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for Mobile Citizen–Government Dialogue

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Applied Policy Modelling Training Package

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Abstract

Deliverable 2.4 presents an “applied policy modelling training package for policy-makers” (DoW, D.2.4) including “guidelines for modelling of decision-making processes, common ways of injecting mobile sensing results, and recommendations regarding the use of Live+Gov tool for characteristic scenarios” (ibid.). Accordingly, the training package is aiming at civil servants and public employees in executive positions who are having an interest in implementing Open Government in their municipality and public administration, respectively and are searching for the adequate form to do so. Therefore, it is presenting the CPMT (Citizen Participation with Mobile Technology) approach to Open Government, which is outlining the guidelines for how to use mobile technology for improving communication between the citizens and the public authorities, providing enhanced transparency as well as providing participation and collaboration facilities. Furthermore, the training shows how to

use the data resulting from this communication processes for planning purposes inside the public administration, which is improving the quality of the public service provided. The training is highly participatory meaning that the participants are developing their own path to Open Government which is fitting to their very specific context. In the final step of the training (Module 4) they are presented a methodology how they could implement Open Government in their municipality according to the CPMT-Approach (Citizen Participation with Mobile Technology) and are provided with the Live+Gov ontology helping them to implement their Open Government solution.

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Executive Summary

The last deliverable of Work Package 2 develops an “applied policy modelling training package for policy-makers” (DoW, D.2.4) including “guidelines for modelling of decision-making processes, common ways of injecting mobile sensing results, and recommendations regarding the use of Live+Gov tool for characteristic scenarios” (ibid.).

Accordingly, the training package is aiming at civil servants and public employees in executive positions who are having an interest in implementing Open Government in their municipality and public administration, respectively and are searching for the adequate form to do so. Therefore, it is presenting the CPMT (Citizen Participation with Mobile Technology) approach to Open Government, which is outlining the guidelines for how to use mobile technology for improving communication between the citizens and the public authorities, providing enhanced transparency as well as providing participation and collaboration facilities. Furthermore, the training shows how to use the data resulting from this communication processes for planning purposes inside the public administration, which is improving the quality of the public service provided.

The training package is organised in four modules covering a one-day seminar each:

- **Module 1** is laying the theoretical basis and is explaining the need of Open Government and advanced form of Citizen Participation. It is mainly intended to raise the awareness why Open Government and the respective reform efforts are important for the society. Understanding this is essential for the motivation of the single public employee in transposing the necessary reforms.
- **Module 2** is presenting the four steps of the CPMT-Approach as it has been developed in the Live+Gov project. It sketches the main tasks that need to be accomplished by the public authorities once they have decided to implement certain forms or elements of Open Government.
- **Module 3** provides real-world examples for Open Government reforms from the Live+Gov use-cases. They combine different aspects of the CPMT-Approach and ease the understanding of the respective four-step process.
- **Module 4** is changing the perspective and models Open Government scenarios with the participants. They have the opportunity to exercise the implementation process in their specific administrative context following the four-step-process of the CPMT-Approach. The participants are assisted by the Live+Gov ontology in their endeavour to design an Open Government application for their municipality.

In general, these four steps are best applied comprehensively and in combination as they are connecting the theoretical basis of the Live+Gov approach and its application. However, the modules can be applied individually and separately as well. Public administrations resorting to the Live+Gov training package can decide either to ask for the whole package or for single modules.

In the context of Deliverable D2.4 the single Modules are composed of three parts:

Part One contains the training methodology and the agenda of the single modules. It presents shortly the content of the seminar parts and describes how it will be transposed. This shows, in particular, how and with which methodologies the complex content of the Live+Gov training package is presented to the participants of the seminar and how it safeguards the sustainability of the illustrated content. The main goal is to provide an

appealing seminar structure, which is combining theoretical knowledge about Open Government and Citizen Participation, and practical knowledge from the Live+Gov use-cases on the one hand and individual experiences from the participants on the other.

The core pedagogical methodology of the training package is participatory. This means that the participants acquire the substantial input mostly by themselves in form of discussions and shared brainstorming. Presentations by the trainer are envisaged but are kept at a minimum. Accordingly, the trainer has not the role of a lecturer but rather of a moderator of a forum of experts who exchange their ideas about Open Government and the future of online and mobile participation.

Part Two comprises a summarised version of the Live+Gov content and serves as a manual for the trainers who are providing the training. This intends to provide them with sufficient context for being able to conduct the training even if they were not directly involved in the Live+Gov project. Part Two pools the most important information from the various public deliverables that have been produced during the lifetime of the project. Please note that this content is partly identical with text passages of other Live+Gov deliverables. These quoted passages are indicated in the text.

Please note also that certain information in this “Manual” is still missing at the time of writing this deliverable. This refers, in particular to input that is required from public officials from the City of Utrecht and the public transportation provider HSL. In both cases, actual research is underway with the Live+Gov Advisory Board Members Marieke Hellevoort (City of Utrecht) and Nina Frösen (HSL) about their specific communication strategies.¹ The respective sections are indicated in the text. Accordingly, the training package will be further developed.

Part Three contains seminar material like handouts and presentations. Please note, however, that due to the seminar focus on discussion and individual work of the participants, the Live+Gov training package provides rather few material if compared to traditional trainings. These material will be provided on a Live+Gov eLearning platform, which is currently also under construction. Participants of the seminar will get access to this platform in preparation to the actual seminar and will have the possibility to familiarise with the content and the course which is about to come.

Two elements of the eLearning platform will be decisive: first, the participants will have the opportunity communicate to the trainers their specific administrative context and their expectations concerning the seminar. The trainers will so have the possibility to adjust the seminar content to their specific needs. Second, the participants will also have the possibility of exchange with the other participants. This makes them learn from each other and may create partnerships between municipalities and common Open Government projects.

¹ Research is aiming at producing working papers and official publications about the respective communication activities.

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1 Introduction

AIMS AND OBJECTIVES

The training addresses the needs of local administrations in their endeavour to bridge the growing gap between citizens and the state by using and developing more and better ways of open government solutions through mobile technology. The training is designed to build up capacities in municipalities and to provide concrete support to decision makers, civil servants, technical personnel, city council representatives, service providers and staff in related IT departments who are handling open government demands.

In four training modules (either followed individually or as a package) participants improve their competences in the (re-)organisation of political interests and developing flexible ways for public administrations to improve service delivery within transparent, participative and collaborative formats.

In that way the training is a supporting element to counter the emerging legitimacy gap in modern European democracies in a practical manner.

Through getting to know and understanding the Live+Gov solutions, participants:

- Understand fundamental knowledge about the democratic developments towards open government;
- Learn about alternative forms of communication between the citizens and the public authorities;
- Understand citizens needs for new/alternative, innovative and fitting forms of expressing political interests;
- Become (and remain) motivated to implement changes in personal area of influence as policy makers, civil servants, technical personnel, city council representative, service provider or IT staff;
- Become empowered to act and follow-up on these changes.

Each training module is devoted to a particular aspect of understanding, developing and managing open government processes in modern European public administrations:

Table 1: Modules of the Live+Gov Training Package

Module 1: WHY?	Module 2: WHAT?	Module 3: HOW?	Module 4: WHAT IF?
<ul style="list-style-type: none"> • "The path to open government" • Understanding the big questions and societal need behind open government • Examining key terms "transparency", "participation", "collaboration" 	<ul style="list-style-type: none"> • "Implementing open government: The CPMT approach" • Live+Gov methodology 	<ul style="list-style-type: none"> • "Applying the CMPT approach from the Liv+Gov project" • applicability • implementation • real-life experiences 	<ul style="list-style-type: none"> • "Scenario development" • innovative thinking and solutions • feasibility check • action planning • outlook

The training package is conceptualised for change makers active in different position in public administrations in Europe: Decision makers, civil servants, technical personnel, city council representatives, service providers and staff in IT departments of public administrations. It is developed in such a way that both participants with previous experience as well as participants with less background in the topic can benefit from it.

PEDAGOGICAL APPROACH

The pedagogical and methodological approach of the training focuses on developing participants' competences to understand, develop and manage open government processes in modern European public administrations. Competences in that regard are understood to encompass three crucial elements:

- First, the skills to implement and execute a task or an action;
- Second, to develop a tool or drive a process forward;
- Third, the necessary knowledge to do so as well as the professional attitude (or motivation) to act in such manner.

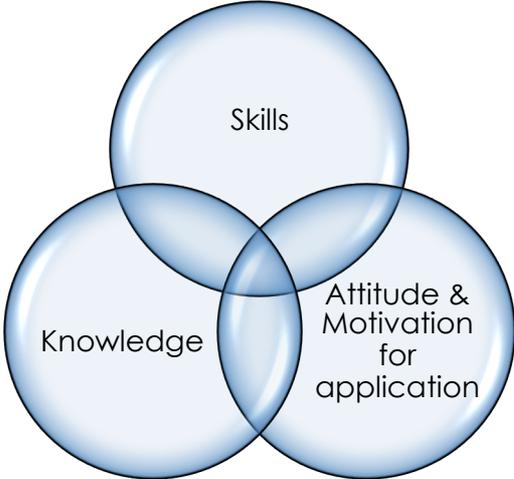
METHODOLOGY

The training uses a sensitive methodology that provides on the one hand expert input and knowledge on the topic, enables the participants to share their previous experiences (including successes and positive elements as well as doubts and questions on open government processes). On the other hand it ensures an engaging training and learning environment for participants to reflect on their experiences taking into account different learning styles and approaches.

Expectation management of participants will be crucial to the training's success: In order to achieve the goal of fostering participants' personal motivation and developing an attitude of

openness towards open government solutions, the training encompasses many active elements in which participants take the lead. Though maybe different from “usual” training situations which are based exclusively on expert input, the Live+Gov training packages combines expert knowledge and engaging methods to such an extent as to enable participants to thoroughly learn and understand the contents on different levels. This is necessary for reaching and fostering a sustainable mind-set and attitude. Participants are considered as change makers in their personal areas of influence (whether they are a local civil servant, IT staff or policy maker) and this is reflected in the training methodology.

Figure 1: Competence Model



METHODS

The applied training methods combine elements to provide expert knowledge in an engaging and entertaining manner, catering for different learning types, e.g. through thematic videos, lectures, analysis, images or media collections. Analytical models serve as backbones for a deepened understanding of thematic content.

Cooperative group methods including brainwriting, brainstorming, clustering, mindmapping, experience sharing are used to foster an atmosphere of growth and sharing. Participants previous experiences are used to deepen analytical models and connected to explanations of theoretical elements.

Use-cases are employed to transfer and illustrate previously made experiences by partners in the Live+Gov project. Hereby elements from storytelling will be used – enabling participants to relate, to switch perspective and deepen the understanding on a different level than the sharing of analytical content can provide.

Creative thinking methods are used to enable participants to understand different aspects and elements regarding the contents used and trigger their imagination thinking one step further than usual.

Where fitting, elements of gamification are used to create a further engaging and stimulating training environment.

Elements and exercises based on the “**Design Thinking**” approach will be used to facilitate participants’ understanding and analysis of their own possibilities to implement open government solutions, deeply get to know the existing possibilities and support them in discovering opportunities for implementation.

MATERIALS

Training materials are provided on a connected online platform enabling participants to recapture the training contents both prior to and after the training. Furthermore the online platform allows participants to connect and stay in contact with a network of peers and collaborators to further share experiences and best practices. The structure of the online platform is presented in Figure 2:

Figure 2: Key Elements of the Live+Gov eLearning Platform



OUTLOOK

Please note that at the time of writing certain components of the training are still under development. On the one hand this is due to the extent of the training package which stretches well beyond the Live+Gov Description of Work. This refers, in particular to the online platform and the related teaching material. On the other hand this relates to actual research which currently being done but could not be finalised until the time of writing. As mentioned elsewhere, this relates to the fact that this research is done in cooperation with the Advisory Board Members and other political and executive representatives. Table 2 gives an overview of the work that has been realised, is under construction, and that is planned.

Table 2: Elements under Construction

	Development	Validation	Exploitation
<i>Realised</i>	Training Concept	Positive Experts feedback	Design of eLearning platform
	Trainers' Manual	Acknowledgement of advisory board	
	Tools and Agenda		
<i>Under Construction</i>	eLearning Platform	November 2014 at the University of St Gallen	
	Communication Element of Training Package	Publications beginning from the year 2015	
<i>Planned</i>	Synchronizing with Live+Gov Methodology (M30)	Test runs (M28)	Partnering and cooperation with European Training institutions (M28)
	Rework after final Live+Gov products are available (M29)	Application for national and European accreditation (M29)	Active promotion and direct marketing (Spring 2015)

2 Part One: Training Session Design

Part one is providing an agenda of the training package. It is containing also the methods that are used as well as the goals of the training session. In the following, the four modules of the training session will be presented as they are proposed for the training context. As it has been mentioned before, the training is highly participatory and relies heavily on the engagement of the participants. Accordingly, they are confronted with several situations where they have to give their input and have to make own suggestions. This has two main reasons:

The first reason is that the subject of Citizen Participation is broad and can hardly be summarised in a short seminar or training package – at least not in a context which is providing value-added to the participants. Furthermore, the area of Open Government and Citizen Participation, which is facilitated by modern Information and Communications Technology (ICT) and mobile technology, in particular has a rather weak and shallow scientific basis. This relates mainly to the fact that empirical investigations about the usage and the take-up of these new formats are extremely rare. Even if they exist the time under investigation is very short and the empirical (statistical) results are accordingly not reliable. Due to the fact that technologically augmented Open Government is new long-term research which is providing verified results are lacking.

