information about the local community activities as well as local self-government plans and current activities provided for the specific local community (e.g. removal of bulky waste, social gatherings, sport events, planting of trees, destruction of ragweed). The apps in question and especially the ones developed in Novi Sad hackathon did not have open and ready datasets, so the WeLive team - members of the City of Novi Sad Executive Body together with PUC Informatika, held a series of meetings with representatives of software companies, public companies, NGO's, civil organizations and private companies, as to explain WeLive motivation and reasoning behind necessity of making their inventories of information accessible and open. The datasets which populated WeLive platform after this were completely new and represent the real added value of hackathon. What is more, since we formed pilot supporting groups of government agencies, civil society, business and developers and created through WeLive platform a few practical examples of the usage of open data via developed apps and provided active involvement of citizens in the co-creation process of public services, it is realistic to believe that this can serve as example for further extension of the open data program at national level in Serbia.

Threats

Pilot Phase I: The biggest issue when considering why Novi Sad council would (or would not) incorporate WeLive and having impact on its policies is the awareness of the policy makers about Open Data which goes in hand in hand with the national legislature where open data and their democratization is still not at top of the priorities' list. WeLive has the pioneering role in making more space to talk about open data importance and we hope to make it an influential tool. Further to this, it will take just as long to conceptualize collected data and understand how it can be used in the grand scheme. Once active, Smart City technology will constantly be recording and measuring data, and it is going to take a lot of manpower to analyze it and filter it properly – which also should be taken into consideration. It will take a lot of time, even years beyond the project's official end, for We-Government agenda behind it, to be recognized and accepted as such, since overall climate should change in favour of WeLive and/or any other similar initiative in Serbia.

Pilot Phase II: To ensure WeLive sustainability it is still necessary to raise the awareness of people working within data holders by providing concise information material and holding internal sessions in which the current possibilities are presented and existing questions and concerns can be addressed. It is quite likely that such a campaign will likely need repetition over time, even after the project's end. Further to this, in order to enable any similar initiative it will be necessary to designate open data offcials in each government entity, possibly as part of the existing Access to Information Offices. In our engagement activities we have come to realize that various stakeholders will have concerns regarding the practical interpretation of legal aspects of opening up government information and data.When in doubt people will err on the safe side (and rightly so). Clarification of what is possible within the current legal framework will allay concerns and doubts and help the start of data publication. What is more, having a central overview of which databases exist where, and in which form, as well as which databases are currently being implemented helps build a roadmap for publishing open data sets where possible. Ministries and agencies can self-report a local overview of what they have, and are already mandated to publish concerning the information they hold (under the Access to Information Law). Adding which of those information assets concern data sets should be possible. Such an inventory can be published on a national open data portal. Within the newly created government Office for IT and e-government (July 2017), will host national data portal as to ensure open data can be found, a national open data portal provides the public with a single entry point. As promising as it sounds, it will take sizable time to

populate the portal – while some 'islands', usually large data holders, exist where capabilities and skills are much higher especially, the awareness is at law level and the relevant laws have to be revised and enacted. On the other hand, as it was mentioned earlier, no open data app economy currently exists, while general app usage in Serbia is common. This is supported by the fact that paying for apps in Serbia in the Android app store only became possible in 2014, removing an important obstacle for a potential apps economy, however, this is still underdeveloped sector. These have to be taken into consideration when business potential of WeLive is being looked upon. IT companies are highly oriented towards foreign outsourcing demand. Around Novi Sad ICT companies have organized themselves to better position Serbia internationally and increase local skills and experience (http://vojvodinaictcluster.org/about-us/). Government mostly (with the exception of Ministry of Interior) largely outsources ICT for lack of internal development capabilities. Retention of skilled ICT staff is a strong concern across government in general. This severely reduces the likelihood of such staff being available where they might be needed to implement open data steps. To make the matter worse, there is a general hiring freeze for government, and hiring IT staff is not an exception to that rule. As the employees of the Local Economic Development Office, within the the Executive body of Novi Sad, we have regular interatction with local vendors, which, based on a superficial scanning of online offerings and those active in various IT oriented communities, have no open data offerings as yet.

5. ASSESSING OF IMPACT

It should be emphasized that "impact" can be assessed in various ways, ranging from mere output (such as publishing a certain amount of raw data), through mid-term outcomes (through, for instance, increasing participation in a democratic process), to long-lasting impact (such as increasing social equity). In some cases, the descriptions may focus on short-term outputs only, even when the project does seem to achieve long-lasting change, while in other cases claimed impact may not have credible proof on attribution.

Bearing this in mind, focusing on mid-term outcomes in D5.4 was important for Pilot Phase I, as opposed to long-term impact which is the right next step to create solid base for evaluation at later stages towards the climax of Pilot Phase II, described in D5.5.

6. USE

How is data utilized in WeLive apps and what possible outcomes? Separating use and outcomes from impacts is conceptually helpful in developing a deeper understanding of how open data can bring about change. This section of framework looks at the category of users accessing data, the purposes for which the data will be used, and the activities being undertaken. It addressed the "who, what and why" of WeLive open data in use.

Understanding the purpose to which data is being put and the goals for its use is important form many forms of impact assessment.

SUBCOMPONENTS – CORE QUESTIONS	POTENTIAL INDICATORS (**EXAMPLES**)
● Users: Who is using WeLive open services apps? Who should be, or could be using open data? ● Purpose: For what purposes are citizens/organizations/SMEs/researchers using WeLive open services apps? To achieve what goals? ● Activities: To what uses are individuals/organization putting WeLive open services apps? In which sectors?	● Users: Categories of users drawn case studies, site analytics, surveys, and other sources (ex: researchers, entrepreneurs, media organisations) ● Purposes: The intended goal/result of open data programmes as expressed in research/project objectives (ex: to reduce spending) ● Activities: The particular forms of uses for open data (ex: benchmarking, hot spotting). What business models are being used in commercial open data re-use?

Table 1- Describing core questions and distinction of potential indicators to be taken in methodological approaches (retrieved from Open Data Research Org Site [21]

7. METHODOLOGY

Overview of data collection and measurement

Data Sources	Data Collection Methods	Techniques (**examples**)
Primary: Data managers, users in industry, academia and government Secondary: mainly government proxy data (e.g., GDP, household income, employment, payroll and exports) and industry reports	Desk research Web survey Online questionnaires Interviews Self-reporting In-depth case studies Focus groups Delphi study or expert opinion ……	Estimate of overall market size based on estimates of respondents Estimate of overall market size based on turnover International comparisons Projection, scenario analysis, expert opinion, team consensus approaches ……..

Table 2- Identifying sources, methods and techniques of the applicable technology

Harmonizing the operational definitions of datasets or data categories in different surveys can help to avoid confusion when the results of assessments of dataset availability are presented. Likewise, the weighting of different dataset features in data assessment is also an important consideration.

There are number of taxonomies of typologies needed to support further harmonization in this part of framework. In particular, taxonomies of:

- Kind of users (going deeper than just "private sector"/ "public sector")
- Purposes for WeLive open services use
- Activities of WeLive open services use
- Business models for open data

These lists may be sector specific, although it may be possible to move towards shared taxonomies in this area. Impact measurements may look at the benefits gained from using specific open datasets, or the returns from open data initiatives in general. In this section of the framework, and for the purposes of WeLive *D5.4 & D5.5* (included in T5.2) the benefits are studied according to social, transparency (political/governance), and economic/commercial dimensions. We split out economic and social as distinct categories, although some existing frameworks group these together, or group transparency and political in with social to offer a "triple bottom line" impact assessment. Collecting data against the three categories allows analysis to be carried out in a range of different ways.

SUBCOMPONENTS – CORE QUESTIONS	POTENTIAL INDICATORS (**EXAMPLES**)
Social: What are the social benefits to be gained from the use of WeLive open services apps? How can open data be used to increase equality, target resources to citizens and improve public services?	**Social:** Rates of public participation in government and policy making; evidence of increased social inclusion; building new democratic spaces for citizens; evidence of improved social policy; empowering local and disadvantaged voices; greater citizen participation in government affairs and supporting democratic societies by providing information about voting procedures, locations, ballot issues etc.
Transparency (governance): How does WeLive open services apps improve	**Transparency (governance)** use of open data to identify and challenge corruption; use of data to deliver better

government efficiency and accountability?	public services; increasing state of institutional responsiveness; monitor government activities, such as tracking public budget expenditures and impacts, public procurements; monitoring and holding officials and/or the private sector accountable etc.
Economic: What are the impacts of WeLive open services apps on economic growth and innovation?	**Economic:** Number of jobs created out of products/services; better understanding of potential markets and building new data-driven products; easier and less costly for government ministries to discover and access their own data or data from other ministries, which reduces acquisition costs, redundancy and overhead; contributions to economic growth from open data producing business; breaking down information gaps across industries, allowing companies to share benchmarks and spread best practices that raise productivity etc.

Table 3- Collecting data against three categories allows analysis to be carried out in a range of different ways

To address to our research question, there are varieties of different possibilities. One of these is mixed method approach **tailored to the field**, including tools such as crowdsourcing, content analysis, qualitative/quantitative stakeholder interviews/surveys/assessments and outcome mapping workshop, bearing in mind that each partner should opt for the most suitable methods in relation to his research indicators and desired outcomes.

7.1. ADITIONAL DEFINITIONS

In addition to the data collection method listed, here are some definitions for clarification purposes relevant for our research with D5.4 & D5.5:

- **Theory of Change** is essentially a comprehensive description and illustration of how and why a desired change is expected to happen in a particular context. It is focused in particular on mapping out or "filling in" what has been described as the "missing middle" between what a project/program or change initiative does (its activities or interventions) and how these lead to desired goals being achieved. It does this by first identifying the desired long-term goals and then works back from these to identify all the conditions (outcomes) that must be in place (and how these related to one another causally) for the goals to occur. These are all mapped out in an Outcomes Framework. The Outcomes Framework then provides the basis for identifying what type of activity or intervention will lead to the outcomes identified as preconditions for achieving the long-term goal. Through this approach the precise link between activities and the achievement of the long-term goals are more fully understood. It also leads to better evaluation, as it is possible to measure progress towards the achievement of longer-term goals that goes beyond the identification of project outputs.
- **Output:** defined as the final product, or goods and services WeLive project produces or delivers. Typical examples in the open government can include a new tool or info-graphics based on government datasets; the number of unique visitors to a website, etc.;
- **Outcome:** defined as the medium-term result for specific beneficiaries that are the consequence of achieving specific outputs, for example: more informed citizenry; changes in policies related to government transparency etc.
- **Impact:** defined as the long-term change in a society, such as reduced poverty or increased equity.
- **Outcome mapping** – the approach which has great potential for impact assessment through detecting and documenting the changes in the behaviours, relationships and activities of people and organizations a project interacts with, and can be applied to both organizational evaluation and long-term impact assessment in complex contexts. The methodology is less effective for demonstrating the

project's *direct* contribution to impacts, or producing generalizable findings that allow for comparative analysis between different contexts. However, Outcome Mapping might provide a good framework for identifying other research methods such as **Randomized controlled trials (RCTs), or randomized impact evaluations;** in our context, **RCT randomizes who** uses open data within WeLive Open Services **–** and who does not – the control**.** It then compares outcomes between those two groups; this comparison gives us the impact of the program or **quantitative surveys** to prove causality. Besides developing a robust **theory of change**, the approach works best when accompanied by **rigorous documentation** and **data collection**.

- **Key boundary partner groups** – all the individuals, groups or organizations with whom the project interacts directly and with whom the project can anticipate opportunities for influence.
- **Milestones –** graduated progress markers. By weighing the difficulty of the identified milestones, the project team engaged in *D5.4 & D5.5* can put the progress markers in order, so they advance in degree from the minimum the project implementing team would expect to see (relatively easy to achieve), to what they would like to see them doing (activities that require more active learning or engagement), to what they would love to see (truly transformative milestones).
- **Delphi method** is a structured communication technique or method, originally developed as a systematic, interactive forecasting method, which relies on a panel of experts. The experts answer questionnaires in two or more rounds. After each round, a facilitator or change agent provides an anonymous summary of the experts' forecasts from the previous round as well as the reasons they provided for their judgments. Thus, experts are encouraged to revise their earlier answers in light of the replies of other members of their panel. It is believed that during this process the range of the answers will decrease and the group will converge towards the "correct" answer. Finally, the process is stopped after a predefined stop criterion (e.g. number of rounds, achievement of consensus, stability of results) and the mean or median scores of the final rounds determine the results
- **Self-report study** is a type of survey, questionnaire, or poll in which respondents read the question and select a response by themselves without researcher interference. A *self-report* is any method, which involves asking a participant about their feelings, attitudes, beliefs and so on. Examples of self-reports are questionnaires and interviews; self-reports are often used as a way of gaining participants' responses in observational studies and experiments.

8. ASSESSING THE IMPACT: SOCIAL, TRANSPARENCY, ECONOMIC INSIGHTS

Each partner should be aware that as to address to our research question, there are varieties of different possibilities. One of these is mixed method approach **tailored to the field**, including tools such as crowdsourcing, content analysis, qualitative/quantitative stakeholder interviews/surveys/assessments and outcome mapping workshop, bearing in mind that each partner should opt for the most suitable methods in relation to his research indicators and desired outcomes.