Therefore, the whole discipline - as well as this training package – has necessarily to rely on inductive conclusions originating with hands-on experiences from practitioners in the field. Accordingly, the target group of this training package is composed of these practitioners who should have the possibility to exchange their ideas and come up with feasible solutions for Open Government in diverse circumstances. They should rather learn from each other and should obtain rather limited impulses from the trainers.

Second, the context for Open Government and Citizen Participation is highly diverse. Depending on the country, the state, the city, the municipality, and the policy-field the organisational setup of the public administration along with legal requirements are different. Accordingly, it is hardly possible to come up with a general but concrete implementation plan. A “one size fits all”-strategy is hardly imaginable; it is not desirable either because an overly generalised approach would not be able to respond to the specificities of the various contexts. In the end, we assume that this would result in solutions, which are neither meeting the demands of the public administration nor those of the citizens.

Third, from a pedagogical perspective we consider teacher-centred teaching little effective and not sustainable on the long run: the participants will be able to remember the content of the seminar to a much larger extent if they have exercised it themselves.

In what follows, we present the agenda for the four modules of the training package along with goal and learning methods.

2.1 Content Module 1: The path to Open Government

Module 1 is laying the theoretical foundations of Open Government and modern forms of citizen participation in public decision-making. It is organised in four sections:

- **Section 1** is outlining the principles, aims and objectives of liberal democracies, which are typical for the states of Western Europe. Seminar participants should learn about origins of these states and understand the greater context of their everyday work in the public administrations.
- **Section 2** is reviewing the societal developments of the past decades, which lead to an increased societal demand for information and direct participation in public affairs. This relates to both letting citizens participate in political decision-making as well as to allowing the citizens to shape environment directly.
- **Section 3** uses the input of the previous chapters to answer the question: whether the current representative systems are indeed capable of meeting the aims and objectives of liberal democracies and are therefore still complying with its principles. Section 3 is identifying gaps in the representative process, which need to be bridged by modern and advanced forms of interest representation.
- **Section 4** presents Open Government as an adequate response for bridging the evolving gaps.

AIMS

Laying the ideational fundament and motivation for realising and implementing “Open Government” in public administrations

OBJECTIVES

- Raising awareness of the necessity and new forms of public-private interaction (between citizens and public administrations)
- Reviewing changes in societal developments regarding democracy in recent decades
- Understanding the importance and potentials of Open Government for democratic governance in today’s world

2.2 TRAINING SESSION DESIGN MODULE 1 “The Path to Open Government”

Table 3: Training Plan Module 1

Time	Title	Description	Method(s)	Desired Outcome
09.00	<p>Opening and introduction to the training</p> <ul style="list-style-type: none"> Welcome and introduction to the training Presenting the agenda Gathering participants’ expectations and prior knowledge 	<p>Trainers open the seminar and welcome participants. They introduce the Liv+Gov project as fundament for the training contents. They present the agenda of the day, allowing participants to get an overview of what they can expect to learn.</p> <p>In the expectation round participants share their motivations, learning ideas and wishes as well as the prior knowledge and experience in the field of “open government” they bring to the group.</p>	<ul style="list-style-type: none"> Short welcome speech/statement by trainer Introduction round (each participant shares her/his name and professional background) Presentation of agenda of the day Presentation of Liv+Gov project background Expectation round in which each participant takes the floor and shares her/his reasons for attending the seminar, the expectations towards the content and her/his prior knowledge and experience on the topic 	<p>Participants have an overview of how the day will look like. They get an insight on who is in the room and the experience and motivations others bring to the training. This supports the networking elements. Therefore this block lays the fundament for an open and constructive training atmosphere.</p>
10.00	<p>Big questions on open government (Section 1)</p>	<p>In order to build a deeper common ground regarding the content part of the training this first thematic block directly asks for participants knowledge and understanding on the “big</p>	<p>Either one of the forms, depending on the “chattiness” of the group. If in the opening there has been an indication of a lot of activeness, “brainwriting” is encouraged. If</p>	<p>Building meaning and common ground on what participants understand and are aware regarding democratic developments in today’s</p>

		<p>questions on open government” .</p> <p>Through a brainstorming and brainwriting participants are asked to bring their answers on the questions “Where does political debate between citizens and policy makers happen today?”, “How is it ensured today that political decisions are in line with the will of the people?” and “Which role does open government play in my working life?” and share them with the group as a starting point for further more input-based elements of the training.</p>	<p>participants are rather silent, “brainstorming” in advised.</p> <p>Brainstorming collection: On 3 flipcharts or 3 corners of a whiteboard the questions are asked. The trainer opens the floor for pax to share their answers verbally with everyone else. There is no discussion or any “wrong” answer at this moment, as in brainstorming a big quantity and not quality of answers is the desired outcome. Each question is answered by the group. At the end the trainer (or a volunteer participant) summarizes the answers, pinpointing similarities and differences in the answers participants have given.</p> <ul style="list-style-type: none"> • Brainwriting: On 3 flipcharts or 3 corners of a whiteboard the questions are asked. Silently and without verbal expression each participants write her/his answers to the questions. Through this silent dialogue 	<p>society and open government.</p> <p>Activating participants and fostering an atmosphere of sharing, asking questions and reflecting on and linking one’s own experiences to contribute to the training.</p> <p>Not only does this help to support an active atmosphere at the beginning of the training, it also supports trainers in better understanding participants and their prior knowledge/experience.</p>
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			participants share their answers and build meaning together. At the end the trainer (or a volunteer participant) summarizes the answers, pinpointing similarities and differences in the answers participants have given.	
10.30	<i>Coffee Break</i>			
11.00	Expert/Input on the development of representative democracies and societal changes (Section 2)	<p>Thematic talk that informs participants in an entertaining and engaging way about the developments in and of representative democracies and the changes in society that determine how the living and interaction of citizens and policy makers has developed until today.</p> <p>In order to cater for different learning styles, the talk shall transfer the content in an entertaining way, to the point and include many visual elements.</p>	Powerpoint/Prezi with many engaging, entertaining and visual elements	<p>Participants understand how representative democracies are set up and are aware of the basis principles according to which they are functioning.</p> <p>Participants understand how society and the lives of citizens have changed over recent decades and centuries. They are able to comprehend citizens needs and demands in reference to the state and public administrations in today's democratic system.</p>

11.45	Discussion/Positioning round: The role of policy makers and civil servants in today's democratic system (Section 3)	<p>After the thematic input the floor is opened for participants to share their views, experiences and opinions on the demands and role that policy makers and civil servants play today to bring about a good democratic governance.</p> <p>The trainer functions as moderator of the discussion asking questions that address both the role of the state/public administrations as such as well as the circle of influence of each participant in his/her workplace.</p>	<ul style="list-style-type: none"> • Discussion round <p>Discussion amongst all participants on the core points of the presentation facilitated through the trainer</p> <ul style="list-style-type: none"> • Positioning <p>Next to a discussion round, positioning elements can be used to kinaesthetically facilitate the discussion and trigger opinions (if needed). The trainer asks a statement or question and participants have to position themselves e.g. to the extent they agree or disagree in different corners of the room. This supports an active atmosphere of the discussion and shows possible diverse opinions of the group.</p>	<p>Participants share their views, experiences and opinions on the needs, demands and expectations towards the role of the state/public administrations in today's representative democratic systems.</p> <p>Participants reflect and share upon their own circle of influence and possibilities they have to bring about changes.</p>
12.30	<i>Lunch</i>			
14.00	The demand for open government (Section 3 ctd.)	In a video and an expert input talk participants are made aware of the importance, potentials, role and possibilities of open government in today's representative democracies.	<ul style="list-style-type: none"> • Viewing the TED-Talk "The demand for a more open-source government" by Beth Noveck with the group • Input talk on the definition, potentials and possibilities of open government by 	Participants have an understanding of the term "open government" and how it can be implemented with mobile technology. They are aware of the

			<p>trainers</p> <ul style="list-style-type: none"> • Discussion round on the demand for “open government” and discussion of the role that the state/public administrations need to take therein 	<p>potentials and possibilities that “open government solutions” bring with them. They analyse the role that the state/public administrations (can) carry with regards to the implementation of open government solutions.</p>
15.15	<i>Coffee Break</i>			
15.45	<p>Understanding and analysis of key terms: Open Government with its three pillars Transparency – Participation – Collaboration (Section 4)</p>	<p>This part of the programme is devoted to gathering, analysing and examining participants previous experience regarding open government and understanding the key terms “transparency”, “participation” and “collaboration”.</p>	<p>The trainer facilitates the discussion and leads the participants to a systematic understanding and analysis of these key terms using their previous experiences.</p> <p>Each key term will be explained and analysed in the group, followed by a short group discussion in this manner:</p> <ul style="list-style-type: none"> • Participants are asked to <i>share experiences</i> they have made with “transparency” (“participation”, “collaboration”) in open government processes. These experiences are visually gathered on a 	<p>Participants share their experiences of open government processes, positive and negative aspects. They examine the key terms and are aware of the different types of “transparency”, “participation” and “collaboration”.</p>

			<p>flipchart or whiteboard and clustered in such a way that they (ideally) lead to the types of transparency (as well as participation and collaboration) distinguished in Liv+Gov which are then explained. The trainer explains the different categories to the group.</p> <ul style="list-style-type: none">• Participants are asked to share with the group <i>different aspects that were relevant in determining the types of transparency</i> (participation, collaboration) used in each of these occasions. The aspects are visually collected for the group to see.• In a discussion, participants are asked to determine which were positive and negative elements of using the different types of transparency (participation, collaboration). The group also gathers ideas on how the different experiences described can be improved.	
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			<ul style="list-style-type: none"> The trainer summarises the discussion and the key findings developed by the group and relates them back to the key terms. 	
17.00	Closing and summary of the day	<ul style="list-style-type: none"> Summary and review of the day Review of expectations Closing round Evaluation and feedback to trainers/organisers 		Closing and reviewing the day

2.3 Content Module 2: Open Government via Mobile Technology - the CPMT-Approach

As it has been argued in Module 1, Open Government is important for closing the growing gap between the citizens and the state in Western democracies. It is, in particular, the throughput legitimacy of the representative states, which is crumbling and the citizens are demanding for new approaches in the process of representation. Citizens are still politically engaged and ask for political participation. However, the traditional forms of political participation and representation with political parties as the core mediating organisations is stretched to its limits. Accordingly, political representation needs to be organised independently from political parties and classical interest representation. Citizens demand communication channels that allow them to express themselves without necessarily committing to an organisation on the long-term. They need to have the possibility for short-term, temporally limited political and public participation, which may be related to a single locally relevant issue and is ideologically not determined. In short, the current supply of political and public participation is either too shallow or too costly and cumbersome to most of the people. The act of voting for parties in local, regional, and national elections is not regarded as sufficiently representing citizens' interests. Engaging in parties and politically active organisations, however, or even founding new politically active organisations comes with too high personal investments to the people. Hence, there seems to be a demand for more meaningful participation than mere voting, which comes to a lower cost. More meaningful means giving the citizens an easy access to political decision-making and finding ways to show how their input is transposed in the political process. This makes the state regain its throughput legitimacy as it fosters the political process.

Therefore, public authorities are pressurised to create new transparency policies, participation policies and collaboration policies. However, we acknowledge the fact that these reforms are costly and often related to an increased workload of the civil servants and public employees. As a matter of fact, we agree that the costs and the benefits (for the public authorities and the public administration) need to be balanced.

Therefore, we argue that systematically deploying modern communication technology including, in particular, mobile technology offers viable means for balancing these costs and benefits. This is basically due to three facts:

- First, mobile technology is capable of reaching out for the citizens in the moment that they are most receptive for some kind of participation. Granting them the adequate possibility to contact the public authorities in the moment they feel the urge to do so, will probably increase the participation rates.
- Second, participation and communication between the citizens and the public authorities via mobile devices can be done in a cost-effective and easy manner. Asking for citizens' input via web- and mobile applications and processing this input with content management systems is streamlining the communication process and is even decreasing the workload of the individual public employee or civil servant.
- Third, once the communication processes are installed, the public administration is provided by an important new resource: the communication data. They are providing the public authorities with detailed information about the state of the municipality and are dramatically improving the oversight capabilities of the authorities. Accordingly, they can react much quicker to problems and annoyances and can align their planning much better to the public demand. If for example maintenance

processes are organised via mobile devices they even save costs by a much better cost-control system. Furthermore, the communication process is documented and transparent. Both citizens and public authorities can easily judge the representativeness of participatory processes and evaluate the quality of the citizens' input. Effectively, this takes out a lot of insecurity from the interaction and leaves more room for substantial instead of procedural discussions.

Therefore, the basic principle of the CPMT-Approach is to generate new forms of communication between the citizen and the public authorities in a way that profits both sides: on the one hand the citizens should be granted easy access to the decision-making arenas of the public administration for making their input. This input is treated in transparent workflows in the public administration and is giving the citizens the possibility to track their input in the decision-making process. The public administration on the other hand is obtaining valuable information from this communication process and can use this for improving the quality of public services: for instant task-fulfilment and the long-term planning. Central to this is harvesting the potential of mobile technology, which is the basis for instant interaction between the citizens and the public authorities.

Within the Live+Gov project, we have designed an implementation process, which is assisting the public administration when creating the new communication channels as well as the necessary transparent workflows in the background. Module 2 is presenting this implementation process and is organised as follows: first, it is illustrating the CPMT-Approach and the four-step process to Open Government conceptually. After giving this overview of the implementation process, it is discussing the four steps pillar by pillar and is highlighting their core aspects. After the conceptual discussion Module 2 is presenting three use-cases from the Live+Gov project, which implemented forms of Open Government along these four steps of the CPMT-Approach. They are taking place in the context of urban mobility, urban maintenance and urban planning.

AIMS

Introducing the 4-step CPMT-Approach for addressing citizens needs of new forms of expressing their political interests towards public authorities in open government processes.

OBJECTIVES

- Raising awareness and increasing participants' understanding of citizens needs for new and alternative forms of expressing political interest
- Illustrating and outlining the 4-step CPMT-Approach and mobile technology as fitting and useful solutions for new forms of political interest expression
 - For citizens easy to use and transparent

For public administrations as opportunity to obtain valuable information to improve the quality of public service

2.4 TRAINING SESSION DESIGN MODULE 2 “Implementing open government - The CPMT-Approach”

Table 4: Training Plan Module 2

Time	Title	Description	Method(s)	Desired Outcome
09.00	<p>Opening and introduction to the module</p> <ul style="list-style-type: none"> Welcome and introduction to the training Presenting the agenda Gathering participants’ expectations and prior knowledge 	<p>Trainers open the module and welcome participants. They introduce the Liv+Gov project as fundament for the training contents and the basic contents in a summarized version of module 1.</p> <p>They present the agenda of the day, allowing participants to get an overview of what they can expect to learn.</p> <p>In a short round participants share their prior knowledge and experience of implementing open government processes.</p>	<ul style="list-style-type: none"> Opening remarks by trainer Opening round (each participant shares her/his experience on implementing open government processes and her/his expectations towards the day. Presentation of agenda of the day Short recap of outcomes of module 1 by trainer 	<p>Participants have an overview of how the day will look like. They get an insight on who is in the room and the experience others bring to the training day and module. Therefore this block lays the fundament for an open and constructive training atmosphere during module 2.</p>
09.30	<p>The four-step process of the CPMT-Approach</p>	<p>This training block illustrates the four-step process and introduces participants to the CPMT-Approach. By picking up on previous mentioned experiences and stories from participants working</p>	<ul style="list-style-type: none"> Picking out and naming previously shared experiences fitting in the four-step model of the CPMT-Approach (these can already be collected o a whiteboard, flipchart or 	<p>Introducing participants to the CPMT-Approach.</p> <p>Enabling participants to understand the key elements and political context(s) in which open government processes</p>

		<p>environment (see opening of the day) the trainer connects the four-step model to real-life experiences and personal engagements of participants. The trainer then explains in necessary detail the different elements and steps of the CPMT-Approach.</p>	<p>post-it's by the trainer in the previous programme element)</p> <ul style="list-style-type: none"> • Explaining the four-step model and CPMT-Approach (supported by visual elements, powerpoint or prezi) and linking the collected real-life examples where they fit • Question round for participants in order to ensure that everything is understood 	<p>need to be adapted.</p> <p>Deepening participants' understanding on the context and needs for introducing open government processes.</p>
10.15	Step 1: Choosing the right form of open government in the right policy field	<p>Through 10 symbolic pictures participants are reminded (introduced if the did not attend module 1) to the different types of transparency, participation and collaboration.</p> <p>They are asked to connect each picture with a type of transparency, participation or collaboration. The names of the different types are provided as a list to chose from next to the pictures. Each participant with a correct answer receives a small prize.</p>	<ul style="list-style-type: none"> • Visualisation of the different types of transparency, participation and collaboration in symbolic images • Gamification: Linking images and names of different types of transparency, participation and collaboration; participants with correct answer receive a small prize • Explaining the differences between the aforementioned types, either through trainer or 	<p>Participants understand where to apply which form of open government in which policy field</p>

		<p>The trainer then shortly explains/remind participants of the different types or lets participants provide the answer.</p> <p>The trainer further gives input on needs and considerations when deciding which types of transparency, participation and collaboration and also provides hints on what to apply in which policy field.</p>	<p>participants</p> <ul style="list-style-type: none"> • The trainer provides input/expert knowledge (supported visually through flipchart, powerpoint or prezi) of the key elements, needs and considerations that need to be regarded when deciding which type to apply and what to take into consideration when determining the policy field in which the application will take place. 	
11.00	<i>Coffee Break</i>			
11.30	<p>Step 2: Checklist on organising open government</p>	<p>Participants are (randomly) assigned one of three different roles (citizens, policy makers, civil servant). Each participant receives a short supporting note on what the needs and interests of her/his role are. They are asked to analyse at the following presentation from the point of view of the assigned role.</p> <p>The trainer presents a comprehensive checklist outlining the different</p>	<ul style="list-style-type: none"> • Assigning representative roles of actors involved in open government processes • Presenting checklist (powerpoint, prezi, whiteboard or flipchart) on preparing and implementing open government and pivotal points/aspects to consider • Gathering contributions from participants (taking into account their respective roles) and further 	<p>Participants get to know and analyse how open government processes can effectively be integrated in existing decision-making structures and pivotal points in integrating them in already established routines.</p> <p>Participants look at the needs of organising open government processes from the points of view</p>

		<p>aspects/pivotal points that need to be taken into account when preparing an open government process.</p> <p>After each checklist item each “role” is asked to contribute their perspective/respective interest or wish how the implementation of that point shall ideally look like. Eventually an even more comprehensive checklist with perspective from all key actors will be developed.</p>	<p>completing checklist</p>	<p>of different key actors involved in the process.</p>
12.30	<i>Lunch</i>			
13.30	<p>Step 3: The technical implementation of the CPMT-Approach</p>	<p>This programme block is devoted to the technical side of implementing open government solutions and backed by the experiences and technology used and developed in the Live+Gov project.</p> <p>Participants are first asked to brainwrite or brainstorm the questions they have regarding the different aspects of technically implementing open government solutions.</p> <p>An expert input is provided,</p>	<ul style="list-style-type: none"> • Developing questions regarding the needs for the technical implementation of open government processes through brainwriting or brainstorming in the group • Expert input on the technical core requirements of the CPMT-Approach • Q&A (Questions and answers round) on the expert input and further technical implementation aspects 	<p>Participants develop and deepen their understanding of the technical requirements to implement open government solutions effectively</p>

		<p>introducing the elements developed and used in the Live+Gov project and showcasing the App, AR Browser, Web Application and further technical tools developed in the project.</p> <p>In a Q&A round, participants share their previous collected questions as well as any others that in the meantime might have arisen.</p>		
14.30	<i>Coffee Break</i>			
15:00	<p>Step 4: The communication process</p>	<p>Participants are introduced to several international and local elements/examples of communication campaigns outlining open government processes.</p> <p>Participants get to know a model of a communication process between citizens and public authorities.</p> <p>Returning to the roles assigned to them earlier during the day they develop a mindmap of “dos” and “don’ts” in the communication process of open</p>	<ul style="list-style-type: none"> • Viewing elements and examples of communicating campaigns outlining different open government, e.g. “Open Government” (http://vimeo.com/29259763) by the Open Government Partnership and others used in the Live+Gov project • Introduction of communication model between citizens and public authorities • Group discussion and mindmap making of “dos and “don’ts” in 	<p>Participants understand the needs and crucial elements from different perspectives in communication processes on open government activities between citizens and public authorities</p>

		government.	communication processes of open government facilitated through the trainer	
16.15	Closing and summary of the day	<ul style="list-style-type: none"> • Summary and review of the day • Review of expectations • Closing round • Evaluation and feedback to trainers/organisers 		Closing and reviewing the day

2.5 Content Module 3: Applying the CPMT-Approach – experiences from the Live+Gov project

The four-step process, which has been presented in section two depicts the different possibilities that are at the disposal of the authorities, shows which fundamental decisions they have to take in order to implement participatory policies and the frame of the implementation measures. This frame is still rather abstract and high level and has to be newly applied in every real-world context for reacting to the specificities and the great diversity of public administrations and political circumstances. The general Live+Gov recommendation is to aim at the highest and most ambitious form of Citizen Participation by introducing all three pillars in the highest number of policy-fields. However, the various solutions are modular both organisationally and technically meaning that municipalities can choose which form of participation makes most sense to their circumstances. The following section presents the use-cases of the Live+Gov project and shows how they implement the four steps of the methodology.

AIMS

Introducing applications of the 4-step CPMT-Approach and sharing experiences from real-life applications and implementations of open government solutions in different policy fields in different European countries

OBJECTIVES

- Equipping participants with a broad understanding of different development and application possibilities of the 4-step CPMT-Approach
- Enabling participants to analyse conditions and context of open government application possibilities
- Presenting use-cases to for implementing the CPMT-Approach

2.6 TRAINING SESSION DESIGN MODULE 3 “Applying the CPMT-Approach – Experiences from the Live+Gov project”

Table 5: Training Plan Module 3

Time	Title	Description	Method(s)	Desired Outcome
09.00	Opening and introduction to the module <ul style="list-style-type: none"> Welcome and introduction to the training Presenting the agenda 	<p>Trainers open the module and welcome participants. They introduce the basic contents in a summarized version of module 2.</p> <p>They present the agenda of the day, allowing participants to get an overview of what they can expect to learn.</p>	<ul style="list-style-type: none"> Opening remarks by trainer Opening round (each participant shares her/his experience on implementing expectations towards the day) Presentation of agenda of the day Short recap of outcomes of module 2 by trainers 	<p>Participants have an overview of how the day will look like. They get an insight on who is in the room and the experience others bring to the training day and module. Therefore this block lays the fundament for an open and constructive training atmosphere during module 3.</p>
09.30	Real-life story 1: Mobility in Helsinki	<p>This training block illustrates the application and implementation of the four-step process in the policy field “mobility” in the Helsinki, Finland.</p> <p>Participants get to know the entire “story” of the process and are able to relate the previous training modules to real-world application.</p>	<ul style="list-style-type: none"> Presentation of use-case (powerpoint, prezi) with many engaging, entertaining and visual elements (photographs, videos, quotes) Question and discussion round for participants 	<p>Introducing the use case 1 “mobility in Helsinki”. Enabling participants to understand and get an overview of a real-world application of the CPMT-Approach based on the Liv+Gov solutions in Helsinki, Finland.</p> <p>Deepening participants’ understanding on the</p>

		They have the opportunity to ask questions and share their views on the use-case.		context and needs for implementing open government processes.
10.30	Real-life story 2: Urban maintenance in Eindhoven	<p>This training block illustrates the application and implementation of the four-step process in the policy field “urban maintenance” in the Eindhoven, the Netherlands.</p> <p>Participants get to know the situation the city of Eindhoven found itself in before introducing an open solution based on the CPMT-Approach.</p> <p>Participants (in small working groups of max. 5 people) are then asked to develop their “response” to the situation based on an open government solution.</p> <p>After each group shares their idea, the “real” story from Eindhoven is shared and explained. Participants then have the opportunity to ask questions and share their views on the use-case.</p>	<ul style="list-style-type: none"> • Situational briefing: The situation in Eindhoven before the introduction of open government processes • Small working groups (max. 5 people) developing solutions based on implementing an open government process • Presentation of outcomes and ideas of each small working group • Presentation of use-case (powerpoint, prezi) with many engaging, entertaining and visual elements (photographs, videos, quotes) • Question and discussion round for participants 	<p>Deepening participants’ understanding on the context and needs for implementing open government processes.</p> <p>Developing participants curiosity and interest in implementing open government processes.</p> <p>Enabling participants to develop/foster their innovative thinking regarding the application of the CPMT-Approach.</p> <p>Introducing the use case 2 “urban maintenance in Eindhoven”. Enabling participants to understand and get an overview of a real-world application of the CPMT-Approach based on the Liv+Gov solutions in Eindhoven, the Netherlands.</p>

11.00	<i>Coffee Break</i>			
11.30	Real-life story 2: Urban maintenance in Eindhoven	<i>Continuation of previous training block</i>	<i>Continuation of previous training block</i>	<i>Continuation of previous training block</i>
12.30	<i>Lunch</i>			
13.30	Real-life story 3: Co-creation in Utrecht	<p>This training block illustrates the application and implementation of the four-step process in Utrecht, the Netherlands.</p> <p>Participants get to know the entire “story” of the process and are able to relate the previous training modules to real-world application, one of the most advanced forms of citizen participation in a municipality in Europe.</p> <p>Participants have the opportunity to ask questions and share their views on the use-case.</p>	<ul style="list-style-type: none"> • Presentation of use-case (powerpoint, prezi) with many engaging, entertaining and visual elements (photographs, videos, quotes) • Question and discussion round for participants 	<p>Introducing the use case 3 “Co-creation in Utrecht”. Enabling participants to understand and get an overview of a real-world application of the CPMT-Approach based on the Liv+Gov solutions in Utrecht, the Netherlands.</p> <p>Deepening participants’ understanding on the context and needs for implementing open government processes.</p>
14.30	<i>Coffee Break</i>			
15:00	Real-life story 4: Urban planning in	This training block illustrates the development and	<ul style="list-style-type: none"> • Situational briefing: The situation in Gordexola 	Deepening participants’ understanding on the

	<p>Gordexola</p>	<p>implementation of the four-step process in the policy field “urban planning” in the Gordexola, Spain.</p> <p>Participants get to know the situation before introducing an open solution based on the CPMT-Approach.</p> <p>Participants (in small working groups of max. 5 people) are then asked to develop their “response” to the situation based on an open government solution.</p> <p>After each group shares their ideas, the “real” story from Gordexola is shared and explained. Participants then have the opportunity to ask questions and share their views on the use-case.</p>	<p>before the development and introduction of open government processes</p> <ul style="list-style-type: none"> • Small working groups (max. 5 people) developing solutions based on implementing an open government process • Presentation of outcomes and ideas of each small working group • Presentation of use-case (powerpoint, prezi) with many engaging, entertaining and visual elements (photographs, videos, quotes) • Question and discussion round for participants 	<p>context and needs for implementing open government processes.</p> <p>Developing participants curiosity and interest in implementing open government processes.</p> <p>Enabling participants to develop/foster their innovative thinking regarding the application of the CPMT-Approach.</p> <p>Introducing the use case 4 “urban planning in Gordexola”. Enabling participants to understand and get an overview of a real-world application of the CPMT-Approach based on the Liv+Gov solutions.</p>
16.30	<p>Closing and summary of the day</p>	<ul style="list-style-type: none"> • Summary and review • Review of expectations • Closing round • Evaluation and feedback to trainers/organisers 		<p>Closing and reviewing the day</p>

2.7 Content Module 4: Scenario development alongside the Live+Gov ontology

Module 4 is changing the perspective and asks the participants for their input. They are asked to apply the CPMT-Approach for developing a scenario for Open Government in the specific context of their municipality and their public administration. This is done in three steps:

First, in the **description phase**, the participants outline the status quo of Open Government in their municipality and answer the following questions:

- Which form of Open Government are they pursuing?
- In which policy-fields does Open Government take place?
- How are Open Government solutions integrated into the standard administrative processes? Are the Open Government workflows adapted to the business processes of the public administration? Do they follow certain Business Process Models safeguarding transparency and the sustainability of the respective processes and creating the necessary throughput legitimacy?
- How are Open Government solutions implemented technically? Are they supported by mobile solutions?
- Have the Open Government solutions communicated to the citizens? Are the citizens included in designing the Open Government solution?