When conducting assessment each partner should also be aware of WeLive Objectives adopted by the Consortium, measurable results – defined by the Consortium as reference points for its own "awarding of points" of the level of impact realized in relation to the impact research of the specific sector. For easier understanding, they are being summarized and grouped below:

Objectives	Measurable results
SO1– To promote the economic growth and job creation with added-value vertical apps and datasets	*MS-SO1 – Number of commercial apps and datasets created and sold through WeLive.*
SO2– To increase transparency and trust in public administrations through new datasets and apps	*MS-SO2 – Available datasets and apps usage, number of active WeLive user*
TO3 – To provide holistic support for the Open Innovation process of public services	*MS-TO4 – Availability of the WeLive Open Data Layer: Open Data Toolset and Citizen Data Vault components*
TO5 – To democratize creation of novel public services	*MS-TO5 – Availability of the WeLive Open Services Layer*
TO6 – To enable personalization and analytics of public services	*MS-TO6 – Availability of WeLive Intelligence Layer: Personalisation & Analytics.*
IO6 – To enable public service parameterization and exchange among public administrations	*MS-IO6.1 – Availability of several public services, which are deployed in different target cities. MS-IO6.2 – Availability of several public services, which are customizable to the profile and context of different citizens.*
IO7 – To reduce the public burden of citizens and businesses prosuming public services	*MS-IO7 – Number of stakeholders registered with WeLive which prosume new public service apps*
IO8 – To provide services that will enable transparent monitoring of the process of creation of new public services, from the selection to deployment and evaluation as well as monitoring of execution of existing public services	*MS-IO8 – Number of new services registered with WeLive which enable monitoring of public administration processes.*

Table 4- WeLive Objectives adopted by the Consortium, measurable results – defined by the Consortium

As described in the text above, social impact assessment includes the processes of analysing, monitoring and managing the intended and unintended social consequences, both positive and negative, of planned interventions (policies, programs, plans, and projects) and any social change processes invoked by those interventions. Its primary purpose is to bring about a more sustainable and equitable biophysical and human environment.

Likewise, what is closely connected to this issue is transparency assessment which is in real life addressing the ability of citizens to directly influence development of the city where they which will empower them and it is expected that increased transparency of the way the public activities are organized and funded will positively influence satisfaction of the citizens with the public administration and the city itself.

All deliverable's stakeholders should be aware when conducting assessment and related analysis of the co-dependency of each subject of our research and how they can lead to the better profile of the city in terms of the attractiveness for living as well as for commercial investments, which will lead to improvement of the local economy.

As for economic impact assessment deliverable participants should pay attention to division to public (government) sector and private sector, as mentioned earlier governments can benefit, for example on the business activity generated around the development of apps (their associated additional tax income) on top of their datasets, saving costs derived from the exploitation of linked data or foster the local economy by giving support to entrepreneurship and similar. For the private sector, new business opportunities are opened, enabling them to commercialize Open Data based value-added services, apps and datasets as Software as a Service (SaaS), Data as a Service (DaaS) or even Algorithms as a Service (AaaS). Likewise, businesses can generate high returns through the development of new products and services based on high value data domains.

Additionally, here is the example of potential economic impacts retrieved from the WeLive Description of Works:

	Drive Revenue through multiple areas	Cut Costs and Drive Efficiency	Generate Employment and develop future-proof skills
Benefit to Government	▪ Increased tax revenues though increased economic activity ▪ Revenues through selling high value added information for a price	▪ Reduction in transactional costs ▪ Increased service efficiency through linked data	▪ Create jobs in current challenging times ▪ Encourage entrepreneurship
Benefit to Private Sector	▪ Drive new business opportunities	▪ Reduced cost by not having to invest in conversion of raw government data ▪ Better decision making based on accurate information	▪ Gain skilled workforce

Source: Capgemini Consulting Analysis

Table 5- Economic impact benefits for public and private sector

Awarding of points should be based on data from two different sources for deliverable's own measured economic data (public and private entities) as described in the document and/or interviews, questionnaires and other suitable, tailored to the field, methods of research for social and transparency assessments. All of the results should be measured against selected indicators, the desired outcomes i.e. impact in relation to the project's objectives. To put it more straightforwardly, our research should evolve around these 4 central questions:

- Did the citizen users of the system felt empowered?
- Did there emerged any new businesses and jobs?
- Did the citizens feel that the service made public administration more transparent, trustful and of higher quality?
- How was the openness of the system?

Based on the results of the assessment for the Pilot Phase I, relating to *D5.4*., and the progress made, we developed and implemented new engagement, exploitation techniques to enhance the results in *D5.5*, and what is more important, based on our experience and conclusions we provided recommendations to secure the sustainability as well as further self-vitality even **after the project's ending date**. Collecting feedback and development ideas has been immensely valuable, as well as rewarding mechanisms and about the value of the WeLive from the democracy point of view. (i.e. do citizens feel that this kind of services are needed to strengthen peoples' possibilities to have impact on the decisions made on the public service providing), which was especially important as the project progresses into the Pilot Phase II. This has been further addressed in WeLive Pilot Phase I and Pilot Phase II execution and monitoring procedure document, stating that in case

"basic" social and welfare services are to be developed on the WeLive platform during the pilots, special attention should be paid to the governance and pricing models of these services in the future. Further, this kind of services should be reviewed by the Public sector as part of the open innovation process. Public sector should have strong role during the pilots and after their official closing, especially when piloting the Analytics Dashboard and Open Innovation Area in helping PA to carry its political responsibility in service providing.

8.1 BILBAO TASK FORCE

Bilbao, like most major cities, promotes social innovation projects. Often, these initiatives are linked to technological development processes and are aimed at addressing diverse social challenges: mobility, citizen security, environment, sustainability, inequality, inclusion, etc. The proposal of work that WeLive contributes is focused on generating an advantage of the great amount of innovation processes that are developed in the framework of the city of Bilbao. WeLive must act as a compiler of these initiatives linked to citizen participation, social innovation and technological development to act in a joint framework of support, visibility and narrative of the action of the municipal government.

To promote WeLive's future work, it is necessary to build a relational map of the city's social innovation that allows:

Visibility: The dissemination of projects through the social networks of the City Council will be accompanied by the creation of a narrative of the initiatives that link the character of the same with the objectives of the public policies of the City.

Support: The creation of the relational map will allow each of the initiatives to be focused with the corresponding department or area, to encourage a direct dialogue between agents (drivers and AAPPs) and thus place them around the objectives (technical and political) Of each department. In this way, for example, open data can be provided that can be useful for each of the innovation processes.

Continuity: The most obvious void of the initiatives of social innovation that are celebrated in the city is its continuity; through WeLive will be able to guide the proposals that arise from these initiatives and that fit with the technical and political will to turn them into pilot projects that could even consider a hiring, as public innovation.

8.1.1 SOCIAL IMPACT ASSESSMENT

Value assessment sector: SOCIAL ***PILOT PHASES I & II***	
Data Sources	**Pilot Phase I:** Citizens, public administration, developers, SMEs, researchers Primary: • Citizens in their threefold dimension: As proponents of ideas and solutions on how to improve municipal services; As users of the services, source of information in the design processes; As end users of the solutions • Entities in the social field, an associative movement that collaborates in the search for solution and as a key informant when it comes to providing content and context to technological processes. Secondary: Academic entities, a sector with which you can maintain collaborations to document the processes and connect the transfer of knowledge to the processes of participation in Public Services
	Pilot Phase II: Developers Citizens, Public administration, SMEs, researchers • Citizens in their threefold dimension: As proponents of ideas and solutions on how to improve municipal services; As users of the services, source of information in the design processes; As end users of the solutions • Entities in the social field, an associative movement that collaborates in the search for solution and as a key informant when it comes to providing content and context to technological processes. Secondary: • Academic entities, a sector with which you can maintain collaborations to document the processes and connect the transfer of knowledge to the processes of participation in Public Services
Data Collection Method	**Pilot Phase I:** Interviews, number of active WeLive users, availability of several public services
	Pilot Phase II: Interviews, number of active WeLive users, availability of several public services
Techniques/Methods of Calculation	**Pilot Phase I:** Estimate, comparisons, expert opinion, calculation of measurable results
	Pilot Phase II: Estimate, comparisons, expert opinion, calculation of measurable results
Selected Indicators	**Pilot Phase I:** Social Indicators: Requests for data received through interaction channels Datasets published in the Participation portal Workshops with citizen and social entities. Number of Editions, Number of Participants Channels of Communication with Citizens
	Pilot Phase I: Social Indicators

	• Requests for data received through interaction channels Datasets published in the Participation portal and Bilbao Open Data Portal • Workshops with citizen and social entities. Number of Editions, Number of Participants • Channels of Communication with Citizens
Desired Outcomes	**Pilot Phase I:** The We Live project is proposed as a platform that offers a series of infrastructure resources that allow citizens to develop services and products that improve the efficiency and efficiency of municipal public services. Promote a form of Crowdsourcing, with proposals generated by the citizens in an ecosystem of open innovation that can help the local government to face the challenges of the future: • Collecting transversal knowledge of the different profiles of citizens and organizations. • Providing a space for project development with special emphasis on inter-phase transactions and links between municipal staff and teams. • Learning as it is done, implementing pilots to test new solutions • Sharing information and working in a collaborative way overcoming barriers of authority and administrative boundaries.
	Pilot Phase II: The We Live project is proposed as a platform that offers a series of infrastructure resources that allow citizens to develop services and products that improve the efficiency and efficiency of municipal public services. Promote a form of Crowdsourcing, with proposals generated by the citizens in an ecosystem of open innovation that can help the local government to face the challenges of the future: • Collecting transversal knowledge of the different profiles of citizens and organizations. • Providing a space for project development with special emphasis on inter-phase transactions and links between municipal staff and teams. • Learning as it is done, implementing pilots to test new solutions • Sharing information and working in a collaborative way overcoming barriers of authority and administrative boundaries. • Collecting transversal knowledge of the different profiles of citizens and organizations.
Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I:** • M25 – end of Pilot Phase I: Useful • Activity with Public Administration: With respect to the Public Administration has developed information and presentation actions of the WeLive platform and the 3 Developed Services with the directors and management teams of the City's main departments such as Mayor's Office, Economic Development, Citizen Participation and Attention, Mobility, Management Of Works and Public Space, Tourism, among others. General results of the work with Public Administration: The main result of this activity has been the formulation of different Challenges expressed by the majority of the Areas around which they propose to promote a process of collaboration to the citizens and interest groups and the 2 Contests of Ideas celebrated with the collaboration of 2 of the Areas within the

	framework of this pilot. Although the 2nd Ideas Competition is being held at these dates and outside the strict deadlines of the 1st Pilot (ends on February 8) Experience with Challenges: From these Challenges, those formulated by the Economic Development and Youth and Sport Areas have been selected as the most suitable for this pilot because they are stable relations with specific groups of representatives of groups with vitality and initiatives in March and that at these dates had scheduled initiatives coinciding with the project WeLive.

	Pilot Phase II:
	• Second pilot has let developing and completing a remarkable number of co-creation experiences for public services in different sub processes and tasks that were planned
	• Important increment in the number of total users participating and developing new services for the WeLive platform
	• Mobilization of representative groups that form the city ecosystem about the paradigm of citizen'
	  ◦ Public administration: challenge publication, identification of citizen needs…
	  ◦ Citizens: presentation of needs, ideas proposals…
	• Capture of participants' feedback and evaluation about the participation infrastructure and the quality of the tools and services generated using:
	  ◦ Surveys
	  ◦ Interviews
	• New services/apps created:
	  ◦ Big Klub (deployment with Bilbao Ekintza)
	  ◦ Bilbao Events (deployment with the collaboration of Bilbao's Youth Department)
	• New published datasets: e.g. update of the dataset for Bilbao Events Open
	• New building Blocks: Bilbao Events Agenda, Bilbao Ekintza Events. New building blocks: Bilbao Events Agenda, Bilbao Ekintza Events,
	• Experiences with participants of different communities, co-creation and participation methodologies applied like Design Thinking.
	• Entrepreneurs: positioning in the city ecosystem, app development, and promotion of alliances…
	• IT Students: app development, startup promotion…

Results of the assessment: Direct benefits (if any)	**Pilot Phase I** **Pilot Phase II:** New services/apps created

Results of the assessment: Indirect benefits (if any)	**Pilot Phase I:** Increase the knowledge and practice of the co-creation process in several departments of the City Council The purpose of social innovation initiatives is to contribute to the improvement and innovation of municipal services provided in a fundamental aspect: • In the redesign of services, putting the citizens in the center as users and taxpayers. Working with the available data can be promoted processes to generate challenges that go to the center of the needs of users and support citizen solutions that can have their implementation • Promoting innovation, stimulating creative processes that facilitate access to knowledge, integrating different perspectives, attracting new talent and connecting productive units that generate economic activity. • In administrative efficiency, not only understood as a better functioning of the public services but also the mobilization of own resources and others (collective) to respond to social needs.

	Pilot Phase II: Consortium's analysis and reflection about the updating and sustainability of the platform and also about the co-creation practices developed:
	
	• Changes to introduce in several modules of the platform.
	• Sustainability of:
	  • The City's ecosystem maturity
	  • City's co-creation paradigm maturity
	• Collaboration between cities and experiences exchange:
	  • Planification, execution and evaluation of the pilot
	  • Exchange of building blocks
	• In the redesign of services, putting the citizens in the center as users and taxpayers. Working with the available data can be promoted processes to generate challenges that go to the center of the needs of users and support citizen solutions that can have their implementation
	• Promoting innovation, stimulating creative processes that facilitate access to knowledge, integrating different perspectives, attracting new talent and connecting productive units that generate economic activity

Key Boundary partners groups	**Pilot Phase I:** Involving citizens (youth, entrepreneurs, developers ...) should be the basis of WeLive for two fundamental reasons: • Because they are the proponents of the ideas and co-creators of the solutions. Administrations must assume the changing role of citizens: from recipients of services to collaborators. • Because solutions will be effective if those who are affected by public policies take part. Public Administration • The involvement and complicity of public workers that has to do with compliance with the procedure. The generation of an area of "early-adopters" of the pilots of the area that has to do with tolerance to the error of the public.