Second, after the first description phase, the participants enter the **analysis phase** and evaluate their current form of Open Government. They ask

- What is the basic idea and aim of Open Government in their municipality? How does it relate to the basic aims of Open Government as presented in this training package?
- Is the current form of Open Government fulfilling the aims? Is it fulfilling the aims as envisaged in the beginning and is it aligned with the basic claim of improving the throughput legitimacy of the public authorities?
- How can the current forms of Open Government be improved according to the CPMT-Approach?

Third, the participants are entering the **planning phase** in which they are asked to advance their current form of Open Government as it is implemented in their municipality. In particular, they are suggested to design a form of collaboration along the guidelines of the four-step-process of the CPMT-Approach.

Methodologically, the participants are utilising the Live+Gov ontology for describing, analysing, and advancing Open Government in their municipality. The ontology is particularly well suited for this because it is giving an overview of all tasks to be accomplished for designing Open Government including all organisational and technical elements. Furthermore, it makes the connections and relations among the tasks, the interactions and dependencies among the technical components and the interactions between organisational and technical tasks explicit. Accordingly, if for example a participant is choosing the Collaboration Type 2 to be implemented, the ontology is showing clearly what has to be done and how the different tasks lead up to a sophisticated Business Model for Open Government. Therefore, the ontology is structuring the planning and the implementation

process for coming to a working Open Government process, which is satisfying the principal aim of creating and strengthening the throughput legitimacy of the state.

AIMS

Providing participants with the tools and practices to transfer what they learned to their working environments, enabling them to proactively address the follow-up of the training and introduction of open government processes based on the CPMT-Approach in a creative and innovative manner

OBJECTIVES

- Providing an engaging setting of creation and innovation with regards to the implementation of open government processes
- Using creative and innovative methods allowing participants to experience a deepened analysis of their individual working backgrounds in a different and unusual manner
- Enabling participants to think “out of the box” with regards to the possibilities of applying open government processes in their respective working backgrounds
- Providing support in planning a step-by-step action plan of introducing open government processes in their respective working backgrounds.

2.8 TRAINING SESSION DESIGN MODULE 4 “Scenario development alongside the Live+Gov ontology”

Table 6: Training Plan Module 4

Time	Title	Description	Method(s)	Desired Outcome
09.00	Opening and introduction to the module <ul style="list-style-type: none"> Welcome and introduction to the training Presenting the agenda Gathering participants’ expectations 	<p>Trainers open the module and welcome participants. They introduce the basic contents in a summarized version of module 3.</p> <p>They present the agenda of the day, allowing participants to get an overview of what they can expect to learn.</p> <p>In a short round participants share their expectations towards module 4.</p>	<ul style="list-style-type: none"> Opening remarks by trainer Opening round (each participant shares her/his expectations towards the day. Presentation of agenda of the day Short recap of outcomes of module 3 by trainer 	<p>Participants have an overview of how the day will look like. They get an insight on who is in the room and the experience others bring to the training day and module.</p> <p>Therefore this block lays the fundament for an open and constructive training atmosphere during module 4.</p>
09.30	Getting to innovative ideas: Marshmallow challenge	<p>Introducing participants to the exercise, implementing the exercise and sharing outcomes and learnings from it.</p> <p>The Marshmallow Challenge is a remarkably fun and instructive design exercise that encourages groups</p>	<ul style="list-style-type: none"> Exercise “Marshmallow challenge” (detailed descriptions and explanations can be found here: http://marshmallowchallenge.com/Instructions.html) In group of participants, sharing outcomes and conclusion from the exercise 	<p>Increase participants practise and enjoyment of developing creative, innovative and original solutions to an unusual problem.</p> <p>Deepening participants understanding of project development</p>

		<p>to <i>experience</i> simple but profound lessons in collaboration, innovation and creativity.</p> <p>The task is simple: in eighteen minutes, teams must build the tallest free-standing structure out of 20 sticks of spaghetti, one yard of tape, one yard of string, and one marshmallow. The marshmallow needs to be on top.</p> <p>Surprising lessons emerge when you compare teams' performance. Who tends to do the worst? Why? Who tends to do the best? Why? What improves performance? What kills it?</p>		<p>processes and pivotal points for innovation and creativity.</p>
10.45	<i>Coffee Break</i>			
11.15	<p>Determining the starting point for the introduction of open government processes based on the CPMT-Approach</p>	<p>Participants are introduced to the Einstein quote (see left) and asked to share how/if they relate to this in their daily work.</p> <p>The basis of design thinking and the six thinking hats of lateral thinking are shared</p>	<ul style="list-style-type: none"> • Sharing quote „If I had an hour to solve a problem I'd spend 55 minutes thinking about the problem and 5 minutes thinking about solutions“ – Albert Einstein • Presenting and sharing basic elements of design thinking (determining the needs of the users and key people involved, environmental scan) and the six thinking hats from lateral thinking through the trainer. Sharing questions and ideas on how to 	<p>Increasing participants awareness for the need of thorough problem and needs analysis before designing solutions and action plans.</p> <p>Enabling participants to</p>

		<p>with participants through the trainer.</p> <p>Participants are asked to individually determine the relevant questions they need to address in order to develop and introduce open government processes in their respective environment through using design thinking and the 6-thinking hats.</p>	<p>use in group of participants.</p> <ul style="list-style-type: none"> Individual work by participants: Determining the relevant questions, aspects and problems they need to address in order to develop open government processes in their respective environment (brainstorming- & writing, six thinking hats, etc.) 	<p>use user-centred approaches to design lasting and sustainable solutions</p>
12.30	<i>Lunch</i>			
13.30	<p>Determining the starting point for the introduction of open government processes based on the CPMT-Approach</p>	<p><i>Continuation of previous training block</i></p>	<p><i>Continuation of previous training block</i></p>	<p><i>Continuation of previous training block</i></p>
14.30	<i>Coffee Break</i>			
15:00	<p>Feasibility assessment & action planning</p>	<p>Participants are introduced to different templates for a feasibility analysis.</p> <p>They are asked to analyse their previous determined work and pinpoint crucial milestones, questions and if needed, adapt and change</p>	<ul style="list-style-type: none"> Introduction of feasibility assessment models Individual transfer work: Checking feasibility of previous working outcomes Group sharing in flashlight (one work per person) on experiences made in this exercise Sharing templates/ideas for formats and contents of action plans Working on individual action plans 	<p>Participants understand the basics of a feasibility assessment and adapt their ideas according to it</p> <p>Participants are enabled to determine their individual action</p>

		<p>certain elements</p> <p>Participants are introduced to models of action plans and invited to plan their own actions upon completion of the training.</p>		<p>plans to develop and introduce open government processes using the CPMT-Approach.</p>
16.15	<p>Closing and summary of the training</p>	<ul style="list-style-type: none"> • Summary and review of the training • Sharing in group experiences and learning points of the seminar • Short outlook on future activities of each participant • Evaluation and feedback to trainers/organisers 		<p>Closing and reviewing the day and the training</p>

3 Part 2: MANUAL OF THE LIVE+GOV TRAINING PACKAGE

The following Part Two contains the manual to the Live+Gov training package. It is intended to summarise the content of the training for the trainer who is to moderate and conduct the training. The manual follows the same structure as the training sessions. Accordingly, the trainer has a good overview its substance even if he/she has not been directly involved in the Live+Gov project.

Substantially, the manual contains the most important information from various public deliverables from the Live+Gov project. Therefore, it either reformulates the arguments from these documents or copies certain text passages directly. These quotes are indicated in the text.

Please note that the content in the manual is identical to the content in the deliverables. No new research results are included. However, at the time of writing actual research is underway in cooperation with the Live+Gov Advisory Board Members Marieke Hellevoort from the City of Utrecht and Nina Frösen from HSL about their specific communication strategies with the citizens when introducing new applications and solutions. This research will be published as Live+Gov working papers and in scientific journals. Accordingly, the training package will be extended by these research results during the lifetime of the project. This refers, in particular, to Step 4 of the CPMT-Approach about the communication strategies, which are applied in the Cities of Utrecht and Eindhoven and between HSL and the citizens of Helsinki.

3.1 MANUAL Module 1: The Path to Open Government

Module 1 is laying the theoretical foundations of the Live+Gov training package. The participants should understand the broader context of their everyday work and the necessity for Open Government reforms.

3.1.1 Manual Module 1 / Section 1: The principles of modern liberal democracies

The participants of this seminar session realise that there are two major principles of all forms of democracies (ancient as well as modern): the state shall guarantee the individual liberty of its people and safeguard their equality independent from their heritage and social affinity.

Definition Liberty: liberty/individual freedom is generally defined as a state without dominance: liberty means to live as one likes and without having a master. This view is common to both the Greek/Athenian philosophers (Aristotle) and thinkers of the liberal school of thought (John Locke).

Definition Equality: equality means that every individual is equal to others independent of their heritage and social status. This is also a common to both the ancient Greek philosophers and thinkers of the liberal school of thought.

There are, however, considerable differences between the interpretations of how to maintain these principles in a social and political context. Here, the original Athenian perspective focuses on the input of the citizens. In contrast, the liberal school of thought focuses on the output of the state. Current theorists of democratic representation add the democratic process as a crucial element in maintaining the freedom and sovereignty of the people.

Therefore, the modern, liberal democracy draws its legitimacy from three principles:

1. Liberty and Equality are maintained by the fact that people are having a voice and can make a direct input to political decision-making. **The state is having input-legitimacy.**
2. Liberty and Equality are maintained by the fact that people's rights and freedoms are protected by the state. They are sheltered from both state intervention as well as other individual's intervention. Therefore, state policies need to have a certain output. **The state is having output-legitimacy.**
3. Liberty and Equality are secured and maintained by the political process itself. Citizens are having the possibility to express their opinion, to have a say in political and administrative decision-making processes and are well represented by political actors - individuals and organisations. **The state has throughput-legitimacy.**

Input-legitimacy in antique Athens²

In antique Athens, liberty and equality were achieved by granting every citizen a direct word when it came to debates about new policies and a voice when it came to voting for them. Additionally, every citizen was regularly assigned positions in the various legislative, executive and judiciary bodies either by election or by lot. Important to the notions of liberty and equality is that they are inextricably bound to the political participation: a citizen was

² Taken from Deliverable D2.1 (version 1)

only free and equal to others if and only if he participated in the public decision-making. Otherwise, he was considered being dominated by others.

The core issue with the antique form of democracy is this definitional unity of liberty and equality on the one hand and political participation on the other. Liberty and equality were understood as the core ideals of the personal and social life that could only be achieved through direct political participation. The underlying assumption was, of course that a citizen can only claim to be free and sovereign if he participated in legislative decisions that were to be imposed on him and could so implement his interest in the political outcome. Even if he could not uphold his position and was outvoted by a majority the individual could claim to be part of the decision. Therefore, he is sovereign and not dominated by others. Accordingly, a political decision was legitimate if every citizen could make his point and to vote for the one or the other legislative proposal. However, this heavy stress on the input legitimacy of the political system had no equivalent on the output-side. Legitimate decisions were executed without any restriction; neither the minority nor the individual were protected against the majoritarian will. Even interventions in the individual lives (e.g. property) of citizens were so possible.

As a consequence, the Athenian form of democracy is widely connoted with three important problems:

- First, as a majoritarian decision, which came about in a democratic decision-making process with granting every citizen his democratic rights but leaving the individual as well as the minority unprotected, the antique form of a democracy is seen as being despotic and establishing a tyranny of the majority. As Sartori (1987) puts it: “the fact that an impassioned individualistic impetus flourished throughout the Athenian democracy does not [...] contradict the assertion that the individual was actually undefended and remained at the mercy of the collective body” (ibid: p.285).
- Sartori (1987) has pointed to a second source of instability related to this definition of citizenry. If a man fully participated in political decision-making in order to meeting his civic duties he had less time to manage his own livelihood and generate his personal wealth. This, however, had disastrous consequences for Athens’s economy. As Sartori (1987) puts it: “Political hypertrophy brought about economic atrophy: the more perfect their democracy became, the poorer the citizens became. The vicious circle was thus entered of seeking a political solution to economic need: in order to make up for the insufficient production of wealth, one had to confiscate wealth” (ibid: p.282). Accordingly, the Athenian democracy was marked by a kind of class struggle between the rich minority and the poor majority where the latter consequently prevailed. Therefore, already Aristotle remarked that democracy is the “government of the poor” (see: Sartori, 1987: Chapter 10).³
- The Athenian democratic decision-making system required every citizen to participate. This is already complex in a city-state like Athens but hardly manageable in a geographically extended territorial state.

³ There were periods in Athenian history of class clashes due to levying mandatory taxes on the inner wealth of the. This was at the time the “Athenians have exhausted their once vast monetary reserves, and had begun to relying entirely on the yearly income from their subjects’ tribute payments and local taxation to fund the (...) effort” of the Pelopponesian war (Samons, 2004: p.36). Accordingly, one could argue that this class struggle may have not been inherent to Athenian democracy but rather a (necessarily) extreme reaction to a foreign menace (own interpretation).

Due to these structural and functional problems the Athenian form of democracy did not prevail. However, its fundamental principles of the liberty and equality of the citizens remained the principle objectives of liberal thinkers and philosophers of the enlightenment.

Output-legitimacy in the liberal school of thought

The liberal conception of a state is sharing the basic principles with the Athenian democracy: liberty and equality are the main aims and objectives of the state. However, the liberal interpretation is breaking with the definitional unity of liberty and equality on the one hand and political participation on the other. It rests on the following premises:

Premise 1: Liberty and Equality are not acquired through heritage or social activity. Every human is born free and equal to others. Therefore, every individual has natural rights that have to be safeguarded by the state. The extent to which these rights are maintained in a society and in a state is the major yardstick for assessing the quality of a democracy.

Premise 2: Individuals are permanently endangered to be dominated by others and therefore to lose their freedom. This is due to the fact that individuals are having different conceptions of freedom and equality and are trying to impose them on others. There is the permanent danger that disputes end in a state of war.

Premise 3: Despite all differences, humans are capable of acting rationally.

From these premises, John Locke is deriving his concept of the Social Contract: Due to the permanent danger of losing freedom and equality (in a state of war) and their capability to acting rationally, people come together for establishing common rules of freedom and equality. They agree voluntarily to this social contract but the rules are binding and enforced.

Liberal thinkers like John Locke have not commented on a concrete state structure, which is capable of creating and enforcing a social contract. However, the liberal school of thought contributed an important element to the standards of modern democracies. It established the perspective that the output of state activity is important. State action is not without restriction! On the one hand there are boundaries and regularities, which have to be followed. On the other hand citizens have to be enabled by the state to live up to their individual liberty. Therefore, the state in the liberal understanding can be conceived as an enabler and has to produce policies, which are reflecting this role.

Throughput-legitimacy in a representative democracy

Modern democracies draw their legitimacy from both their input and their output. People are having the possibility to give their input by different means (e.g. voting) and can rely on individual protection by law. However, these two forms of legitimacy represent the beginning and the end of decision-making processes. They do not describe the process in between. Accordingly, the process in between has to connect the input by the citizens and the output by the state: state action has to show a clear connection between the two ends. Only this transparency prevents domination of a certain political force over others; only this transparency lends the individual vote the sovereignty it should express; only this proves that the social contract is taken seriously!

The political process in antique Athens was radically direct: every citizen had a say in politics by a direct vote; voting results were implemented directly. Even if the individual interest was overruled, this transparent system expressed the sovereignty of the individual. In contrast, modern democracies are mostly relying on representative systems where citizens delegate political decision-making power to representatives who are taking the bulk of the political decisions. Accordingly, just like the Athenian form of democracy, a representative system needs to have its own rules and procedures that are transporting the individual voice (and vote) through the political system and make them express the individual sovereignty of the citizens. In this context, organising the political process and the political discourse and making it as transparent and inclusive as possible is of crucial importance: only this creates the trust among the citizens towards their state that is necessary for the well functioning of the whole society. Only this creates the incentives for the citizens to stay within the system and take their share in developing the society. Without this trust, without the feeling of being represented in the political system, the citizens will turn their back on the state and create parallel structures, that are outside state control: they cancel the social contract!

The incomplete principal-agent relationship in a representative democracy⁴

Why is citizens' trust in the political system particularly important in a representative system? Political representation can be understood as an incomplete principal-agent relation: representatives serve as the agents and have the duty to implement the interests of the citizens who are taking the role of the principal. However, representatives are not bound by any kind of contract or a direct hierarchical authorisation, as it would be the case in a complete principle-agent relation (e.g. in a sales contract). According to Urbinati (2011), representatives are essentially equipped with a free mandate and can freely decide about legislative decisions. This flexibility is important for being able to react on the challenges of everyday politics. Therefore, however, it is indeed "a fact that only the elected have both deliberative and decision-making power, unlike citizens, whose freedom to discuss and criticise proposals and policies does not ensure that their opinions will affect the legislative setting" (ibid, p.25). Representatives have no legal or direct personal accountability for their legislative decisions, "electors have no legal power to make their opinions compulsory like instructions" (ibid, p.44) and, therefore, representatives have the power to take decisions against certain groups of the society and even against their own voters. In this respect, legislative decisions do not necessarily mirror the society in its greatest detail, but will rather accord in general with the majority of a society. Thus, citizens retain their sovereignty only by the ability to dismiss representatives and choose new ones in elections or fixed appointment procedures. Instead of contractual obligations, like in an economic principal-agent relationship, the voter-representative relationship depends on promises of the principal concerning future policies and on past experiences of the voter with the representatives⁵; both culminate in the trust of the voter in the present and the future

⁴ Taken from Deliverable D2.1 (version 1)

⁵ The voting decision is generally assumed to be composed of long-term factors involving individual socialisation and tradition but also short-term factors that are determined by the past performance of the (incumbent) candidates (retrospective vote) and the announced future performance of the candidates (prospective vote) (Fiorina, 1982).

representatives.⁶

Thus, in a modern representative democracy it is not the concrete policy output that generates legitimacy. It is rather the belief of the citizens that the decision is good; and this is highly dependent on the relationship of the representative to her voters and to the citizens in general, which is marked by trust in the representative and in the political system.

Electoral competition in a liberal democracy⁷

The first crucial element is the act of voting, which expresses the fundamental sovereignty of the people. However, the vote will only lead to representative (legislative) decisions if and only if they are taking place in a liberal environment – only if the state is liberal and is granting civic rights like freedom of the speech, the freedom to pursue particularistic interests and the freedom to become politically active to name a few.⁸

Ferejohn and Rosenbluth (2008) explain this in the following way: A political system that acknowledges the individual freedom of its citizens agrees in the concept of a pluralistic society and enables public debate about political and societal issues. This is fertile ground for political competition: on the one hand the people are free to demand their preferred policies and articulate their particular interests. On the other hand, candidates striving for political power and being eager to win votes, have an interest to satisfy citizens' interests to the largest extent possible. Hence, the voters can choose among the candidates those that offer the best policies, are closest to their individual preferences and will possibly implement their interests to the greatest extent. Therefore, as the authors argue, competitive elections taking place in a transparent political system, prevent elected representatives from drifting away from the citizens' interests: candidates know that if they depart too much from their voter base, they will not be re-elected and lose their power. Therefore, a representative political system that incorporates this liberal thinking secures that citizens' interests are implemented without having them participated directly in decision-making (as in antique Athens). At the same time the liberal conception of freedom protects the individual from tyrannical majoritarian decisions and safeguards a certain extent of security to the citizens.

In sum, elections are securing the fundamental role allocation between citizens being the principals and representatives being the agents if they constitute the final act of an open political debate involving everybody that feels concerned. The open political debate keeps the legislative output of the state in line with the majoritarian will and is granting every citizen the possibility to influence the decisions either by the vote itself or the articulation of interests and preferences. Thus, the vote in a liberal democracy is providing input and output legitimacy.

The Importance of Political Parties

⁶ "In substance, a relation of ideological sympathy and communication between the representative and her electors is necessary and can occur only because political representation excludes legal mandate and is not a contract. The sympathetic relation of the representative to the part that voted for her is, and must only be, a matter of opinions or ideas, an informal and thus not authoritative kind of relation" (Urbinati, p.44).

⁷ Taken from Deliverable 2.1 (version 1)

⁸ Accordingly, liberty in a representative state is a necessary condition for policies being representative.

Such a representative system is crucially dependent on mediating organisations that are “translating the complexity of public opinion into clear proposals for political action and change” (Sommerville, 2011: p. 420). According to Sartori (1987) political parties are of particular relevance here as they are connecting the citizens with the states in manifold ways: first, they provide a forum for political discussion, aggregate citizens of a society with certain interests, attitudes, or ideologies. Second, and as importantly they choose and support candidates that run for political positions in elections. Third, they formulate policy proposals and therefore forge an important proportion of the final policies. Thus, political parties work as a circulating pump/transmission belt between the state and the people. They are collecting the needs and demands of the society, are translating them into political agendas and are trying to implement them in the political process. They provide the necessary level of organisation that is needed to transform individual interests into political action.⁹

Alonso (2011) even argues that parties are indispensable for representative democracies because they are the central organising element of the political process. As she puts it: “Representative democracy is based on political parties and partisanship” [and] “political process is the key term. The process of representation puts an end to the sovereign as an ontological collective entity that proclaims its will (by an act of authorisation) and makes room for sovereignty as an inherently unifying process. Within this scenario, political groups of parties (ideological representations of the social and political reality) are not optional or accidental; they constitute the representative process [...]” (ibid. p. 45). This means that parties do not pursue specific policies but rather represent a certain school of thought or ideology. However, they have room for variety and interpretation within them. They provide a forum for more or less likeminded people discussing a broad spectrum of policies and aiming to shape the whole spectrum of policies according to their particular way of thinking.¹⁰

However, political parties are more than a debating club. By nominating candidates who are running in elections, they dominate the legislative and staff the central executive positions in the state. Therefore, political parties have a direct access to the administrative system of the state and a preferential grasp on its information and resources. Accordingly, the organisational structure of the parties and their personal and institutional access to public administration makes them the central gatekeepers of political information and communication. They control the flow of information between the state and the society. Therefore, they do not only organise the political debate, they safeguard the accountability of the state authorities in front of the citizens by establishing information flows between state authorities and the people organised in and around the parties.

Important is the fact that the whole political system depends on this central mediating role

⁹ In social scientific terminology, parties provide “linkage” between the society and the political arena, which is defined by the identification, selection, aggregation, and integration of interests (see e.g.: Poguntke, 2002).

¹⁰ In this respect, the political science literature speaks of cleavages. These are defined by three factors: “first, a cleavage involves a social division that separates people who can be distinguished from one another by key social-structural characteristics such as occupation, status, religion, or ethnicity. [...] Second, the groups involved in the division must be conscious of their collective identity – as workers or employers, or as Latvians or Russians, for example – and must be willing to act on this. [...] Third, a cleavage must be expressed in organizational terms” (Gallagher, 2006: p.264-265)

of political parties. If a citizen wants to have its interests represented, the primary and single way is through political parties.¹¹ If a citizen wants to have special information about processes in public administration the primary and easiest way is through political parties. The administrative system is geared towards responding mainly to parties and representatives and rather little to individual citizens. Hence, political parties, their personal and their organisational structure have monopolised this mediating position between the state and the citizens. In fact, they are the only societal organisations that are rooted in the non-political public and stretch into the political arena (see also: Jun, 2009) as well as into the administrative system of the state.

Thus, political parties organise the political debate, dominate the legislature, influence the executive and provide the organisational means to keep the whole political system, including the political and the administrative sphere accountable. Therefore, they have key importance for the throughput legitimacy in a representative democracy.

¹¹ Interest groups are another option, of course. However, they only offer an indirect access to the political arena. They do not nominate candidates to run for office but rather try to influence legislative decision-makers and parties from the outside.

3.1.2 Manual Module 1 / Section 2: Characteristics of a modernising society

The basic argumentation is the following: the societies of liberal democracies are undergoing a process of modernisation. This means that the societies are in a process of individualisation and differentiation: the people are using their liberty to live their individual life independent from traditional conceptions and ideas. This is having an impact on the political participation as well: people are increasingly sceptical about the traditional representative mechanisms in the society. Political parties, in particular, are losing their attractiveness to the people. This results in a process of “partisan dealignment” meaning that people are decreasingly willing to maintain close attachments to political parties. This does not mean that people are getting less politicised: rather they tend to choose different formats outside and independent from political parties for expressing their political attitudes. Therefore, partisan dealignment does not mean that the people are becoming increasingly apolitical or hostile towards the democratic state. Rather, they are increasingly favouring different forms of political expression. However, this trend comes with increasing levels of distrust towards the state in general and its institutions.