	Pilot Phase II: During the second pilot phase the efforts have been focused on: • Attract new app developers and IT students which are a key community to test the tools offered by the platform, especially the Visual Composer. • Get a strong implication from the City Council services responsible for getting relationships with the potentially most interested communities for the project like entrepreneurs, social innovators, young people… Integrate the deployment of new services with the common events and normal working of the existing communities: Kafe sarean entrepreneur community, Bilbao rock cultural agenda…

Recommendations	**Pilot Phase I:** Opening the data is necessary, but not enough if we want to capture the actual value of the data. Once the data is released you need developments and actions that realize their potential value. Thus, the objectives in this axis are: • Visibility of data in citizen and user code • Achieving citizen participation in reuse activities • Raise the level of training and data training • Encourage data journalism If we want to put citizens at the center of politics and achieve their participation, we must open channels to inform and communicate with them. They also need to address their doubts, opinions, comments or suggestions. Also, to encourage participation, it is important to carry out training activities for citizens' organizations and to encourage data reuse activities. Push approach, rather than pull: go where people are instead of assuming they will come to you. To involve people, and in particular specific demographic groups, cities need to go where the people are. Traditional consultations assume that the people will go the assigned place assigned (either physically or virtually), city projects need to go where the people are really. These may be unusual locations where public administration rarely goes. Online – Offline balanced interventions | Understand benefits and limits of different settings. Online apps and platforms can be immensely useful to engage citizens and collect input. Face-to-face and group interaction is likewise valuable for driving discussion and co-creating solutions, particularly with no digitally savvy groups. Online and offline approaches also come with different expectations that must be considered. There are many examples of both used for diverse ends. Participative, balanced with representative | Understand benefits and limits of approaches Though citizen engagement is about encouraging participation, not every citizen can be involved in every decision. A participative approach must be reconciled with a representative one. There are several considerations for when and how to do so. Reciprocal | 'Give for getting' to create fair and lasting relationships. Reciprocity is about giving for getting. Whether quality content, energy bill savings, profit, data or attention – citizens must be incentivized with concrete benefits in exchange for their time, effort, money or behavioural change.
	Pilot Phase II: Current society can be defined as the society of the data. It is expected that in the following years this feature will be even more accentuated. However, a very small proportion of the published data is used for the generating new innovative service, although this tendency is changing in the last few years as Pas have started to promote these initiatives based on data. Also it is a fact that still there are a number of data sources that are non-accessible and people have started to understand that data publication is not only a task of public administrators, it should be engage also relevant private entities. It is

	necessary a collaboration between public and private entities around data publication.		
POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points: 0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	2016	2017	2018
	Data collection methods KPI 1.4 Number of ideas from apps submitted in ideas contests: 25 approx. KPI 2.3 Requests for data received through interaction channels @Datasets published in the Participation portal KPI 5.6 Number of Workshops with citizen and social entities. Number of Editions, Number of Participants • Number of Editions: 15 • Number de Participants: 100 approx. Self-assessment: WeLive has created a change in social environment in Bilbao city in Pilot Phase I (scale 0-3) 1= A little bit	Data collection methods KPI 1.4 Number of ideas from apps submitted in ideas contests: 57 approx. KPI 2.3 Requests for data received through interaction channels @Datasets published in the Participation portal KPI 5.6 Number of Workshops with citizen and social entities. Number of Editions, Number of Participants Number of Editions: 8 Number de Participants: 115 Self-assessment: WeLive has created a change in social environment in Bilbao city in Pilot Phase I (scale 0-3) 1= A little bit	

8.1.2 TRANSPARENCY IMPACT ASSESSMENT

Value assessment sector: TRANSPARENCY ***PILOT PHASES I & II***	
Data Sources	**Pilot Phase I:** Citizens, public administration Primary: • Citizens who receive and demand information and data on the management of public services and can value their functioning better, thus increasing the legitimacy of public administrations • Social entities in the area of transparency and accountability, which give legitimacy to the processes of opening and participation. Secondary: Academic entities, a sector with which you can maintain collaborations to document the processes and connect the transfer of knowledge to the processes of participation in Public Services
	Pilot Phase II: Developers Citizens, Public administration, SMEs, researchers,.. Primary: • Developers: new app developers' community and technology students have contributed with relevant information about the tool's capacities and has given a valuable first feedback about the sustainability model of the platform. • Citizens in their threefold dimension: As proponents of ideas and solutions on how to improve municipal services; As users of the services, source of information in the design processes; As end users of the solutions • Entities in the social field, an associative movement that collaborates in the search for solution and as a key informant when it comes to providing content and context to technological processes. Secondary: • Academic entities, a sector with which you can maintain collaborations to document the processes and connect the transfer of knowledge to the processes of participation in Public Services
Data Collection Method	**Pilot Phase I:** Interviews, questionnaires, available datasets and apps usage, number of active WeLive users
	Pilot Phase II: Interviews, questionnaires, available datasets and apps usage, number of active WeLive users
Techniques/Methods of Calculation	**Pilot Phase I:** Estimate, comparisons, expert opinion, calculation of measurable results
	Pilot Phase II: Estimate, comparisons, expert opinion, calculation of measurable results

Selected Indicators	**Pilot Phase I:** Use of data to deliver better public services Number of datasets in different sectors Number of Request for access to information
	Pilot Phase II: Use of data to deliver better public services Number of datasets in different sectors Number of Request for access to information
Desired Outcomes	**Pilot Phase I:** For transparency: Opening data provides raw material for transparency. For the City Council, the data are the basis of accountability and evaluation of public policies. Civil society allows it to exercise a social audit function. By themselves, the data are often difficult to interpret by the final recipient, so it is important to have a broad base of information intermediaries – or infomediarios – among which play a prominent role and journalists, professionals and amateurs, Through the practice of so-called "data journalism". Open design for open government: Technology allows us to connect with a more active and autonomous citizenship in their social performance. That does not mean that administrations have less to worry about. On the contrary, it demands more information, more transparency, more openness and more collaboration. A very interesting fact is that the cities that foster and incorporate innovation are cities in which the collaborative economy – the prosumer – is penetrating more. The Open Government is the natural setting for these policies as it promotes access to information, collaboration and participation of the public, contributing to the improvement of public management, transparency and increased confidence in their administrations. Accountability is an act by which public officials in an institution detail activity to meet their objectives. It is a concept closely linked to citizen participation, transparency and access to information. These elements, taken together, contribute to raising legitimacy and confidence in institutions.
	Pilot Phase II: For transparency: Opening data provides raw material for transparency. For the City Council, the data are the basis of accountability and evaluation of public policies. Civil society allows it to exercise a social audit function. By themselves, the data are often difficult to interpret by the final recipient, so it is important to have a broad base of information intermediaries – or infomediarios – among which play a prominent role and journalists, professionals and amateurs, Through the practice of so-called "data journalism". Open design for open government: Technology allows us to connect with a more active and autonomous citizenship in their social performance. That does not mean that administrations have less to worry about. On the contrary, it demands more information, more transparency, more openness and more collaboration. A very interesting fact is that the cities that foster and incorporate innovation are cities in which the collaborative economy – the prosumer – is penetrating more.

	The Open Government is the natural setting for these policies as it promotes access to information, collaboration and participation of the public, contributing to the improvement of public management, transparency and increased confidence in their administrations. Accountability is an act by which public officials in an institution detail activity to meet their objectives. It is a concept closely linked to citizen participation, transparency and access to information. These elements, taken together, contribute to raising legitimacy and confidence in institutions.
Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I:** Useful **Pilot Phase II:** During the second pilot the collaboration with the Youth Area, the department for economic development Bilbao Ekintza and The Bilbao Open Data service has been consolidated. This has led to an important advance in the data publication processes and in the reuse of data by citizens and entrepreneurs in the initiatives regarding the development of new apps: Big Klub and Bilbao Ekintza.
Results of the assessment: Direct benefits (if any)	**Pilot Phase I:** The main result of this activity has been the formulation of different Challenges in the Agenda in the short term expressed by the majority of the Areas around which they propose to promote a process of collaboration to the citizens and interest groups and the Ideas obtained in the 2 Contests of Ideas celebrated
	Pilot Phase II: In terms of the quantitative aspect, KPIs have improved in the most needed parameters such as number of downloads of the apps, registered users in the platform, getting feedback from participants who took part in the events… The qualitative aspect has also improved by having a bigger understanding and clarity in value contributions to the project and its tools. The consortium has obtained valuable results regarding problems not solved by the city, such as: • The result of new services as a response to PAs challenges and needs validated by dynamic sectors of the city. • The relationship between city's ecosystem agents (entrepreneurs, students…) and PAs in terms of co-creation. While pilot phase 1 was focused on giving response to citizens' needs, the second pilot phase has worked with the ideas proposed by participants in Idea Contests and these ideas has been validated and redefined with administration sectors who created the challenges and the final users of the services, which means that the co creation circle has been improved.
Results of the assessment: Indirect benefits (if any)	**Pilot Phase I:** The main result of this activity has been the formulation of different Challenges in the Agenda in the short term expressed by the majority of the Areas around which they propose to promote a process of collaboration to the citizens and interest groups and the Ideas obtained in the 2 Contests of Ideas celebrated
	Pilot Phase II: The main result is that the functionalities and potential uses have been properly validated: • The platform has been used to get an interaction between different actors of the city's ecosystem.

	Platform is very useful and helpful to implement co-creation processes.
Key Boundary partners groups	**Pilot Phase I:** Youth, Associations, citizens
	Pilot Phase II: Youth, Associations, citizens
Recommendations	**Pilot Phase I:** the project team engaged in *D5.4* & *D5.5* can put the progress markers in order, so they advance in degree from the minimum the project implementing team would expect to see (relatively easy to achieve), to what they would like to see them doing (activities that require more active learning or engagement), to what they would love to see (truly transformative milestones) Depending on the state of thinking at city offices, education among stakeholders may be necessary to gain buy-in and support from the city. This may be the natural result of early project development or a dedicated initiative. Additionally, working closely with different stakeholders, including public private partnerships can help achieve engagement goals. At the same time, it is important to keep in mind that a municipality is not homogeneous: while most city officials might stick to conventional approaches, there are always change-makers and people with innovative thinking among city officials. Thus, an important task for a participatory project is to identify such people and to connect with them, as they will become internal change agents in municipality, defending and promoting citizens' interests within their organizations, challenging the common mindsets of their colleagues with new examples, and changing the existing routines towards more innovation and participation. To have the maximum impact in this area it is necessary: 1. Work with the maximum of transparency, opening all the public information around the Public Services of the City. 2. Systematize the accountability exercise, providing evidence of compliance with the objectives of the participation processes 3. Responsibility, identifying the responsibilities assigned in the processes and distributing the commitments adopted by the different area Engagement: the communication that is sought with the citizenship is bidirectional so that the management of participation channels is key-
	Pilot Phase II: The systematic publication of data is a strategic decision that every PA is progressively adopting due to its own decision or strategic plans. However, this strategy should be reflected in structural changes that are still pending. An internal Data Governance would permit to control and manage how data flows inside the organization, and this way permit a systematic publication of data with the ideal thematic, updating frequency and geographic reference. This is a pending long term pending task for the Bilbao City Council. A Data Governance Plan would lead to an optimal data flow which would fulfil the needs of the new generated services. Data publication is not only a transparency exercise; it is an investment of resources that should impact of other entities (data reusers). The field where this re-usage is applied should be analyzed and supported. To achieve that new services are created based on new published data, some connection mechanisms must be defined with data reusers. There is a great lack of information about how this data is used and by whom due to this lack of a communication channel.

POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points: 0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	2016	2017	2018
	Data Collection Methods: KPI 2.1 Number of datasets working exported through the OD Toolset:174 We Live has created a change in transparency environment in Bilbao in Pilot Phase I (SCALE 0-3) 1 = A little bit	Data Collection methods: Data Collection methods: KPI 2.1 Number of datasets working exported through the OD Toolset: 169 We Live has created a change in transparency environment in Bilbao in Pilot Phase I (SCALE 0-3) 1 = A little bit	

8.1.3 ECONOMIC IMPACT ASSESSMENT

Value assessment sector: ECONOMY ***PILOT PHASES I & II***	
Data Sources	**Pilot Phase I:** Developers, SME´s, academia Primary: ● Developers: the infomediary sector is key in developing technology-based solutions in urban innovation ● Entrepreneurs and start-ups: The entrepreneurship ecosystem is a key source of proposal and development of innovative solutions Secondary: ● Suppliers who may be interested in proposing solutions on their own Services and redesigning processes in collaboration with users and administration ● Other municipal areas, as the processes of urban innovation are transversal and affect several competences that are already redistributed in the municipal organization chart
	Pilot Phase II: Developers, SME´s, academia Primary: ● Developers: the infomediary sector is key in developing technology-based solutions in urban innovation ● Entrepreneurs and startups: The entrepreneurship ecosystem is a key source of proposal and development of innovative solutions

	Secondary: • Suppliers who may be interested in proposing solutions on their own Services and redesigning processes in collaboration with users and administration • Other municipal areas, as the processes of urban innovation are transversal and affect several competences that are already redistributed in the municipal organization chart.
Data Collection Method	**Pilot Phase I:** Interviews, expert opinion
	Pilot Phase II: Interviews, expert opinion
Techniques/Methods of Calculation	**Pilot Phase I:** Estimate
	Pilot Phase II: Estimate
Selected Indicators	**Pilot Phase I:** Number of Ideas Contest Nº Open Data training workshops Advice on Open Data in Entrepreneurship Support Programs Nº Open Data Business Meeting Nº Open Data Training Materials
	Pilot Phase II: Number of Hackathons Nº WeLive training workshops Advice on Open Data in Entrepreneurship Support Programs Nº WeLive Business Meeting Nº WeLive Training Materials

Desired Outcomes	**Pilot Phase I:** Bilbao Innovative City, Leader in Technology and Knowledge Management: WeLive seeks to generate economic and social value in the city of Bilbao using open data and co-creation projects. WeLive seeks innovation through technology, entrepreneurship and transversely of all areas. It is only innovated in an interaction context. A creative process is required that involves all the actors of society and in which cooperation and networks are a key element. An innovative city is a city where investments in human and social capital and communication infrastructure actively promote sustainable economic development and a high quality of life, with an informed management of natural resources through a participatory government. For this, the data is a key resource. Free access to information can generate innovative business models and create much more useful tools and products for the world in which we live. Used from this perspective, data is a catalyst for innovation in the public sector and also in the private sector, supporting the creation of new business and employment markets. The objectives in this axis are: • Activate the collaboration of citizens, entities and companies in the generation of public value through the open data service. • Explore spaces for innovation with other Open Data initiatives. • Encourage experimentation. • Establish sectorial areas of innovation with other municipal entities.
	Pilot Phase II: " Bilbao Innovative City, Leader in Technology and Knowledge Management": WeLive seeks to generate economic and social value in the city of Bilbao using open data and co-creation projects. WeLive seeks innovation through technology, entrepreneurship and transversely of all areas. It is only innovated in an interaction context. A creative process is required that involves all the actors of society and in which cooperation and networks are a key element. An innovative city is a city where investments in human and social capital and communication infrastructure actively promote sustainable economic development and a high quality of life, with an informed management of natural resources through a participatory government. For this, the data is a key resource. Free access to information can generate innovative business models and create much more useful tools and products for the world in which we live. Used from this perspective, data is a catalyst for innovation in the public sector and also in the private sector, supporting the creation of new business and employment markets. The objectives in this axis are: • Activate the collaboration of citizens, entities and companies in the generation of public value through the open data service. • Explore spaces for innovation with other Open Data initiatives. • Encourage experimentation. • Establish sectorial areas of innovation with other municipal entities.

Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I:** Activity with sectors of the Citizenship: collectives of Start-ups, digital creators, youngsters. Focus on collectives: The focus on the pilot has been developed with a sample of groups of Entrepreneurs, Social Innovators, digital creators and so on, with a general profile of young people and with a broad relationship with technology and innovation processes, very people Valid for the next months to continue work and specifically for the 2nd pilot in 2017. Experience with Ideas Contests: With regard to Citizens, 2 Ideas Contests have been promoted and developed mainly for Entrepreneurs, digital creation groups and youth in relation to 2 of the Challenges selected and of special interest for the city, such as promoting The communication between these sectors of entrepreneurs, digital creators, start-ups and among them for the search of synergies, collaboration, and secondly to promote the communication between these groups and the administration to promote a more innovative, creative and oriented city to attract the talent. Preparation of Events: Competitions have been launched from very relevant events in their activity: congresses, etc., and in centers and equipment associated with the activity of these groups. Ideas: The number of ideas presented has been relevant and it is in the process of analysing their transformation into future new public services

	Pilot Phase II:
	
	- Second pilot has let developing and completing a remarkable number of co-creation experiences for public services in different sub-processes and tasks that were planned:
	  - Important increment in the number of total users participating and developing new services for the WeLive platform. https://dev.welive.eu
	  - Mobilization of representative groups that form the city ecosystem about the paradigm of citizen'
	  - Public administration: challenge publication, identification of citizen needs…
	  - Citizens: presentation of needs, ideas proposals…
	  - Capture of participants' feedback and evaluation about the participation infrastructure and the quality of the tools and services generated using:
	  - Surveys
	  - Interviews
	  - New services/apps created:
	  - Big Klub (deployment with Bilbao Ekintza)
	  - Bilbao Events (deployment with the collaboration of Bilbao's Youth Department)
	  - New published datasets: e.g. update of the dataset for Bilbao Events Open Data
	  - New building Blocks: Bilbao Events Agenda, Bilbao Ekintza Events
	  - Experiences with participants of different communities, co-creation

	and participation methodologies applied like Design Thinking. • Entrepreneurs: positioning in the city ecosystem, app development, and promotion of alliances… • IT Students: app development, startup promotion…
Results of the assessment: Direct benefits (if any)	**Pilot Phase I:** Ideas for new public services

	Pilot Phase II:
	• New services/apps created:
	  • Big Klub, (deployed with Bilbao Ekintza)
	  • Bilbao Events (deployed with the Youth Department)
	Big Klub is an example inspired in the need of facilitating the communication between members of the entrepreneur community and also between them and the Economic Development Agency of the city. The idea was proposed in an Idea Contest as a response to the challenge created by the PA about how to activate the creation of companies and consolidate start-ups.
	Bilbao Events app was created inspired on the need of improving the dissemination of events and initiatives between young people and as well as promoting them using Social Networks for event promoters. The idea was defined in an Idea Contest and it responded to the PA's challenge about improving the leisure options for young people in Bilbao.

Results of the assessment: Indirect benefits (if any)	**Pilot Phase I:** To increase the efficiency in the processes of relation with interest groups and in the promotion of co-creation processes

	Pilot Phase II:
	• Consortium's analysis and reflection about the updating and sustainability of the platform and also about the co-creation practices developed:
	  ○ Changes to introduce in several modules of the platform.
	  ○ Sustainability of the platform
	  ○ City's ecosystem maturity
	  ○ City's co-creation paradigm maturity
	• Collaboration between cities and experiences exchange:
	  ○ Planification, execution and evaluation of the pilot
	  ○ Exchange of building blocks
	• In the redesign of services, putting the citizens in the center as users and taxpayers. Working with the available data can be promoted processes to generate challenges that go to the center of the needs of users and support citizen solutions that can have their implementation
	• Promoting innovation, stimulating creative processes that facilitate access to knowledge, integrating different perspectives, attracting new talent and connecting productive units that generate economic activity.

Key Boundary partners groups	**Pilot Phase I:** Youth, Professional associations
	Pilot Phase II: SMEs, developers and PA

	During the second pilot phase the efforts have been focused on: Attract new app developers and IT students which are a key community to test the tools offered by the platform, especially the Visual Composer. Get a strong implication from the City Council services responsible for getting relationships with the potentially most interested communities for the project like entrepreneurs, social innovators, young people… Integrate the deployment of new services with the common events and normal working of the existing communities: Kafe sarean entrepreneur community, Bilbao rock cultural agenda, …
Recommendations	**Pilot Phase I:** Entrepreneurs, research centers and companies are not yet in the key of reusing public data. Policies are needed to promote reuse in order to capture the value of the data. So, it is needed: • Actions that seek effective collaboration between public and private entities, through the establishment of a relationship framework that contributes to putting more dynamics to the reuse of data. • Activities to promote the reuse of data to boost the economic activity of the city and its area of influence • Actions to raise the level of training and capacity of society to reduce the digital divide in the definition and management of Public Services • Activities to promote reuse to create new initiatives and businesses
	Pilot Phase II: An internal Data Governance would permit to control and manage how data flows inside the organization, and this way permit a systematic publication of data with the ideal thematic, updating frequency and geographic reference. This is a pending long term pending task for the Bilbao City Council. A Data Governance Plan would lead to an optimal data flow which would fulfil the needs of the new generated services. Data publication is not only a transparency exercise; it is an investment of resources that should impact of other entities (data reusers). The field where this re-usage is applied should be analyzed and supported. To achieve that new services are created based on new published data, some connection mechanisms must be defined with data reusers. There is a great lack of information about how this data is used and by whom due to this lack of a communication channel.

POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points: 0 = Not really	2016	2017	2018
	Data Collection Methods: 1. Number of participant to the Idea Contest 2. Number of ideas for new services presented Number of (insert the number of selected indicators) 1. : 50 approx.	Data Collection Methods: 1. Number of participant to the Hackathons 2. Number of ideas for new services presented Number of (insert the number of selected	

1 = A little bit 2 = Significantly 3 = Very much	2. : 25 approx. Self-assessment: WeLive has created a change in economy environment in Bilbao in Pilot Phase I (scale 0-3) 1 = A little bit	indicators) 1. : 20 2. : 49 Self-assessment: WeLive has created a change in economy environment in Bilbao in Pilot Phase I (scale 0-3) 1 = A little bit	

8.2 HELSINKI REGION TASK FORCE

8.2.1 SOCIAL IMPACT ASSESSMENT

Value assessment sector: SOCIAL ***PILOT PHASES I&II***	
Data Sources	**Pilot Phase I:** Citizens, Public administration, Developers, Companies
	Pilot Phase II: Citizens, Public administration, Developers, Companies
Data Collection Method	**Pilot Phase I:** Questionnaire, Interview
	Pilot Phase II: Questionnaire, Interviews
Techniques/Methods of Calculation	**Pilot Phase I:** Affinity diagram, statistical analysis
	Pilot Phase II: Affinity diagram, statistical analysis
Selected Indicators	**Pilot Phase I:** Number of Ideas on the WeLive platform CVG
	Pilot Phase II: Number of ideas and needs on the WeLive platform, and engaged people.
Desired Outcomes	**Pilot Phase I:** 50 new service ideas
	Pilot Phase II: Needs presented by citizens and ideas to correspond them
Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I:** In the pilot phase 1, 25 new service ideas were suggested using the WeLive platform
	Pilot Phase II: In the pilot phase 2, 140 needs and 41 new service ideas were suggested using the WeLive platform. Citizens' needs are identified and corresponding concept ideas are delivered through different channels. Overall, in Helsinki Region pilot area 1434 people has been engaged in the different phases of co-creation process.
Results of the assessment: Direct benefits	**Pilot Phase I:** Developers and companies get new ideas
	Pilot Phase II: Citizen developers can transform the citizens' needs into new service ideas and therefore spinoffs and start-ups. Companies and cities gain insights about the customers' needs and therefore can create more customer-based services, which increases their competitiveness on the market. During Helsinki Region pilots, different social challenges like a challenge regarding unemployment among the young have been identified and therefore taken on board, leading to address social challenges with increased focus.
Results of the assessment: Indirect benefits	**Pilot Phase I:** Increased efficiency in public services thanks to the developed apps
	Pilot Phase II: Increased understanding in city organizations and their different departments about what kind of data is needed for developing digital services and individual services can support larger challenges in the cities.

Key Boundary partners groups	**Pilot Phase I:** Citizens
	Pilot Phase II: Citizens, PA, Companies, 3rd sector
Recommendations	**Pilot Phase I:** Cities should use multichannel ways to involve citizens and other stakeholders
	Pilot Phase II: The co-creation process in cities should become coherent and each phase has a link into the public service production. In addition, every phase of the service development should include users/citizens and the citizens' self-organized activities should be identified as a formidable asset for developers and start-ups.

POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points: 0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	2016	2017 & 2018
	Data Collection Methods: **KPI 1.4** Number of ideas submitted in the ideas contest: **24** **KPI 5.6** Number of Workshops with citizen and social entities: ● Number of Editions: **27** (3 inform me – 1 guide me and support me, and evaluation 9 events) ● Number of Participants: 207 Self-assessment: We Live has created a change in social environment in Helsinki in Pilot Phase I (scale 0-3) 1 = A little bit	**Accumulative results:** **KPI 1.4** Number of Ideas presented in the Idea Contest, by developer groups and engaged citizens: 83 Number of engagement events with citizen and social entities: ● Number of Events: 21 (6 inform me, 5 guide me, 8 support me and 2 feedback) ● Number of Participants: 1434 **Self-assessment:** We Live has created a change in social environment in Helsinki in Pilot Phase II (scale 0-3) 1 = A little bit

8.2.2 TRANSPARENCY IMPACT ASSESSMENT

Value assessment sector: TRANSPARENCY ***PILOT PHASES I&II***	
Data Sources	**Pilot Phase I:** Citizens
	Pilot Phase II: Citizens
Data Collection Method	**Pilot Phase I:** Questionnaire
	Pilot Phase II: Questionnaire, evaluation sessions

Techniques/Methods of Calculation	**Pilot Phase I:** Affinity diagram, statistical analysis
	Pilot Phase II: Affinity diagram, statistical analysis
Selected Indicators	**Pilot Phase I:** Users understand the whole open innovation process and indicate that in evaluation sessions
	Pilot Phase II: Users understand the whole collaborative innovation process and indicate that in questionnaires and evaluation sessions
Desired Outcomes	**Pilot Phase I:** • Users can understand different phases of the open innovation process orchestrated by city. • Open data supports active citizenship, research and journalism by increasing transparency. For example, it facilitates discussions in social media by making it easier to reference to government information. • More data assets are possible to get through WeLive environment More data applications related to cities policy-making are available for citizen
	Pilot Phase II: • Users and other stakeholders can understand different phases of the collaborative innovation process orchestrated by city, and can participate in the different phases • The needs and ideas can be understood through the WeLive environment
Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I:** Based in questionnaire users think that WeLive environment is relatively transparent.
	Pilot Phase II: People understand the co-creation process relatively good in general, but IPR rights and specific elements are unclear. The public co-creation process is not coherent and the developer teams seek necessary support from other sources. Ownership-related factors should be determined at the very early stage of development and co-creation process.
Results of the assessment: Direct benefits	**Pilot Phase I:** Citizens understand better what kind of decisions the city is going to make.
	Pilot Phase II: The different phases of collaborative innovation process have been identified and link them to the city's service innovation process.
Results of the assessment: Indirect benefits	**Pilot Phase I:** Increased efficiency in public services
	Pilot Phase II: Due to creating an understanding of the different processes of city's service production among citizens and other stakeholders, each other's role in the entirety becomes clearer, which supports different stakeholders to participate more easily.
Key Boundary partners groups	**Pilot Phase I:** Citizens, Cities
	Pilot Phase II: Citizens, PA, 3rd sector

Recommendations	**Pilot Phase I:** It is needed to develop the WeLive open innovation process together with users and cities to improve open innovations process transparency.	
	Pilot Phase II: Different stakeholders should be involved in the co-creation process	
POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points: 0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	2016	2017 & 2018
	Data Collection Methods: (KPI2.1 about Open Data Stack) Current Datasets Number of (insert the number of selected indicators) KPI2.1: 15 Self-assessment: WeLive has created a change in transparency environment in Helsinki region in Pilot Phase I (scale 0-3) 1 = A little bit	**Accumulative results:** (KPI2.1 about Open Data Stack) Current Datasets Number of (insert the number of selected indicators) KPI2.1: 50 **Self-assessment:** WeLive has affected transparency environment in Helsinki region in Pilot Phase II (scale 0-3), for example City of Vantaa has published its open job positions in Vantaa area as an open dataset as well as a specific website 1 = A little bit

8.2.3 ECONOMIC IMPACT ASSESSMENT

Value assessment sector: ECONOMY ***PILOT PHASES I & II***	
Data Sources	**Pilot Phase I:** Developers, SME's
	Pilot Phase II: Developers, SME's
Data Collection Method	**Pilot Phase I:** Interviews
	Pilot Phase II: Interviews
Techniques/Methods of Calculation	**Pilot Phase I:** Affinity diagram, statistical analysis
	Pilot Phase II: Affinity diagram, statistical analysis
Selected Indicators	**Pilot Phase I:** Developers and companies that were interested to participate
	Pilot Phase II: Developers and companies that were interested to participate

Desired Outcomes	**Pilot Phase I:** • Activate the collaboration of developers and SME's in the generation of public value through the open data service. • Amount of developers and SME's that want to create new building blocks, develop services and finally publish apps in WeLive environment. Companies have more opportunities to utilize government data for free. Open data has noticed to breed new markets and supports innovation. For example, new ways to use information have many times been found by people who have a different educational background compared to the usual users.
	Pilot Phase II: • Increased collaborative innovation between public, private and 3rd sector as well as citizens • Companies and cities gain insights about the customers' needs and therefore can create more customer-based services, which increases their competitiveness on the market
Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I:** The platform provides new data assets that companies and developers can utilise. It also provides target groups possibility to use building block created by consortium.
	Pilot Phase II: One of the created service concepts have proceeded into the phase, in which it is transforming into a start-up and seeking funding. In addition, a software developing company which participated in the library concept creation as a testing partner with the city of Vantaa, continued to enlarge its markets into United Kingdom by using the results of its work in the collaboration within the library concept.
Results of the assessment: Direct benefits	**Pilot Phase I:** Ideas for new public services
	Pilot Phase II: By co-creation, start-ups can develop and innovate service as more need-based and therefore increase their competitiveness on the market.
Results of the assessment: Indirect benefits	**Pilot Phase I:** To increase the efficiency in the processes of relation with interest groups and in the promotion of co-creation processes
	Pilot Phase II: Start-up activity increases and the public-private-collaboration becomes more fruitful as the collaborative innovation enhances the service design and creation processes with user engagement and participation of citizens, which leads to boost the local businesses and improve cities' economy and services.
Key Boundary partners groups	**Pilot Phase I:** Developers and companies
	Pilot phase II: Developers and companies

<table>
<tr><td>Recommendations</td><td><u>Pilot Phase I:</u> WeLive platform should design together with users and other stakeholders so that it reflects their needs. This will ensure that different target groups will get information in specific points during the open service design process.

As a result of the study it can be concluded that the developers have a huge variety of needs and requirements of the new innovation platform, as well as the user interface. The main needs and requirements are related to the general development, motivation, as well as technical issues. According to the results the innovation platform should be versatile and usable for all developers regardless of technical skills. The innovation platform should be an enabler of development and innovation, which aims to improve co-development. The platform should be standardized, or at least predetermined by its technical specifications. It should provide community for the users and strive to motivate the developers and citizens in many ways. Originally, it was assumed that the developer’s point of view is focused on the technology and its requirements. Later when research was advanced, it became clear that the main results do not consist only of technical needs and requirements. Results also consist of the needs and requirements of the general operation and motivation of the developers. These needs and requirements allow developers to do their job with pleasure. Technical needs and requirements are also relevant but not as important as motivation and general operation.

<u>Pilot Phase II:</u> The motivational aspects of the developers should be considered. What are the real needs and requirements that allow developers to do their job with pleasure? Technical needs and requirements are relevant but not as important as motivation and general operation. Co-creation and its different aspects like IPR rights and ownership should be determined strictly. The platform needs to bring fort the possibilities and benefits so that the companies and developers would use it and form a community.</td></tr>
</table>

POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points: 0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	2016	2017 & 2018
	Data Collection Methods: 1. Number of Challenges launched in the Idea Contest: 5 2. Number of Ideas presented in the Idea Contest: 24 Self-assessment: WeLive has created a change in economy environment in Helsinki region in Pilot Phase I (scale 0-3) 1 = A little bit	**Accumulative results:** 1. Number of Challenges launched in the Idea Contest: 5 2. Number of Ideas presented in the Idea Contest, by developer groups and engaged citizens: 83 **Self-assessment:** WeLive has created a change in economy environment in Helsinki region in Pilot Phase II (scale 0-3) 1 = A little bit

8.3 TRENTO TASK FORCE

8.3.1 SOCIAL IMPACT ASSESSMENT

Value assessment sector: SOCIAL ***PILOT PHASES I & II***	
Data Sources	**Pilot Phase I:** Citizens, researchers, developers, academia, public administration Mainly: • citizens in their threefold dimension: As proponents of ideas and solutions on how to improve municipal services; As users of the services, source of information in the design processes; As end users of the solutions • Academic entities, a sector with which you can maintain collaborations to document the processes and connect the transfer of knowledge to the processes of participation in Public Services
	Pilot Phase II: Citizens, developers, researchers, public administration
Data Collection Method	**Pilot Phase I:** Online questionnaires, available datasets and apps usage, number of active WeLive users
	Pilot Phase II: WeLive platform, questionnaires, offline communication, available datasets and apps usage
Techniques/Methods of Calculation	**Pilot Phase I:** Estimate, comparisons, calculation of measurable results
	Pilot Phase II: Comparisons, estimates, calculation of measurable results
Selected Indicators	**Pilot Phase I:** Building new democratic spaces for citizens, social inclusion evidence
	Pilot Phase II: Building new democratic spaces for citizens, social inclusion evidence
Desired Outcomes	**Pilot Phase I:** Democratize creation of novel public services, sharing information and working in collaborative way in overcoming administrative boundaries of public authority.
	Pilot Phase II: Foster co-creation to overcome administrative boundaries and to develop efficient public services, share information
Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I: useful** • **Activity with Public Administration:** With respect to the Public Administration has developed information and presentation actions of the WeLive platform and the 3 Developed Services with the management teams of the City's main departments such as ICT, Mobility, Youth, Tourism, Communication, among others. • **General results of the work with Public Administration:** The main result of this activity has been the test of the platform and the formulation of seven (7) different Challenges to promote a process of collaboration to the citizens with the Contests of Ideas celebrated ending at the deadline of the 1st Pilot (31 of January)
	Pilot Phase II: very useful. During pilot phase two, the co-creation process has been fully implemented in its many facets. Building upon the results of the ideas

	competition, real citizens (young developers) have been involved into implementing them and creating new public services. Offline communication was performed to refine the winning ideas of the ideas contest and to transform them in public services.
Results of the assessment: Direct benefits	**Pilot Phase I:** Results have benefited both the citizens and the PA. Their interaction has led to an increased feeling of trust in the PA (as proved by the high number of people who took part in various events and who reacted to the requests put forward by the PA) and to the establishment of solid and direct communicative channels. **Pilot Phase II:** The interaction between PA & citizens went even further; there have been many occasions to meet those people who actively partook in the co-creation process and communication often continued offline. This trustworthy relationship was proved by the willingness of those people to provide further feedback and help improving public services.
Results of the assessment: Indirect benefits	**Pilot Phase I:** Increased knowledge and practice of the co-creation process in several departments of the city administration, citizens, IT sector, companies; increased efficiency in public services thanks to the developed WeLive apps
	Pilot Phase II: Increased knowledge and practice of the co-creation process in several departments of the city administration, citizens, IT sector, companies; increased efficiency in public services thanks to the developed WeLive apps
Key Boundary partners groups	**Pilot Phase I: Citizens,** youth, entrepreneurs, developers, etc.) are the basis of WeLive. **Public Administration:** it is really important the involvement and complicity of public workers that has to do with compliance with the procedure. It is important working in compliance to the Smart City guidelines to find topic for the services and to generate an area of "early-adopters" for the new services. **Pilot Phase II:** Citizens (youth, developers) are the main groups that were targeted by WeLive. PA: involvement of PA employees has likewise been essential.
Recommendations	**Pilot Phase I:** Open useful data for mobile services (real time data) Create open services to integrate PA's back office procedure
	Pilot Phase II: Introduction of more people to WeLive. Spreading knowledge about the project and its potential to increase the use of public services.

POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points:	2016	2017	2018
	Data Collection Methods: **KPI 1.4** Number of ideas submitted in the ideas contest: **37** **KPI 5.6** Number of Workshops with citizen and social entities:	Data collection methods: **KPI 1.7** Number of needs: **25** **KPI 2.1** Actual datasets: **193** Self-assessment:	

0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	• Number of Editions: **27 (**7 inform me events – 20 guide me events) • Number of Participants: **1107** Self-assessment: We Live has created a change in social environment in Trento in Pilot Phase I (scale 0-3) 1 = A little bit	We Live has created a change in social environment in Trento in Pilot Phase I (scale 0-3) 1 = A little bit	

8.3.2 TRANSPARENCY IMPACT ASSESSMENT

Value assessment sector: TRANSPARENCY ***PILOT PHASES I & II***	
Data Sources	**Pilot Phase I**: Citizens as active stakeholders in smart idea generation, as users of open public services, sources of information in the design process, also as the end users of the available solutions, public administration as an enabler and facilitator
	Pilot Phase II: Citizens as generators of ideas and main subjects of the co-implementation process. PA as enabler (publisher of open datasets). Researchers for assessing and ensuring high quality of artefacts (BBs).
Data Collection Method	**Pilot Phase I**: Online questionnaires, available datasets and apps usage, number of active WeLive users
	Pilot Phase II: Questionnaires, available datasets, apps usage, number of active users
Techniques/Methods of Calculation	**Pilot Phase I:** Estimate, comparisons, calculation of measurable results
	Pilot Phase II: Comparisons, estimates, calculation of measurable results
Selected Indicators	**Pilot Phase I:** Use of data to deliver better public services Number of datasets in different sectors Number of Request for access to information
	Pilot Phase II: Use of data to deliver better public services. Number of datasets in different sectors. Number of Request for access to information
Desired Outcomes	**Pilot Phase I:** Use of data to deliver better public services; increasing state of institutional responsiveness; monitor government activities, such as tracking public procurements; boosting confidence and trust in the public authority activities through new datasets and apps; transparent monitoring of the process of creation of new public services
	Pilot Phase II: Use of data to deliver better public services; increasing state of institutional responsiveness; boosting confidence and trust in the public authority activities through new datasets and apps; transparent monitoring of the process of creation of new public services

Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I**: M25-end of Pilot Phase I – Useful **Pilot Phase II:** end of pilot phase II – very useful The high number of published datasets is a good indicator of an increased level of transparency. Opening new data has led to a circular process in which the PA is informed of incorrect/incomplete data while citizens, developers and companies can benefit from it. Datasets published by the Municipality of Trento have been used by citizens when proposing ideas within the second idea contest which is currently ongoing for the purposes of another EU project (the platform is being re-used to gather insights from citizens).		
Results of the assessment: Direct benefits	**Pilot Phase I:** Three new public services **Pilot Phase II:** Two new public services; correction of datasets		
Results of the assessment: Indirect benefits	**Pilot Phase I:** The main result of this activity has been the formulation of seven different challenges to promote a process of collaboration to the citizens and interest groups and the Ideas obtained in the Contest of Ideas celebrated		
	Pilot Phase II: An increased level of trust led to a trustworthy relationship with those citizens which were directly involved into the co-creation process		
Key Boundary partners groups	**Pilot Phase I:** Youth, citizens		
	Pilot Phase II: **Citizens** (youth, developers) are the main groups which were targeted by WeLive. **PA**: involvement of PA employees has likewise been essential.		
Recommendations	**Pilot Phase I:** Try to have a deal with the others local body (Region, Local transport Company to open useful real-time data Engagement: the communication that is sought with the citizenship is bidirectional so that the management of participation channels is the real key		
	Pilot Phase II: Reach agreements with other key local institutions owners of data to increase availability of open data. Spread knowledge about the data opened to encourage its usage		

POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points:	2016	2017	2018
	Data Collection Methods: (KPI2.1 about Open Data Stack) Current Datasets Number of (insert the number of selected indicators) KPI2.1: 15 Self-assessment: We Live has created a	Data Collection Methods: **KPI 2.1** Actual datasets: **193** Self-assessment: We Live has created a change in transparency environment in Trento in Pilot Phase I (scale 0-3)	

0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	change in transparency environment in Trento in Pilot Phase I (scale 0-3) 1 = A little bit	2 = Significantly	

8.3.3 ECONOMIC IMPACT ASSESSMENT

Value assessment sector: ECONOMIC ***PILOT PHASES I&II***	
Data Sources	**Pilot Phase I:** Developers, SMEs, academia Primary: • Developers: The infomediary sector is key in developing technology-based solutions in urban innovation • Entrepreneurs and start-ups: The entrepreneurship ecosystem is a key source of proposal and development of innovative solutions Secondary: • Suppliers who may be interested in proposing solutions on their own Services and redesigning processes in collaboration with users and administration Other municipal areas, as the processes of urban innovation are transversal and affect several competences that are already redistributed in the municipal organization chart
	Pilot Phase II: Developers, start-ups
Data Collection Method	**Pilot Phase I:** Interviews
	Pilot Phase II: Direct engagement; offline communication
Techniques/Methods of Calculation	**Pilot Phase I:** Estimate
	Pilot Phase II: Estimate
Selected Indicators	**Pilot Phase I:** Number of Challenges launched in the Idea Contest Number of Ideas presented in the Idea Contest Numbers of Hackathon realized Hackathon participation
	Pilot Phase II: Number of Needs and Ideas presented in the Idea Contest; number of Needs and Ideas presented by developers which engaged with the WeLive platform and project
Desired Outcomes	**Pilot Phase I:** Easier and less costly governments reducing acquisition costs, redundancy and overhead; creation of business opportunities through WeLive market place; increased number of new services registered with WeLive which enable monitoring of public processes

	Pilot Phase II: Creation of business opportunities and creation of new services involving developers (in co-ideation and co-implementation phases)
Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I:** not very useful (self-assessment) We tried to introduce WeLive to companies during Smart City Week and we launched a specific Hackathon, but the platform was still immature without the visual composer or specific information about the building blocks, so developers must use just local open services and open data to realize new applications. The Idea Contest started at the end of December 2016 for months with great Results: 37 ideas, but we should find a new way to engage companies, start-up and developers to have a help in building new services.
	Pilot Phase II: end of Pilot Phase II – useful (self-assessment) We managed to engage some developers in both the co-ideation phase (by carrying out dissemination activities) and in the co-creation phases (by setting up an engagement strategy which targeted young developers)
Results of the assessment: Direct benefits	**Pilot Phase I**: Ideas for new public services New services: 1 new app thanks to the hackathon
	Pilot Phase II: 2 new public services
Results of the assessment: Indirect benefits	**Pilot Phase I:** To increase efficiency in public services thanks to the developed new app
	Pilot Phase II: New efficient public services
Key Boundary partners groups	**Pilot Phase I:** Youth, university, Academia (FBK), Associations (Open Data Trentino), others body, local partner for Smart City project (HIT)
	Pilot Phase II: researchers (FBK), associations (Open Data Trentino), other institutions
Recommendations	**Pilot Phase I:** Entrepreneurs, research centres and companies are not yet in the key of reusing public data. Policies are needed to promote reuse in order to capture the value of the data. So, it is needed: • Actions that seek effective collaboration between public and private entities, through the establishment of a relationship framework that contributes to the make more dynamic the reuse of data • Activities to promote the reuse of data to boost the economic activity of the city and its area of influence • Activities to promote reuse to create new initiatives and businesses
	Pilot Phase II: Continuous promotion of the reuse of data to capture its value through private-public partnerships

POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by	2016	2017	2018
	Data Collection Methods: 1. Number of participant to the Hackathon: 15	Data Collection Methods: 1. Ideas contest –	

quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points: 0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	2. Number of new services presented during the Hackathon: 6 3. Number of Challenges launched in the Idea Contest: 7 4. Number of Ideas presented in the Idea Contest: 37 Self-assessment: WeLive has created a change in economy environment in Trento in Pilot Phase I (scale 0-3) 1 = A little bit	10 winning ideas 2. WeLive Co-creation Lab – 2 ideas implemented Self-assessment: WeLive has created a change in economy environment in Trento in Pilot Phase I (scale 0-3) 1 = A little bit	

8.4 NOVI SAD TASK FORCE

8.4.1 SOCIAL IMPACTS ASSESSMENT

Value assessment sector: SOCIAL ***PILOT PHASES I & II***	
Data Sources	**Pilot Phase I**: Citizens as active stakeholders in smart idea generation, as users of open public services, sources of information in the design process, also as the end users of the available solutions; researchers, developers, academia, public administration – all important entities that are composing WeLive ecosystem
	Pilot Phase II: Citizens as active stakeholders in smart idea generation, as users of open public services, sources of information in the design process, also as the end users of the available solutions; researchers, developers, academia, public administration – all important entities that are composing WeLive ecosystem
Data Collection Method	**Pilot Phase I:** Surveys, online questionnaires, available datasets and apps usage, number of active WeLive users
	Pilot Phase II: Surveys, online questionnaires, available datasets and apps usage, number of active WeLive users
Techniques/Methods of Calculation	**Pilot Phase I:** Estimate, comparisons, calculation of measurable results
	Pilot Phase II: Estimate, comparisons, calculation of measurable results
Selected Indicators	**Pilot Phase I:** Building of new democratic spaces for citizens, social inclusion evidence
	Pilot Phase II: • Building of new democratic spaces for citizens and other social entities through workshops and requests for data received through interaction channels as well as datasets published in the participation portal • Social inclusion demonstrated by channels of Communication with Citizens number of editions
Desired Outcomes	**Pilot Phase I:** Democratization of creation of novel public services, sharing information and working in collaborative way in overcoming administrative boundaries of public authority.
	Pilot Phase II: Democratization of creation of novel public services, sharing information and working in collaborative way in overcoming administrative boundaries of public authority.

Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	Pilot Phase I: In comparison to the desired outcomes, the progress made by M25 is *weak* (self-assessment). WeLive agenda has proved to be novel and has initiated lots of administrative work for the public administration since domestic policies on open data are not harmonized with the EU regulations. The Idea Contest, which was planned for December 2016, also led us to influence the amendments of the local self-government Decree and it had to be postponed. In turn, although we have implemented aggressive engagement campaign, WeLive is still not visible to many people and entities. On the other hand, we are using WeLive to tackle the importance of opening of data in Serbia, building partnerships with different stakeholders at national level, NGO's, IT hubs and universities. This is an impact not envisaged by DoW but ever so important. The Idea Contest should have been the focal point of making an impact across variety of sectors as it is envisaged as the one to populate the platform with ideas, thus becoming more visible, interesting, useful and profitable not just to citizens, but also for economic entities and PA. This milestone has been postponed until February 2017. Coupled with hackathon during Pilot Phase II and our engagement campaign it is realistic to plan to achieve comparably more intense impact during Pilot Phase II.

	Pilot Phase II:
	
	• In comparison to the desired outcomes, the progress made M36 is *significant* (self-assessment). The First pilot phase led to the amendments of local self-government Decree as to enable the Idea Contest, while the Second pilot has let developing and completing several co-creation experiences for public services hence we marked important increase in the number of total users participating and developing new services for the WeLive platform.
	• In addition, we could assess participants' feedback and evaluation about the participation infrastructure and the quality of the tools and services generated using surveys and interviews;
	• New building blocks and datasets were published;
	• New services/apps were created:
	  ◦ **"Culture key"**
	  ◦ **"My Local Community "**
	  ◦ **"Street Art"**
	  ◦ **"City of Novi Sad Problems with Plastic"**
	• Through our engagement activities we gained additional experiences with participants of different sectors in relation to co-creation and active participation and we put special emphasis into IT Students and start up promotion regarding the app development, startup promotion…

Results of the assessment: Direct benefits	**Pilot Phase I** **Pilot Phase II** New services/apps created
Results of the assessment: Indirect benefits	**Pilot Phase I** Increased knowledge and practice of the co-creation process in several departments of the city administration, citizens, IT sector, companies; increased efficiency in public services thanks to the developed WeLive apps.

	Pilot Phase II Increased knowledge and practice of the co-creation process in several departments of the city administration, citizens, IT sector, companies; increased efficiency in public services thanks to the developed WeLive apps.
Key Boundary partners groups	**Pilot Phase I** Citizens are at the focal point as a group in our assessment. More rounded groups involve public administration, companies, but also journalists, media, think tanks, civil society organizations, public officials. Since we are using WeLive to tackle the importance of opening up of data in Serbia, we are also building partnerships with different stakeholders at national level, NGO's, IT hubs (SEEICT), universities (UNS), organizations (UNDP).
	Pilot Phase II During the phase, the efforts have been focused on: • Attracting new app developers and IT students which are a key community to test the tools offered by the platform • Establishing relationships with the potentially most interested communities for the project like entrepreneurs, social innovators, young people… • Since we are using WeLive to tackle the importance of opening of data in Serbia, we continued to nurture partnerships with different stakeholders at national level, NGO's, IT hubs, universities (UNS), organizations (UNDP).
Recommendations	**Pilot Phase I:** In addition to opening of data, we must put effort into adding more visibility of data not just for citizens, but also for companies and developers as well as public administration departments. Hence, we must open more channels to inform and communicate with them.
	Pilot Phase II: Although WeLive was good example of open data potential in Serbia, we detected that much work is needed in its aftermath: • Raising greater awareness on what open data is and its potential as a policy instrument; • Through our workshops, questionnaires and interviews, exploring creatively the possibilities of funding an open data program, or building blocks thereof, and showing present readiness for collaboration with donors; • Identifying need for a strong collaborative effort between government agencies, civil society and the business and developer community, to build more trust between government and non-government stakeholders. • Detecting the small clusters of relevant IT and data expertise across a wider section of government bodies. What has also been encouraging is that the public administration reform strategy indicates that active participation of citizens in formulation and implementation of public policies is one of the key assumptions of government's transparency,

POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-	2016	2017 &2018
	Data Collection Methods: KPI 1.4. ideas contest will be launched in February KPI 5.6 Number of Workshops with citizen and social entities =5 Number of Participants =132.	**Data Collection Methods:** **KPI 1.4** Number of ideas submitted in the ideas contest :41 KPI 5.6 Number of Workshops with citizen and social entities =11

assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points: 0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	Self-assessment: WeLive has created a change in social environment in Novi Sad city in Pilot Phase I (scale 0-3) 1= A little bit	Number of Participants =210. Self-assessment: WeLive has created a change in social environment in Novi Sad city in Pilot Phase II (scale 0-3) 2= Significantly

8.4.2 TRANSPARENCY IMPACT ASSESSMENT

Value assessment sector: TRANSPARENCY ***PILOT PHASES I & II***	
Data Sources	**Pilot Phase I:** Citizens as active stakeholders in smart idea generation, as users of open public services, sources of information in the design process, also as the end users of the available solutions, public administration as an enabler and facilitator
	Pilot Phase II: Citizens as active stakeholders in smart idea generation, as users of open public services, sources of information in the design process, also as the end users of the available solutions, public administration as an enabler and facilitator
Data Collection Method	**Pilot Phase I:** Surveys, on line questionnaires, available datasets and apps usage, number of active WeLive users
	Pilot Phase II: Surveys, on line questionnaires, available datasets and apps usage, number of active WeLive users
Techniques/Methods of Calculation	**Pilot Phase I:** Estimate, comparisons, calculation of measurable results
	Pilot Phase II: Estimate, comparisons, calculation of measurable results
Selected Indicators	**Pilot Phase I:** Increased state of institutional responsiveness; use of data to deliver better public services **Pilot Phase II**: Increased state of institutional responsiveness; use of data to deliver better public services, number of new datasets published
Desired Outcomes	**Pilot Phase I:** use of data to deliver better public services; increasing state of institutional responsiveness; monitor government activities, such as tracking public procurements; boosting confidence and trust in the public authority activities through new datasets and apps; transparent monitoring of the process of creation of new public services
	Pilot Phase II: use of data to deliver better public services; increasing state of institutional responsiveness; monitor government activities, such as tracking public procurements; boosting confidence and trust in the public authority activities through new datasets and apps; transparent monitoring of the process of creation of new public services

Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I:** In comparison to the desired outcomes, the progress made by M25 is *weak* (self-assessment). WeLive agenda has proved to be novel and has initiated lots of administrative work for the public administration since domestic policies on open data are not harmonized with the EU regulations. The Idea Contest, which was planned for December 2016, also led us to influence the amendments of the local self-government Decree and it had to be postponed. In turn, although we have implemented aggressive engagement campaign, WeLive is still not visible to many people and entities. On the other hand, we are using WeLive to tackle the importance of opening of data in Serbia, building partnerships with different stakeholders at national level, NGO's, IT hubs and universities. This is an impact not envisaged by DoW but ever so important. The Idea Contest should have been the focal point of making an impact across variety of sectors as it is envisaged as the one to populate the platform with ideas, thus becoming more visible, interesting, useful and profitable not just to citizens, but also for economic entities and PA. This milestone has been postponed until February 2017. Coupled with hackathon during Pilot Phase II and our engagement campaign it is realistic to plan to achieve comparably more intense impact during Pilot Phase II.
	Pilot Phase II: In comparison to the desired outcomes, the progress made by M36 is *significant* (self-assessment). The Idea Contest coupled with hackathon in Pilot Phase II enabled co-creation, and significantly engaged different sectors through our workshops. The platform was populated with new data sets, based on citizens' ideas and requests. During the second pilot the collaboration was especially established with students of IT, engineers, young entrepreneurs, developers, start – ups as well as wider community who could provide support for Novi Sad hackathon in terms of software companies, NGO's, civil sector and public companies, as to open their data.
Results of the assessment: Direct benefits	**Pilot Phase I:** **Pilot Phase II:** ● In terms of the quantitative aspect, KPIs have improved in the most needed parameters such as number of downloads of the apps, registered users in the platform, getting feedback from participants who took part in the events… ● The qualitative aspect has also improved by having a bigger understanding and clarity in value contributions to the project and its tools. ● While pilot phase 1 was focused on giving response to citizens' needs, the second pilot phase has worked with the ideas proposed by participants in Idea Contests and these ideas has been validated and redefined with administration sectors who created the challenges and the final users of the services, which means that the co creation circle has been improved.
Results of the assessment: Indirect benefits	**Pilot Phase I:** Increased transparency of public services and responsiveness of the public authorities due to the Open Innovation Area platform and developed apps within the pilot
	Pilot Phase II: The main result is that the functionalities and potential uses have been properly validated: ● The platform has been used to get an interaction between different actors

	of the city's ecosystem. Platform is very useful and helpful to implement co-creation processes.
Key Boundary partners groups	**Pilot Phase I:** Citizens are at the focal point as a group in our assessment. More rounded groups involve public administration, companies, but also journalists, media, think tanks, civil society organizations, public officials. Since we are using WeLive to tackle the importance of opening up of data in Serbia, we are also building partnerships with different stakeholders at national level, NGO's, IT hubs (SEEICT), universities (UNS), organizations (UNDP).
	Pilot Phase II: • Citizens, students, youth, start-ups, public administration • Since we have been using WeLive to tackle the importance of opening of data in Serbia, we have reaffirmed established partnerships with different stakeholders at national level, NGO's, IT hubs, universities (UNS), organizations (UNDP).
Recommendations	**Pilot Phase I:** In addition to opening of data, we must put effort into adding more visibility of data not just for citizens, but also for companies and developers as well as public administration departments. Hence, we must open more channels to inform and communicate with them. Likewise, an important task of WeLive as the participatory project is identify people with innovative thinking within the public government and connect with them, since presumably public authorities are not prone to the change and innovation by default and are not homogenous in nature and challenging the common mindsets and existing routines should involve more i.e. as many as possible as to influence the change of thinking among the city officials and defend the citizen's interest through WeLive.
	Pilot Phase II: • WeLive could build on established digital data sources and information management procedures within government where they already exist, which is still realitively scarce in Serbia. Where data is only available in paper form it is hard to release as open data and in reusable format quickly and cheaply. In additon, even for data in electronic formats, it needed much effort to motivate public companies, NGOs, civil sector, to release them as open data. • In our engagement activities we have come to realize that various stakeholders will have concerns regarding the practical interpretation of legal aspects of opening up government information and data.When in doubt people will err on the safe side (and rightly so). Clarification of what is possible within the current legal framework will allay concerns and doubts and help the start of data publication • Likewise, it is still required that a range of policy and legal issues be addressed, for example, with respect to the licensing of data reuse. • Data publication is not only a transparency exercise, it is an investment of resources that should impact of other entities (data reusers). The field where this re-usage is applied should be analyzed and supported.

POINTS (insert only quantifiable & measurable results for applicable	2016	2017 & 2018

years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding following points: 0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	Data Collection Methods: (KPI2.1 about Open Data Stack) Current Datasets Number of (insert the number of selected indicators) KPI2.1: 25 Self-assessment: WeLive has created a change in transparency environment in Novi Sad in Pilot Phase I (scale 0-3) 1 = A little bit	Data Collection Methods: Data Collection Methods: (KPI2.1 about Open Data Stack) Current Datasets Number of (insert the number of selected indicators) KPI2.1: 35 Self-assessment: WeLive has created a change in transparency environment in Novi Sad in Pilot Phase I (scale 0-3) 2 = Significantly

8.4.3 ECONOMIC IMPACT ASSESSMENT

Value assessment sector: ECONOMY ***PILOT PHASES I&II***	
Data Sources	**Pilot Phase I**: Developers, academia
	Pilot Phase II: Developers, start-ups, software companies, other municipal areas as part of innovation processes
Data Collection Method	**Pilot Phase I**: Interviews, emails
	Pilot Phase II: Interviews, meetings, email correspondence
Techniques/Methods of Calculation	**Pilot Phase I:** Estimate
	Pilot Phase II: Estimate
Selected Indicators	**Pilot Phase I:** Spreading knowledge and best practice abut open data and open services that raise efficiency in public authorities; sharing of benchmarks between companies that raise productivity and create new business opportunities for developers/ academia
	Pilot Phase II: • Number of ideas in the Idea Contests • Number of proposed solutions and developed apps via hackathon • Number of business-driven meetings about open data through WeLive example with software companies, public companies, local vendors as well as government agencies, IT hubs, academia and organizations • Number of provided WeLive educational material

Desired Outcomes	**Pilot Phase I:** Easier and less costly governments reducing acquisition costs, redundancy and overhead; creation of business opportunities through WeLive market place; increased number of datasets, increased number of new services registered with WeLive which enable monitoring of public processes
	Pilot Phase II: • Easier and less costly governments reducing acquisition costs, redundancy and overhead; creation of business opportunities through WeLive market place; increased number of datasets, increased number of new services registered with WeLive which enable monitoring of public processes. • Novi Sad pilot formed pilot supporting groups of government agencies, civil society, business and developers and created through WeLive platform a few practical examples of the usage of open data via developed apps, published datasets and provided active involvement of citizens in the co-creation process of public services, it is realistic to believe that this can serve as example for further extension of the open data program at national level in Serbia.
Progress Made: Milestones *What is the progress made for this period? Give your personal qualitative opinion/estimate based on the provided project progress and results achieved so far*	**Pilot Phase I:** Progress made in the Pilot Phase I is *weak* (self-assessment). It was very short time for the companies and developers to get them introduced with WeLive. It is quite novel concept for our pilot and the whole of Serbia. It will take time for them to familiarize with it allocate the time, resources and confidence, above all, that local self-government can also act as a generator of fresh and innovative ideas and approaches. Besides this, all we could offer them is to gain knowledge and brainstorm the several business models that were presented during workshops, while the platform has not been populated with ideas. The Idea Contest which was planned for December 2016 also led us to influence the amendments of the local self-government Decree and it had to be postponed. In turn, although we have implemented aggressive engagement campaign, WeLive is still not visible to many people and entities. On the other hand, we are using WeLive to tackle the importance of opening of data in Serbia, building partnerships with different stakeholders at national level, NGO's, IT hubs and universities. This is an impact not envisaged by DoW but ever so important.
	Pilot Phase II: • In comparison to the desired outcomes, the progress made M36 is *significant* (self-assessment). The First pilot phase led to the amendments of local self-government Decree as to enable the Idea Contest, while the Second pilot has let developing and completing several co-creation experiences for public services hence we marked important increase in the number of total users participating and developing new services for the WeLive platform. • In addition, we were able to assess participants' feedback and evaluation about the participation infrastructure and the quality of the tools and services generated using surveys and interviews; • New building blocks and datasets were published;

	• New services/apps were created:
	  • **"Culture key"**
	  • **"My Local Community "**
	  • **"Street Art"**
	  • **"City of Novi Sad Problems with Plastic"**
	• Through our engagement activities, we gained additional experiences with participants of different sectors in relation to co-creation and active participation and we put special emphasis into IT Students and start up promotion regarding the app development, startup promotion…
	• Entrepreneurs (software companies and start – ups) have position in the City's ecosystem

Results of the assessment: Direct benefits	**Pilot Phase I:** **Pilot Phase II:** New services/apps created in the co-creation process
Results of the assessment: Indirect benefits	**Pilot Phase I:** New goods and services, time savings for users of applications using Open Data, knowledge economy growth, increased efficiency in public services

	Pilot Phase II:
	• Consortium's analysis and reflection about the updating and sustainability of the platform and also about the co-creation practices developed:
	  ○ Changes to introduce in several modules of the platform.
	  ○ City's ecosystem maturity
	  ○ City's co-creation paradigm maturity
	• Collaboration between cities and experiences exchange:
	  ○ Planification, execution and evaluation of the pilot
	  ○ Exchange of building blocks
	• In the redesign of services, putting the citizens in the center as users and taxpayers. Working with the available data can be promoted processes to generate challenges that go to the center of the needs of users and support citizen solutions that can have their implementation
	Promoting innovation, stimulating creative processes that facilitate access to knowledge, integrating different perspectives, attracting new talent and connecting productive units that generate economic activity.

Key Boundary partners groups	**Pilot Phase I**: Companies, businesses, public administration are at focal point of our assessment, but as any other, they are co-dependent from active role played by all other identified entities, in the first place: citizens. Since we are also using WeLive to tackle the importance of opening of data in Serbia, we are building partnerships with different stakeholders at national level, NGO's, IT hubs (SEEICT), universities (UNS), organizations (UNDP).
	Pilot Phase II: Companies, businesses, public administration are at focal point of our assessment, but as any other, they are co-dependent from active role played by all other identified entities, in the first place: citizens.

	Since we are also using WeLive to tackle the importance of opening of data in Serbia, we are building partnerships with different stakeholders at national level, NGO's, IT hubs, universities (UNS), organizations (UNDP).
Recommendations	**Pilot Phase I**: On general level companies and developers estimated WeLive as an interesting concept, they liked the idea of gathering of open data and making them available at one place as well as the existence of a kind of intermediary between companies (developers), and that the City that facilitates communication and ensures better cooperation between the City and the Company. However, what is especially important in our case is marketing which will let developers know that there are open data available which will also greatly help WeLive project to gain its momentum, since it turned out that large number of programmers do not even know that there are open data that can be exploited. In addition, networking with stakeholders at national level is important since it is of crucial important to have this kind of support when pushing opening of new data in different institutions when they are not required doing so by our law. It is a pioneering task.
	Pilot Phase II: • WeLive could build on established digital data sources and information management procedures within government where they already exist, which is still realitively scarce in Serbia. Where data is only available in paper form it is hard to release as open data and in reusable format quickly and cheaply. In additon, even for data in electronic formats, it needed much effort to motivate public companies, NGOs, civil sector, to release them as open data; • In our engagement activities we have come to realize that various stakeholders will have concerns regarding the practical interpretation of legal aspects of opening up government information and data.When in doubt people will err on the safe side (and rightly so). Clarification of what is possible within the current legal framework will allay concerns and doubts and help the start of data publication; • Likewise, it is still required that a range of policy and legal issues be addressed, for example, with respect to the licensing of data reuse. • Data publication is not only a transparency exercise, it is an investment of resources that should impact of other entities (data reusers). The field where this re-usage is applied should be analyzed and supported.

POINTS (insert only quantifiable & measurable results for applicable years, as to monitor/demonstrate and assess the progress achieved – across different indicators and desired outcomes) In addition, please rate the impact obtained (self-assessment) by quantifying How much has WeLive created a change in social (transparency, economic) environment in your city (region) at present stage by awarding	2016	2017 & 2018
	Data Collection Methods: 1. Number of new services presented Number of (insert the number of) 1. = 3 new services Self-assessment: WeLive has created a change in economy environment in Novi Sad in Pilot Phase I (scale 0-3)	Data Collection Methods: 1. Number of new services presented Number of (insert the number of) 1. = 5 new services + 2 new services (Hackathon) Self-assessment:

following points: 0 = Not really 1 = A little bit 2 = Significantly 3 = Very much	1 = A little bit	WeLive has created a change in economy environment in Novi Sad in Pilot Phase I (scale 0-3) 2 = Significantly

9. RECOMMENDATIONS

In 5.4, our research showed early evidence of the social, transparency and economic outcomes achieved by WeLive and potential benefits of open data beyond the existing environment. Following the assessment by partners in D5.4 it was of crucial importance to pursue the recommendations generated Pilot Phase I, across different indicators and desired outcomes as well as self-report results issued in relation to the progress made by month 25 of the project.

In relation to this, the partners detected the following improvement objectives in the different areas:

- Technical and improvements in platform usability;
- Involving citizens;
- Attracting companies to reinforce the offer in the Marketplace;
- Incorporation of new agents to the ecosystem of the city: Universities, Technological Centers, other Institutions;
- Incorporating features and tools for developers.