What is happening in the societies: empirical indicators

1. State output is not deteriorating

Indicator 1: growth rates

Source: World Bank (<http://data.worldbank.org/indicator/NY.GDP.MKTP.KD.ZG>)

Indicator 2: inequality level (Gini-coefficient)

Source: World Bank (<http://data.worldbank.org/indicator/SI.POV.GINI>)

Indicator 3: corruption levels

Source: Transparency International (<http://www.transparency.org/research/cpi/overview>)

2. Decreasing political participation through traditional channels of the representative state:

Indicator 1: Decreasing voter turnout in Western Europe

Source: European Social Survey (<http://www.europeansocialsurvey.org/>)

Source: International Institute for Democracy and Electoral Assistance ([www. Idea.int](http://www.idea.int))

Indicator 2: Decreasing Party Membership

Source: Gallagher, Michael; Laver, Michael; Mair, Peter (2006): Representative Government in Modern Europe, Boston (Mass.): McGraw-Hill)

Indicator 3: “Partisan Dealignment”

Source: (Gallagher, Michael; Laver, Michael; Mair, Peter (2006): Representative Government in Modern Europe, Boston (Mass.): McGraw-Hill)

Source: Dalton, Russel J. (2004): “Democratic Challenges – Democratic Choices. The Erosion of Political Support in Advanced Industrial Democracies”, Oxford: Oxford University Press

3. Declining trust in political representatives and state institutions:

Source: Nye, Joseph et al. (1997): "Why People Don't Trust Government", Cambridge: Harvard University Press (Introduction)

Source: Kaina, Victoria (2008): "Declining Trust in Elites and Why We Should Worry About It – With Empirical Evidence from Germany", *Government and Opposition*, vol 43 (3), p.405-423

Source: Stoker, Gerry (2010): "The Rise of Political Disenchantment", in: Hay Colin (edt.): *New Directions in Political Science. Responding to the Challenges of an Interdependent World*, Houndmills: Palgrave Macmillan

4. Expanding political participation outside the traditional channels

According to Dalton (2008), political participation is not generally declining but rather shifting away from traditional forms like voting and party membership to protest, community action and support for smaller scale civic movements. Dalton (2008) calls this a shift from "duty-based citizenship" to "engaged citizenship" (ibid. p.76). In contrast to duty-based citizenship "engaged citizenship taps participatory norms that are broader than electoral politics. The engaged citizen is more likely to participate in boycotts, buying products for political or ethical reasons, demonstrations and other forms of contentious actions" (Dalton, 2008). He argues further that this phenomenon is not as worrisome as stated by other authors as it shows that the democratic mindset of the people is still intact and therefore the foundation of the democratic state.

Source: "General Social Survey" (GSS); <http://www.norc.org/Research/Projects/Pages/general-social-survey.aspx>

Explanation¹²

The empirical indicators seem to be clear: people turn away from traditional forms of political participation and are searching for alternative ways of political expression.

So, what has led to this situation? A sharp note by Blühdorn (2009) and Stoker (2006) hints to the suspicion that both partisan dealignment and pluralising interest representation are consequences of deeply rooted societal developments. As both authors agree, "there is consistent empirical evidence that prevalent forms of political engagement are becoming more individualistic, spontaneous, self-controlled, flexible, non-committing, expressive, lifestyle oriented and at times 'in danger of becoming more of a lifestyle statement than a serious engagement' (ibid: p.88; taken from Blühdorn, 2009: p. 32).¹³ Accordingly, a growing gap between the parties and the citizens would rather be based on societal developments than on processes internal to political parties.

Indeed, as Inglehart and Welzel (2005) and Blühdorn (2009) agree, political engagement as well as all other kinds of social activities is subject to increasing individualisation and

¹² Taken from Deliverable D2.1

¹³ Authors sharing this statement are e.g. Norris (1999), Cain et al. (2003), Dalton (2004,2008), Inglehart and Welzel (2007), Dalton and Klingemann (2007)

differentiation. And this, they argue, is due to the fact that the liberal conception of representative democracy has paved the way for an explosion of individual opportunities and possibilities to lead and organise the personal life. Traditional societal forces are waning and exerting increasingly little pressure on the individual to follow certain societal rules or to subdue to certain societal traditions. People are free to choose their individual way of living in a universe of moral, ideological, and ideational possibilities and are less willing to adhere to accustomed rules of behaviour. As Blühdorn (2009) notes, “the process of modernisation is chipping away at all existing normative yardsticks [...]” (ibid: p.25).

Additionally, as Stoker (2006) finds, group affiliations are rather short-term oriented and not lasting. This relates to the same tendency of increased individual diversity: people are free to question any form of hierarchical organisation. Hence, they commit their (political) participation as long as they fully consent with the aims and goals but quit, attach to other organisations, or simply detach from organised political communication, as soon as they are unhappy with some kind of organisational decision. The mantra of individual and personal freedom legitimises this action.

3.1.3 Manual Module 1 / Section 3: Gaps in the representative system¹⁴

The main hypothesis of Module one is that the modern, liberal, representative democracies have come under increased public pressure, which is challenging its legitimacy. The line of argument is the following: the traditional system of interest representation in modern, liberal democracies is decreasingly well capable of representing the society. This is due to the fact that political parties as the main mediating organisations are decreasingly capable of reaching out for the citizens and integrating their interests in their programs. This is not only due to the inability of the parties. This is also due to the fact that the society is increasingly fragmented and that political participation is increasingly changing its character from traditional forms like party membership and voting to protest, short-term, localised and less ideologized political action. A gap occurs because these modern forms of political participation have great difficulties to reach the political decision-making arena. Hence, interests which are articulated via these modern channels apparently have difficulties in being implemented in concrete policies. This leads to the situation that the citizens that are articulating their interests accordingly have the impression of not being represented. Therefore, they feel dominated by other societal forces, have the feeling of losing their liberty and, eventually, loose trust in the whole political system.

In sum: traditional mechanisms of the political process fail to reach out for an increasingly large proportion of society. Parties and other organisations of interest representation still control the communication between society and politics. But, they represent a decreasing number of citizens. Those not represented, fail to participate in the political debate either by increasing apathy or by turning to forms of communication that do not seem to reach the political arena **because they have no institutionalised communication channels to the political arena established**. Therefore, they miss out on the political debate, do not participate in the legitimising political process and are decreasingly well connected to executive decision-making: from their perspective, their interests are not represented in any form of state action.

Paradoxically, this is independent whether the state output has deteriorated or not – whether the interests of the citizens are indeed decreasingly well represented or not. It is argued here that neither the performance of the state has deteriorated nor the extent of interest representation. Intensive political competition is leading to an overrepresentation of the societal interest: in the quest for votes the political representatives are satisfying and meeting many more interests than in the past. However, as Hanna Pitkin has put it, “a man is represented if he feels that he is, and not if he is not” (Pitkin, 1967: p.10). This means that the people do not see that they are indeed represented and consequently that the throughput legitimacy of our representative systems is disturbed. The extent of citizens’ interest finding their way into the political and the administrative system in a transparent manner is decreasing.

Hence, the political process needs be designed in a way that allows the society to see how their interests are represented independently from the party system. State action needs to signal to the citizens that their voice is taken seriously, that their interests are being treated seriously and are being implemented in the political output even beyond the organised and formalised political process. Thus, the representative system needs to reform its political process of representation and to increase its throughput legitimacy.

¹⁴ Taken from Deliverable D2.1 (version 1)

Summary:

Gap 1: There is a gap between the interests represented by political parties and interest/preferences in the society.

Gap 2: There is a gap between the public demand for interest representation and the state supply of communication channels / interest representation channels.

Gap 3: There is a gap between the public demand for transparency in decision-making and the state supply of transparency in decision-making.

3.1.4 **Manual Module 1 / Section 4: Open Government in modern representative democracies**

According to Section 3 the main task for improving the connection between the state and the citizens is to advance and reform the political process: to create new communication channels and new forms of interaction. Mobile technology is ideal for creating these innovations. The main lesson learned from Section 3 is that these innovations have to bridge the input of the citizens and the output of the state and, essentially, make this throughput transparent and visible. Accordingly, it is not enough to provide new input possibilities for the citizen believing that the mere act of issuing an opinion would be enough to satisfy the public demand. Rather, there has to be a procedural complement, which is transparently transmitting the citizen input to the political decision-making arenas. Direct participation possibilities can be added if the public authorities are willing to delegate responsibility to the citizen. However, crucial is that the process is citizen friendly and both the decision-making cycles as well as the participation possibilities are truly transparent in terms of meeting the information demands of the citizen.

For this purpose, the Live+Gov training package proposes the Open Government concept with its three pillars of transparency, public participation, and collaboration. It has been identified as the ideal form of the government of the future, which is coping with the challenges of the 21st century. It comprises three tasks: opening publicly available data, opening public decision-making, and opening public services. These are implemented by transparency initiatives, which are publishing data as well as internal documentation like reports or evaluations (e.g. one stop open government data portals) and are informing about internal decision-making processes. Participation initiatives are opening up decision-making by enabling direct citizen impact (e.g. participative budgeting or eParticipation in urban planning). Collaboration initiatives enable citizens and stakeholders to take direct executive action for maintaining and shaping their municipality.

Transparency¹⁵

According to Florini (2007), transparency is “the degree to which information is available to outsiders that enables them to have informed voice in decisions and/or to assess the decisions made by insiders” (Florini, 2007: p.5). Accordingly, we aim at transparency measures that increase the ability of citizens to form an opinion about public/municipal matters and use this information for their participation. We argue that modern ICT has the great potential to provide transparency to public activities and contribute to improving both the functioning of the state and the understanding how the state is working. Furthermore, by disclosing analytical capacities of the public authorities, we understand public service delivery in the context of providing real-time data to the citizens as a transparency measure as well.

The presented definition goes straight to the very purpose of transparency in a democratic state: it helps solving or reducing the so-called “agency problem” occurring automatically if responsibility and power are delegated by a principal (a voter or shareholder) to an agent (a representative or manager). This begs the question how the principal can safeguard that the agent is acting according to the principal’s interests and is not exploiting the acquired

¹⁵ Taken from Deliverable D2.1 (version 2) and Deliverable D2.3

informational advantage for following the personal interests possibly at the expense of the principal. Stated very bluntly, such agency problems are the root of corruption both in the private as well as the public sector and can have disastrous consequences for private companies, entire economies and the state, respectively.

Accordingly, the agency problem lies at heart of every democratic state in which citizens delegate sovereignty to representatives: how can it be ensured that political decisions are in line with the will of the people? One answer is that transparency measures should balance the informational asymmetries between the representatives of the state and the citizens. Citizens should then have the possibility to use this information and punish or reward the candidates for political positions and actions in the upcoming elections.

Thus, the literature names two fundamental arguments why transparency is essential in a democratic state. First, it is a principle of democratic government and necessary for holding elected representative accountable. Furthermore, transparency has important repercussions on the legitimacy basis of a political entity “by clarifying how authority structure has been constituted, by demonstrating the concrete benefits of institutional actions, and by cultivating the belief that citizens have a fair choice to influence institutional decisions and evaluate results (Harrison, 2012: p.87). High quality information about the legislative and executive action of the state is therefore essential for citizens in every democratic setting for effectively controlling the government and holding the elected representatives accountable to the majoritarian will and the fundamental principles of the state. Therefore, they need to have access to official documents and data and be informed about political decision-making processes. More concretely, they must be informed about the budget, audits, policies and executive action (see: Harrison, 2012). Additionally, the citizens need to obtain access to structural information about the decision-making procedures and means to influence political processes. In sum, transparency is highly important for input-legitimacy (informing the people about decision-making processes, disclosing information about the participants to a decision-making process as well as their positions) and for output-legitimacy (informing people about the outcome of the political process and bringing forward a work performance record).

Second, transparency is central for the effectiveness and efficiency of government. It is not only countering corruption but increasing the quality of decision-making even if decision-makers are driven by the best intentions: “transparency gives more people the capacity to spot bad analysis or contribute data not already contributed by public agencies” (Roberts, 2007: p. 321) Furthermore, transparency enables control, analysis and evaluation of past decision-making processes revealing problems and issues, identifying responsibilities and providing all information for improving decision-making in the future.

Thus, transparency is the most fundamental facilitator for any meaningful Citizen Participation. This is not a novel finding: having parliaments for discussing and taking fundamental legislative discussions publicly and therefore exposing oneself to the public scrutiny is the very basis of a democracy. However, in a modernising world with more responsibility and participation possibilities given to the citizens, information about how to act, where to become active, and the past activities and experiences (both by the state and private bodies) becomes even more important. Therefore, transparency is not only an end in itself but a core facilitator for all following participatory processes.

However, one needs to refrain from naïve assumptions about the effect of transparency. While transparency is, without doubt, highly important for the input and output legitimacy

of the state, one has to pay close attention to the manner in which transparency is provided. In particular, the information and the related messages should reach the people effectively. Otherwise, transparency is pyrrhic and has no effect on the political process whatsoever. In this respect, it is very easy to drown the information and the messages in complexity either in terms of hardly understandable and traceable information or in the sheer quantity of the published data. This is amplified by the fact that citizens with a medium interest in political processes in general and municipal issues in particular have a limited capacity of digesting the presented information.

Therefore, we argue that a modern state has the obligation to respond to this circumstance and pre-select the information and choose easily understandable but valuable formats. However, we consider it highly important that additionally, the citizen is given the possibility to access more detailed and possibly more technical information revealing also how they could possibly participate in the decision-making process or become active in another meaningful way. Such “pro-active” transparency, which is taking the natural limitations of citizens to acquire information seriously signals to the citizens that their participation is wanted and that the state is ready to render them assistance in their effort.

Public authorities should also pay attention to what they publish for strategic reasons. Documents may be sensitive or containing privacy issues and can therefore not be shared with the public. But even if they are not sensitive legally, publishing information without further commenting them or dealing with the public response can become problematic. Then, the interpretation of the published material is left exclusively to organisations mediating between the state and the public like pressure- and lobby groups, other non-governmental-organisations (NGOs), or the media in general. Those, however, may follow their particularistic opinions and not interpret the disclosed information in an objective way. They may distort the information and try to push for their very subjective interests (see: Harrison, 2012). In this respect, Curtin and Meijer (2006) refer to the related danger that “too rigorous democratic control may squeeze the entrepreneurship out of public managers and turn agencies into rule-obsessed bureaucracies” (ibid: p.118) because they fear of being attacked publicly if not having followed the rules one-by-one. Hence, civil servants may lose the needs and necessities of the citizen out of sight and refrain from deciding flexibly when organisational guidelines and reality are in conflict. Accordingly, transparency measures need to be accompanied by effective public relations and communication through the disclosing organisation. However, this increases the transparency related costs again.