Likewise, when summarizing by grouping some of the recommendations that have been suggested by the pilot cities and one region, as lines of work to reinforce during the Pilot Phase II and for the rest of the project, the following conclusions were drawn:

- In addition to opening of data, we must put effort into adding more visibility of data not just for citizens, but also for companies and developers as well as public administration departments. Hence, we must open more channels to inform and communicate with them;
- Actions that seek effective collaboration between public and private entities, through the establishment of a relationship framework that contributes to making more dynamic the reuse of data;
- Entrepreneurs, research centers and companies are not yet in the key of reusing public data. Policies are needed to promote reuse to capture the value of the data;
- WeLive platform should design together with users and other stakeholders so that it reflects their needs. This will ensure that different target groups will get information in specific points during the open service design process;
- Activities to promote the reuse of data to boost the economic activity of the city and its area of influence;
- Actions to raise the level of training and capacity of society to reduce the digital divide in the definition and management of Public Services;
- We also concluded that **strong political leadership on open data** is needed for WeLive or any similar initiative to realize its potential, thus it is necessary for governments to have their commitments (re)-affirmed to open data as raw material for innovation, and sought to put in place policies that help government, businesses and people realise its benefits. Hence, we recommend that government continue to release as open data while it should tackle the issues of accuracy, quality and reliable access to data.

The stakeholders identified in Pilot Phase I, were the first movers in a growing ecosystem. As the utility of available open data grew, and as its potential was recognised, we expected these biases to break down further and not only enhance the results of WeLive, but to ensure its sustainability.

Designing the impact assessment to take account of emergent of the outcomes, it allowed project partners to respond to them in a more agile way, thus giving more room for movement and improvement in project management in Pilot Phase II, described in D5.5.

Towards the project climax we all agreed, however, that quantitative methods are far from outdated or useless, but it is rather that combined methodologies work best — providing us with both the bigger picture (quantitative) and the more nuanced, but just as important human impacts (qualitative). If the set WeLive objectives and goals are achieved, then we can claim positive change, and thus that the project had a good

impact on the community, but the question to ask ourselves right now is if it should that really be where impact assessment ends, or should it go further? How do we secure the project sustainability? Are these individuals and organisations going to continue using the gained skills and tools, and are they going to continue to have a positive impact on their work and lives?

Further to this, WeLive has identified that the lifecycle of co-created services includes the phases of co-ideation, co-implementation, co-maintenance and co-business and supporting the full co-creation cycle has been recognized as one of the project's competitive advantages, however, there is still a question of variety of different contexts regarding the pilot's recommendations on project's vitality. They are based on different experiences, technical infrastructure, political & social environments, markets; conditioning, in turn, their current realistic developmental objectives and consequential impact to obtain.

This is how BILBAO, TRENTO, LAUREA and NOVI SAD, in their respective pilots, answered to these questions by conclusively summarizing them by providing recommendations which should secure WeLive future vitality.

9.1 BILBAO RECOMMENDATIONS

9.1.1 CO-IDEATION

Focus on the quality of open data and not only on the quantity of datasets. Understanding the demand for data and proposing alignments that are flexible enough, but at the same time committed to the quality of the data. Quality does not ensure its use, but it increases the potential for creating public value in local areas.

- Develop detailed use cases in cities. There are no cases of detailed use, on open data that can explore in greater depth the socio-technical aspects of the system, that is, how an open data project develops and evolves, how its interests are handled, how the complex relationships between actors, interests and contingent aspects in action.
- Promote more collaboration channels between citizens and government. Opening data without a community that uses it will not generate value per se. In repeated cases the Town Councils point out their difficulty in how to prioritize the data to be opened so that they can be of greater interest. Facilitating spaces for collaboration between local government and other actors is a necessary strategy in each of the cases.
- Take care of the ethics of open data. In the efforts to open data, the risks of those who may be more vulnerable to discrimination or misuse of data must be considered.

9.1.2 CO-IMPLEMENTATION

- Hackathons and competitions have proven to be useful, but it would be desirable to invest in longer-term incubation or monitoring projects. Investing in understanding business models with open data should be prioritized. In most of the cases, apps or civic developments do not seek profitability. It is not easy to generate business with open resources, that's why the models deserve more attention. Making the involvement of commercial and not only social entrepreneurs more attractive can be a good way to explore.

9.1.2 CO-BUSINESS

- Facilitate and encourage networks of innovators in cities. Undoubtedly, the cities in the Basque Country share similar dynamics and needs. Sharing experiences and learning from those who have already advanced represents a valuable resource that should be encouraged. Creating a network of innovators in open data with nearby cities could reinforce learning and minimize errors or risks in the short term.
- Invest in innovation laboratories of the Municipal Administration. Some of the future investments should be oriented to finance local innovation laboratories, with the effort to document more cases. Platforms like WeLive facilitate the municipal innovation activity.

9.2 TRENTO RECOMMENDATIONS

9.2.1 CO-CREATION and CO-IMPLEMENTATION

- Promote more channels for discussion between PA and stakeholders concerning the open data already published to foster update and improve their quality, but also to assess demand of data to be opened
- Implement more efficient methods to engage citizens in the co-ideation and co-implementation process. More (targeted) dissemination and more occasions to implement ideas

9.2.2 CO-IMPLEMENTATION, CO-MAINTENANCE and CO-BUSINESS

- PA to become a meeting point between creators and innovators
- Create specific data licenses for business which would allow the Municipality to provide them with useful data in return of services focused on the city of Trento to the benefit of citizens

9.2 HELSINKI REGION RECOMMENDATIONS

Based on the feedback and interviews conducted with P.A representatives, developers and citizens in Helsinki Region, the following needs and recommendations have been brought forth:

- Cities should use multichannel ways to involve citizens and other stakeholders
- The co-creation process in cities should become coherent and each phase have a link into the public service production
- Every phase of the service development should include users/citizens and the citizens' self-organized activities should be identified as a formidable asset for developers and startups
- The innovation process should be developed together with users and cities to improve open innovations process transparency
- Different stakeholders should be involved in the co-creation process
- The motivational aspects of the developers should be considered in co-creation mechanisms
- Co-creation and its different aspects like IPR rights and ownership should be determined strictly at the beginning
- The platform needs to bring fort the possibilities and benefits so that the companies and developers would use it and form a community

9.3 NOVI SAD RECOMMENDATIONS

9.3.1 CO-IDEATION and CO-CREATION

- WeLive could build on established digital data sources and information management procedures within government where they already exist. Where data is only available in paper form it is hard to release as open data and in reusable format quickly and cheaply. In additon, even for data in electronic formats, it needed much effort to motivate public companies, NGOs, civil sector, to release them as open data; *it is still needed to work with central government and provide piloted examples of WeLive and influence the awareness of policy makers*; during this time, it is our belief that we should *concentrate both on quantity of new data sets as well as quality of open data in order to increase the potential for creating public value in local areas*.
- Co-creation is a funnel wherein the recognized needs (e.g. demands by citizens) and opportunities (e.g. a new open data set) fuel the co-ideation phase and give birth to various service ideas to solve a need or take advantage of an opportunity. This is the easiest and funniest phase which does not require much investment – just some time and tools to innovate together. However, *it is still required*

that a range of policy and legal issues be addressed, for example, with respect to the licensing of data reuse.

- Data publication is not only a transparency exercise, it is an investment of resources that should impact of other entities (data reusers). *The field where this re-usage is applied should be analyzed and supported.*
- *The collaboration channels between citizens and government should be promoted further.*Facilitating spaces for collaboration between local government and other actors is a necessary strategy in each of the cases.
- *Identifying need for a strong collaborative effort between government agencies, civil society and the business and developer community, to build more trust between government and non-government stakeholders.*
- *Detecting the small clusters of relevant IT and data expertise across a wider section of government bodies.*
- *Take care of the ethics of open data. In the efforts to open data, the risks of those who may be more vulnerable to discrimination or misuse of data must be taken into account*.

9.3.2 CO-IMPLEMENTATION, CO-MAINTENANCE and CO-BUSINESS

- In Novi Sad pilot, hackathons and competitions have proven to be useful, but it would be desirable to *invest in longer-term incubation or monitoring projects*.
- *Investing in understanding business models with open data should be prioritized*. In most of the cases, apps or civic developments do not seek profitability and this is also the case with Novi Sad pilot. On general level, it is not easy to generate business with open resources, which is why the *models deserve more attention.* Currently the Serbian market is underdeveloped and local vendors, based on a superficial scanning of online offerings and those active in various IT oriented communities, have no open data offerings yet, therefore *enabling the involvement of commercial and not only social entrepreneurs is highly important and can be a good way to explore and provide examples*;
- Novi Sad ICT companies have organized themselves to better position Serbia internationally and increase local skills and experience (http://vojvodinaictcluster.org/about-us/), however, *networks of innovators in Novi Sad should be facilitated and encouraged further. Sharing experiences and learning from those who have already advanced represents a valuable resource that should be encouraged;*
- *Creating a network of innovators in open data with other cities could reinforce learning and minimize errors or risks in the short term;*
- *Invest in innovation laboratories of the City Administration. Some of the future investments should be oriented to finance local innovation laboratories, with the effort to document more cases;*
- *It is still necessary to establish a suitably qualified and experienced local government information lawyer or a competent local lawyer*.

10. ABBREVIATIONS

SO	Societal Objectives
TO	Technological Objectives
IO	Impact Objectives
BCM	Business Canvas Model
SaaS	Software as a Service
DaaS	Data as a Service
AaaS	Algorithms as a Service
PA	Public Administration

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12. COMMENTS FROM EXTERNAL REVIEWERS

12.1 LAUREA

30/01/2018

Issue	Yes	No	Score (1=low to 5=high)	Comments
Is the architecture of the document correct?	x		5	
Does the architecture of the document meet the objectives of the work done?	x		5	
Does the index of the document collect precisely the tasks and issues that need to be reported?	x		5	
Is the content of the document clear and well described?	x		4	
Does the content of each section describe the advance done during the task development?	x		5	
Does the content have sufficient technical description to make clear the research and development performed?	x		4	
Are all the figures and tables numerated and described?	x		3	The formatting differs from the other deliverables and the text does not include references to the tables and figures in general.
Are the indexes correct?	x		3	Numbering of the sub-chapter headings is illogical in chapter 3 and 4.
Is the written English correct?	x		4	
Main technical terms are correctly referenced?	x		5	
Glossary present in the document?	x		5	

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12.2 TRENTO

30/01/2018

Issue	Yes	No	Score (1=low to 5=high)	Comments
Is the architecture of the document correct?	X		5	
Does the architecture of the document meet the objectives of the work done?	X		5	
Does the index of the document collect precisely the tasks and issues that need to be reported?	X		5	
Is the content of the document clear and well described?	X		5	
Does the content of each section describe the advance done during the task development?	X		4	
Does the content have sufficient technical description to make clear the research and development performed?	X		5	
Are all the figures and tables numerated and described?	X		5	
Are the indexes correct?	X		5	
Is the written English correct?	X		4	
Main technical terms are correctly referenced?	X		5	
Glossary present in the document?		X		

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13. ETHICAL COMPLIANCE CHECK TABLE

1) How should we take into account the WeLive Code of Conduct? Does our work support the WeLive Innovation model? Should the WeliveCode of Conduct and/or Innovation model to be developed based on our work? (>see the WeLive Code of Conduct)	• All the activities related to the engagement activities in the WeLive environment have been conducted taking into account the principles of the WeLive code of conduct. Users' data within the new public services and in the requested socio-demographic questionnaires are managed fulfilling the dignity, privacy and protection requirements stated in point 7. This document focused on Pilot Phase II monitoring from the users' perspective. Ethical issues are needed to consider when people are involved to the research. See below how these issues need to be considered
2) What requirements does the new Data Protection Act sets for our work? Consent forms? Access to data and right to be forgotten? Transfer to third countries? Privacy by Design? The use of data for public purposes? The governance model and responsibilities? Hackering issues? (> see WeLive Data protection document, the New Data Protection Act and D8.6)	• Activities described in this document took place in 2016 and 2017 and, therefore, it is not subject to the prescription of the new Data Protection Act. Of course, when the new Data Protection Act will come into play all the artefacts (services, building blocks and datasets) will be revised to assess their compatibility with the new regulations.
3) How should we take into account WeLive Terms of Use in our development work? Should they be developed based on what we will do? (>see WeLive Terms of Use and D8.6)	• This document does not concentrate on development work, but still WeLive Terms of Use have been informed both the WeLive platform but also in all the new services developed.
4) How should we take into account Consent Forms, data protection and authorizations in our research? Is it necessary to collect personal information? How is our data management? (>see the D5.3, current templates for the Concent forms, D8.1 and D8.6)	• Each area need has got approval from the competent local/national ethical/legal bodies. Each partner collected free and fully informed consent of the persons participating in the evaluation events. All the research data has been anonymized and will be destroyed when the project finished. Project coordinator has the unique physical and digital copies of informed consent and socio-demographic questionnaires
5) Is accuracy and precision of WeLive personal/other data an issue to be taken into our development work? (see the D5.3)	• This document does not concentrate on development work.
6) How should we make it possible for vulnerable people to also take part into development work? How are the Consent forms? Are the participating methods suitable? How about	• No vulnerable people have taken part in this pilot phase II into development work, but of course it would have been possible.

marketing material? (see the D5.3)	
7) Does the local data protection set requirements for our work? Does our work deal with data transfer to third countries? Do we need authorizations for the use of external data? (>see local data protection act (and after 2018 the new Data Protection Act), D8.42 and D8.4)	• Each area got approval from the competent local/national ethical/legal bodies.
8) Is there any other issues which are relevant from the viewpoint of our work? If yes, discuss the situation with the Ethics Board before starting the work.	• No other issues