Table 7: Types of Transparency

Transparency			
<i>Transparency Type 1: Simple – Uncommunicative</i>	<i>Transparency Type 2 Simple – Communicative</i>	<i>Transparency Type 3 Advanced – Involving</i>	<i>Transparency Type 4 Advanced – Engaging</i>
Public Administration is informing about its organisational setup, describes the acting organisational bodies and their personnel, as well as their powers and duties. This is already implemented by most municipalities with an internet homepage.	Here, the public administration is not only informing about the organisational setup but grants the citizens direct communication possibilities.	Here, the public administration is adding information about decision-making procedures. This contains general information about how decisions are taken in general (visualised rules of procedure, etc.) but also background information about specific decision-making procedures like stakeholder reports, scientific evaluations, and budgets. This allows interested citizens to acquire to form a reasoned opinion about substantial political questions. Transparency Type 3 is required for effective citizen participation.	The most advanced form of Transparency is opening up internal data that were previously unavailable to the public. Special attention needs to be paid to privacy issues and property questions.

Participation

Participation is here understood in a deliberative sense and as a feature of a representative political system in a modernising society. Accordingly, citizens should be having the possibility to communicate with public authorities about policy options and alternatives and to give their input to actual decision-making processes. Public authorities on the other hand should safeguard that the input coming from the citizens indeed reaches the relevant decision-making arenas and are sincerely considered in the decision-making procedures. Note that public participation does not come necessarily with direct democratic power originating with the citizens who have the capacity to instruct public authorities and compel them to follow a certain public decision. Developing and enhancing personal competences of the participants and benefiting individually – beyond any overall outcome, public participation can be a method for citizens to extend their knowledge about political issues and raise awareness for certain policies. Functionally, participatory and deliberative processes can be differentiated along the following criteria:

- organisational features like the duration and the number of participants;
- recruitment procedure;
- dominating form of communication;
- aims and objectives of the participatory process.¹⁶

Table 8: Types of Participation

Participation		
<i>Participation Type 1 (Consultation Variant 1)</i>	<i>Participation Type 2 (Consultation Variant 2)</i>	<i>Participation Type 3 (Co-deciding /Co-Governing)</i>
The first and most modest form of citizen participation in public decision-making is a consultation late in the formal decision-making process. It is tantamount to an ex-post legitimisation of decisions that have already been taken.	Consultations can, however, be also be organised early in the decision-making process before the decisive political decisions have been taken. This does not necessarily mean that the outcome of the consultation process must be complied with by the authorities. However, it expresses the opinion of the citizens and is hard to be ignored by elected representatives.	The most advanced form of citizen participation provides binding force to the participation process: public authorities are obliged by the decision. Co-governing and co-decision demand high standards in terms of preparation: the questions that are decided upon need to be concrete enough to enable a vote but must leave room for changes – even fundamental ones.

¹⁶ The following criteria are based on Fung (2006) and his „Democracy Cube“ and are supplemented by Nanz and Fritsche (2012). Best practices will be selected according the fourth criterion (aims and objectives). See the summary in Deliverable D2.1

Collaboration

Harrison (2012) defines collaboration as a form of “democratic participation bringing individuals with expertise [together...] with government decision-makers to create solutions that will be implemented” (ibid: p.88). Accordingly, collaboration has been recognized as a new governance tool (Salamon and Elliot, 2002) and has mostly been discussed under the term “collaborative public management” (McGuire, 2006). In this context, it describes “the process of facilitating and operating in multi-organizational arrangements in order to remedy problems that cannot be solved – or solved easily – by single organizations” (ibid: p. 33). Therefore, the literature understands collaboration as a means to solve “wicked” problems by involving external expertise that is not necessarily present inside the public administration.

Within the Live+Gov project, however, we are referring to a second kind of collaboration that has not been fully acknowledged, yet. We understand collaboration as jointly taking responsibility for the urban communities. This is including normal citizens without any specific expertise who are cooperating and collaborating with the public authorities in maintaining and shaping their municipality. This adds a rather normative element to the concept of collaboration: while the standard literature perceives collaboration as a purely organisational issue between the public and the private sector we see it as a possibility to bringing the citizens closer to their public administration by showing them how a municipality is managed, which problems it is confronted with and eventually, how their tax-money is spent. It goes without saying that the administration needs to prove that it is taking citizens’ input seriously and therefore create easily accessible and transparent communication channels.

Table 9: Types of Collaboration

Collaboration		
<i>Collaboration Type 1 Issue-reporting</i>	<i>Collaboration Type 2 Engaging</i>	<i>Collaboration Type 3 Enabling</i>
<p>Collaboration Type 1 gives citizens the opportunity to report damages, annoyances or other issues they would like to have discussed with the local government or the public administration. They do this by taking pictures of the issues they would like to report and by sending text messages via the CeGov application. The receiving administration is responding to this report by a pre-defined maintenance process and communicates the progress through CeGov. The public administration is using the communication data for planning purposes</p>	<p>Collaboration Type 2 gives citizens the additional opportunity to announce an individual activity for shaping their environment e.g. by greening brownfields in the city, by organising anti-litter activities, by organising a neighbourhood festivity, etc. The collaborative component of CeGov is therefore equipped with a direct communication channel to the administration for proposing concrete projects and with a social media component allowing citizen-to-citizen communication about initiatives and political engagement. The public administration is using the communication data for planning purposes.</p>	<p>Collaboration type 3 builds on publicly available data, which are displayed on the CeGov platform. Citizens and private businesses obtain the opportunity to use these data for their own purposes, which is including new services provided by companies or SMEs. This is going further than pure Transparency Type 4 as the municipality is actively promoting the search of new services, which are based on the published data. The public administration is using the communication data for planning purposes and is connecting communication data with publicly available data.</p>

Module 2: A guideline to Open government: the CPMT-Approach

Module 2 deals specifically with the CPMT-Approach, which is a guideline to Open Government. Therefore, participants learn about the four-step process as described in deliverable D2.3. Additionally, they discuss ideal-type workflows and procedures showing how mobile communication technology can be introduced in traditional participatory working procedures. In general, the CPMT-Approach is based on the assumption that mobile technology has lowered the cost of communication for both the citizen and the public authorities to an extent that it is now realistic to introduce effective and sustainable participation and collaboration processes, which are balancing the related costs and benefits. Furthermore, civil servants and public employees shall also realise the potential of Open Government for the organisation of the public administration as such. Introducing Live+Gov tools may not only satisfy the citizens but comes with important benefits in terms of budget and workload.

Module 3: Applying the CPMT-Approach – experiences from the Live+Gov project

Module 3 presents four use-cases (Helsinki, Eindhoven, Utrecht, Gordexola) from the Live+Gov project which are experimenting and implementing different forms of Open Government. The CPMT-Approach has been developed for assisting these cities and municipalities in designing and implementing moder forms of Open Government by applying

modern information and communication technologies (ICT) and mobile technology, in particular. The CPMT-Approach as such is constantly adapted and augmented through the experiences in the implementation processes in the municipalities.

Module 4: Scenario development alongside the Live+Gov ontology

Module 3 is changing the perspective and is developing real-world scenarios with the participants. Based on their specific background and their specific needs the participants model new policies that may serve as a first approach to their own form of Open Government. Module 4 is structured in three phases:

- In the first description phase, the participants outline the status quo of Open Government initiatives in their municipality.
- In the second analysis phase, the participants evaluate their form of Open Government and assess its success. Then, they compare their form of Open Government with the societal demand as described in Module 1 and review whether both match.
- In the third modelling phase, the participants utilise the CPMT-Approach to advance their current form of Open Government or develop a new one.

The participants are utilising the Live+Gov ontology during all the three phases giving them an account of all the relevant aspect of an Open Government implementation process.

3.2 MANUAL Module 2: Open Government via Mobile Technology: The CPMT-Approach

The participants of this seminar session are presented the four-step process for implementing Open Government in their municipality or city. This four-step process consists of first, choosing the right form of Open Government as well as the policy field of application; second, creating the organisational conditions for this particular form of Open Government to work efficiently; third, introducing the technical (IT) requirements; fourth, designing the adequate communication strategy in order to convincing the citizens to use the new offer by the public administration. All four steps are designed with a specific focus on harvesting the potential of mobile technology for advancing and facilitating Open Government. The four steps of the CPMT process are summarised in the following table:

Table 10: The four-step-process of the CPMT-Approach

Step 1 A: Choosing the Form of Open Government	
Transparency	Types of Transparency
	Type 1: Simple – Uncommunicative
	Type 2 Simple – Communicative
	Type 3 Advanced – Involving Type 4 Advanced - Engaging
Participation	Variants of Participation
	Variant 1a) Consulting early
	Variant 1b) Consulting late
	Variant 2) Co-deciding / co-governing
Collaboration	Types of Collaboration
	Type 1 Collaboration a) Active data-delivery
	Type 1 Collaboration b) Passive data-delivery
	Type 2 Collaboration
Step 1 B: Choosing the Policy-field and the sub-field	
Recommendation: Maintenance and investment in public infrastructure	
Step 2: Organisational Implementation	
Transparency	Decisions about transparency policy
	Which data to publish (organisational (individual), procedural, internal)?
	Which data to open?
	How to present? Who is responsible?
Participation	Guidelines
	Early participation, questions of legitimacy, executing bodies (responsibility), online support, offline support
Collaboration	Organisational arrangements
	Type 1: Improving the planning process, improving the maintenance process Type 2: installing the collaborative process
Step 3: Technical Implementation	
Transparency	Mostly organisational tasks
Participation	Tasks to implement: Reality Mining, Visualisation, Communication (technical)
Collaboration	Tasks to implement: Reality Mining, Activity Recognition, Visualisation, Communication (technical)
Step 4: Communication Strategy	
Overcoming the dichotomy between the state and the citizens: authorities are actively inviting the citizens to participate	

The basic assumption of the CPMT-Approach is that the efficient usage of mobile technology is bringing the cost and effort of communication to a level which is attractive enough for citizens and public administrations for engaging in the communication processes necessary for Open Government that is satisfying the demands of the citizens for better representation and is easing the lives of public authorities in terms of organising Open Government as well as improving the quality of their service delivery. Being offered transparency, participation, and collaboration on their personal smartphone citizens can respond to instant urges for participation and collaboration: government communication can take place when the people want to communicate and not when they reach an adequate “terminal” (e.g. the public administration communication centre). On the other hand the public administration can provide personalised information to the citizens and match Open Government offers to the specific needs of the citizen. The logic is the same as personalised advertisement in the private sector: the citizens should be confronted with possibilities for interacting with their public administration in the moment that they are most receptive for it. Eventually, applying modern ICT and mobile technology in particular, helps overcoming the organisational problems of Open Government:

- it is easier to provide information to the citizens: the audience is larger
- it is easier to collect information from the citizens: the representativeness of participation is better
- the communication the process is more transparent (due to automation and publicly available data)

The central benefit for this is that the citizens are more likely to participate and to communicate with their authorities. This has positive effects on the quality of democratic governance in the municipality and is adding to the positive effects of Open Government on our liberal democracies in general. Furthermore, more continuous communication between the citizens and the public authorities provides the public authorities with important information about the state of the municipality and the sentiments of the citizens. They can accordingly react more quickly to certain demands and therefore improve the quality of their services.

The fundamental reasoning of the CPMT-Approach is the following:

1. the liberal democracies are increasingly under pressure due to an increasing lack of throughput legitimacy
2. throughput legitimacy can be achieved by Open Government measures (transparency, participation, collaboration)
3. Open Government is due to organisational constraints: it is costly and the outreach (by traditional means) is limited
4. Modern ICT and mobile technology in particular, has the potential of reducing the cost of Open Government: it has a higher outreach and is easier to handle by the authorities.
5. Increased communication between the citizens and the public authorities produces a lot of communication data. These data can be used for maintenance purposes as well as for improving the quality of mid-to-long-term-planning.

3.2.1 Manual Module 2 / Step 1A: Choosing the right form of Open Government

The first and foremost question for a municipality which is about to open up its processes and its policies is to decide how far-reaching the Open Government approach should be and in which policy areas it should be introduced. Transparency may be possible in certain policy areas but not in others due to legal restrictions. The form of participation may be adequate in decisions about large public investments but not in the question how asylum seekers should be treated. Collaboration in maintaining the public infrastructure may be feasible in small and medium sized municipalities but not in large cities. Where to apply which form of Open Government is the very first conceptual question that a municipality needs to raise.

The Live+Gov training package is presenting four principal variants of Transparency, three variants of Participation, and three variants of Collaboration to be implemented. The form of Open Government and the combination of pillars is highly dependent on the extent of responsibility that the public authorities are willing to share with the citizens. Therefore, Open Government initiatives need to be prepared by an intense fundamental discussion about the principal relation between the state and the citizen. The guidelines and the input for this discussion have been presented in Module 1. The different types of Open Government Pillars are presented in the Tables 6-8.

3.2.2 Manual Module 2 / Step1B: Choosing the adequate policy-field

While opening government has principally no limitations and is crucially dependent on the question how much information the public authorities want to give to the citizens, to what extent they want them to participate in decision-making processes and how much responsibility they want to transfer it is important to ask which Open Government processes can be supported by mobile technology. According to the main line of argumentation of the CPMT-Approach, mobile technology can be used for bringing personalised information to the citizens in the moment they are most receptive to it. This may result in increased participation because the citizens can participate when they want and may be attracted to by this offer to acquire more information and participate in a more active way.

Therefore, possible fields of application of the CPMT-Approach are those in which the spatial location of the decision-making subject is important. This relates to everything that relates to mobility (e.g. the traffic infrastructure) and the public infrastructure in general. Other fields of applications for Open Government e.g. the budget of a municipality can also be touched if they are somehow related to the substantial questions e.g. if the budget should be used for infrastructural project A or B. These are usually decisions being taken on a local level. Subsequently, the CPMT-Approach is particularly well suited for municipal decision-making.

3.2.3 Manual Module 2 / Step 2: Organising Open Government

Many Open Government initiatives by municipalities and cities do not have their desired effect because they are not embedded in the organisational setup of the public administration. Considering the fundamental aim of Open Government, which is strengthening the throughput legitimacy of the state, this cannot be overemphasized. Therefore, before implementing the one or the other form of Open Government the public authorities (with or without a mobile component) they need to pay close attention to two fundamental questions:

- First, how can the Open Government variant be integrated into the already existing decision-making procedures and make it a part of the everyday routine of the public administration? Only this guarantees the sustainability and effectiveness of the Open Government initiative.
- Second, how can the Open Government process be made as transparent as possible? This means that even though the Open Government process is aligned with the traditional decision-making procedures, it must not happen to be the case that citizen input is disappearing from public oversight in intransparent decision-making procedures. This means effectively that the decision-making processes which are affected by the Open Government initiative need to be opened up and be made transparent.

In the following, the training package is highlighting the central questions that need to be answered in the preparation of an Open Government initiative. In the following, certain issues need to be sorted out in the implementation process:

TRANSPARENCY

1. The shape of information

Bringing transparency to a mobile device has to respond to two restrictions:

- First, the attentiveness of the citizens is reduced. They are “ausgesetzt sein” to multiple influences distracting them from complex input.
- Second, the size of mobile devices is generally rather small and gives little room for presenting information. Therefore, it has to be more to the point and focusing on the most important pieces of information.

Transparency via mobile devices has to take this into consideration and has to decide about the shape of information: how much information is given on the mobile device? How is it presented? Is it intended as a teaser, which is guiding the user to more information?

2. The type of information to be published

Organisational information: It needs to be decided which kind of organisational information should be given and how the organisational units should be represented? Furthermore, the organisation needs to agree on how much personal information about the administrative personnel should be published. Should this include personal contact information?

Procedural information: Which working processes should be presented? In general, the authorities should inform about their standard operating procedures explaining how decisions are taken. However, one could argue that not all administrative areas need to be covered. Live+Gov recommends illustrating and presenting those decision-making processes in which citizens are participated. In a later stage, new decision-making processes could be added.

Internal Information: The authorities need to decide about which internal documents they would like to publish. Live+Gov recommends that the authorities share their internal knowledge and publish internal documentation about the planning and the execution of political and administrative tasks. This involves feasibility studies, communication between stakeholders, reports and evaluations by experts, budgets and budget lines, bills and general financial calculations. In general, the transparency policy needs to entail definitions of the type of documents that can be published. It is recommended that those documents are directly forwarded to the organisational units which are responsible for publishing the documents.

Open Data: Authorities need to engage in a broader debate about which of the data could be made public that are at their disposal. This relates to data from the registration office, from public service providers (water supply, electricity supply, transportation companies). Publishing this kind of data often comes with legal restrictions and need a respective legislative decision.

3. The format of the published information

The authorities need to decide how and in which format they publish all the documents. This refers, in particular, to the Open Data issue. However, a coherent presentation and consistent accessibility are important features of every transparency policy.

4. Responsibilities

A very important question to be solved in the very beginning of the implementation process is the one for responsibilities. Here, two issues need to be decided:

- **First**, which organisational unit is dealing with transparency measures and Open Government issues in general? The default Live+Gov recommendation is to install a special transparency and communication centre that is implementing the transparency policy. Organisationally, such a “Citizen Contact Centre” – as it is called in the Live+Gov Use-Case city of Eindhoven – is an own department of the municipality, is well connected to all other departments and organisational units of the city administration and therefore well informed about all procedures and processes. Accordingly, if a citizen has a question, a recommendation or wants to address the authorities in any way, the CCC is the central hub ready to be contacted either by mail, telephone or email. If the CCC has no answer right away, it can acquire the necessary information in the administrative organisation and share the knowledge with the interested citizen. Such a CCC can also organise special communication and participation events involving the citizens in decision-making and public affairs. In general, such a contact centre needs to have the powers of a traditional communications’ office having the ability to demand and access internal information and documents and having the power to engage the political as well as the administrative units of a city in active citizen communication.
- **Second**, which organisational unit or which organisational level is deciding about which information is published? Do the individual departments decide themselves? Who in the department is taking the decision?

5. Workflow

Depending on who is taking the decisions about which information to publish, a workflow process has to be established between the decision-making bodies and the publishing bodies. If for example a CCC is responsible for publishing all the cleared documents and information a workflow has to be created between the clearing body and the individual departments, respectively and the CCC. The final aim has to be to grant the publishing body access to the publishable documents and information.

PARTICIPATION

The following main organisational issues need to be taken into account during the planning of participatory processes:

1. Participation fitting to the stage in the policy-cycle?

Depending on the stage of the policy-making process the participatory process needs to aim at different objectives. In general, the policy cycle is consisting of five stages

- Agenda Setting and Problem Identification Stage
- Policy Formulation Stage
- Policy Adoption Stage
- Policy Implementation Stage
- Policy Evaluation Stage

If citizens are included in the decision-making process their participation should have the same effect as the participation of any other stakeholder. This means that if the policy-making process is opened to the citizens already at the Agenda-Setting stage, they should have the power to set the agenda: they should have the possibility for real impact on the principal direction of the policy which is about to be developed. Similarly, if the citizens are to be participated in the policy-formulation stage, they should have a real impact on the final structure of the policy. If this is not the case the citizens will not feel respected and represented in the process. The participatory process would then be worthless and even counterproductive as citizens may even feel misled.

This is also a danger if the participatory process is scheduled very late in the decision-making process e.g. during the implementation stage. There, a consultation process may sometimes be helpful for explaining certain policies and mobilising more public support. The public authorities should then, however, pay great attention to the formulation and the presentation of the participatory process as the citizens may have the impression that they are not treated seriously. The organisers of such a consultation process should pay great attention to make the aims and objectives very clear from the beginning and not to raise false expectations.

An exceptional stage is the Policy-Adoption stage where both consultation as well as real co-governing is possible. Here, the public authorities could decide to have a direct democratic vote on a legislative piece. However, it is also possible to have a non-mandatory consultation or hearing where citizens and stakeholders can add their input, which has, however, no binding force. Again, the communication is highly important, as citizens may be disappointed and irritated if they have the feeling that their input has not been treated seriously.

In general, by aligning the participatory process to the actual stage in the policy-cycle it should be integrated into the standard decision-making process. Therefore, if a participatory process should complement a decision in the City Council, it should take place in parallel to the City Council debates and also have a guaranteed effect on the vote. At least, the results from the participation should be subject to the debate in the City Council. Accordingly, the workflow of the participatory process should adapt to the workflow in the decision-making stage, respectively.

2. Representativeness of the participatory process

One important issue with participation is that it needs to reach a certain amount of concerned citizens in order to be legitimate. As a basic rule: if a participatory process is started every citizen who is concerned by this decision should have the right to participate in the process. Hence, if participation means voting for or against some policy each citizen should have the chance to vote and, very importantly, should know about the vote. This means that the authorities need to make the participatory process widely known. Then, the citizens cannot complain and will not complain that they have not been asked for their opinion. The same is true for every other participatory process: consultations or deliberations in the agenda-setting or policy-formulation stages need to reach each citizen who is concerned by the decision. Furthermore, the authorities have to come to up with voting thresholds and decision-making majorities that are making a result of a participatory process legitimate. This may differ from participation process to the other depending on which policy-stage the participation takes place as well as on the legal or political force of the participatory outcome. These voting rules have to be created and agreed upon.

3. Costs and benefits of the participatory process

The costs and the efforts for an adequate participatory process may be rather high: the more people are participating the higher is the organisational burden. However, their effect can be high as well if one considers that unheard citizens can block or delay implementation of decisions by law suits and judicial objections. Nevertheless, the attractiveness of participatory processes can be improved by lowering their costs through modern ICT. The central cost-reducing factor of mobile technology is that the outreach of the investments is higher meaning that the same amount of invested time and money in the participatory process reaches more people.

4. Mobile Participation

The CPMT-Approach is generally regarding electronic participation highly suitable for reaching fundamental goals of an ideal participation process. People can be mobilised for the participatory process, they can be provided with background information and they can take their time to form an opinion about what to vote for and what not. Many participatory processes do not provide such an extensive service.

When it comes to mobile participation, however, this advantage diminishes. The essence of mobile participation is to motivate people to participate in the moment in which they are confronted with a participation possibility. However, one has to assume that the person is exposed to this influence for a short time only, e.g. when passing by an infrastructural site. Subsequently, the person will move on after a very short time and the window of opportunity for involving this person in a participatory process is short. Accordingly, it is not expedient to flood this person with a lot of background information and to list all the pros and cons of a certain decision. Questions and information have to be to the point and must be easily understandable. This poses a high burden on the design of the question that is posed to the citizens, as there will probably be no time to convey the nuances of a particular

decision-making process. In this context, the municipality has to decide quite fundamentally how consequential such a mobile participatory process should be assuming that the votes of the people might be quite ad hoc.

Collaboration

Collaboration between citizens and public authorities is not completely novel. In the domain of public maintenance for example the citizens are having the possibility to report damages to the public infrastructure via mail, telephone or email. Therewith, the public authorities are making use of the attentiveness and engagement of the citizens. However, writing a letter or an email or calling the authorities for reporting is rather costly for the citizens: they need to search for the right contact, need to formulate a text – in sum, they need to invest some time. Additionally, there may be a time gap between recognising the damage and having the possibility to file a report. For the public authorities on the other hand handling of the reports is also difficult: textual or verbal descriptions are rarely accurate enough for having a concrete picture of the reported damage. Accordingly, the public authorities need to double-check the report, which is coming with an additional procedural step and effort. Furthermore, they need to file the report manually which is producing additional workload.

Here, mobile applications have the massive advantage that

- First, citizens can file their report instantly when recognising a damage
- Second, reporting for the citizens is easy: their report can consist of a picture, which they take. Textual input is not mandatory as all geo-location information are transmitted automatically.
- Third, citizens' reports have a much higher accuracy by taking pictures and by additional geo-location information added automatically
- If combined with a standard back-office application, the reports can be processed and filed automatically and the public employee can concentrate on treating the reported damage instead of dealing with the organisation.

Such a mobile system opens up other applications as well. The reports by the citizens can be aggregated and analysed for their input. If enough people are participating in this reporting system the authorities are obtaining a detailed view of the state of their municipality in terms of public maintenance, realise where the citizens demand improvements as well as which improvements they would like to have. Hence, this information greatly improves the analytical capabilities of the public administration and helps to improve the mid-to-long term planning of the public infrastructure.

Such a collaborative system can be used for both, Collaboration of the Type 1 and Type 2. In contrast, Collaboration Type 3 refers to a service of the municipality to the citizens with the purpose of harvesting the knowledge of the people when utilising the resources of the municipality. The following organisational issues need to be considered:

Collaboration Type 1 for Maintenance

The main organisational tasks, which need to be tackled are:

1. Installing a reporting mechanism with the core elements
 - Reporting facilities (personal contact, mail, email, telephone, smartphone reports).

- Receiving facility: it is advisable to have a central receiving authority where all the reports come in. Therefore, a central back-office application is suitable that processes all input. Where necessary, the authorities can add information manually.
- Feedback facility: it is advisable to install a feedback loop to the citizens. Accordingly, they should be informed that their message has been received and is currently processed. Additionally, they should be informed about the progress of their report and the state of the reported damage. This includes the signal when the problem is solved.

2. connecting the reporting mechanism to the maintenance process:

- initiating the maintenance procedure
- executing the maintenance (private service providers or communal bodies),
- supervising the service (if private contractors are involved)

Collaboration Type 1 for Planning

The main organisational tasks, which need to be tackled are:

1. Connecting the reporting mechanism to the planning process with the core elements

- Who is responsible for data-aggregation, analysis and evaluation?
- Data aggregation facilities (storage of the data)
- Data analysis facilities: this requires a sound plan of which information should be read out of the data and how this could be done)
- Connection of the receiving authority to the planning process. Here, the receiving authorities could, for example, compile a regular report informing about the state of the municipality and giving recommendations for further action

2. installing a reporting mechanism (see above)

Collaboration Type 2 for Co-creation

If a municipality is determined to allow for Co-Creation in the municipality it needs to consider the following issues:

- Which policy-areas should be opened to co-creation (e.g. gardening, communal festivities, neighbourhood initiatives, etc.)
- Depending on the type of co-creation, citizens need to be supported either by financial or substantial resources.
- Furthermore, the citizens need to have easy access to the resources.
- There has to be a responsible body, which is organising the collaborative process. This relates to: providing the resources, supervising the process, assisting the citizens, etc.
- Due to the fact that collaboration is a new phenomenon with little experiences both with the citizens and the authorities some legal issues have to be sorted out in advance: e.g. are there insurance issues in case of injuries during a co-creation session; what happens in the case of serious misconduct by the citizens; etc.

Collaboration Type 3 for Open Data Initiatives

In contrast to Collaboration Type 1 and 2, Collaboration Type 3 depends on the already existing data of a municipality. Accordingly, if a public administration aims to enabling Collaboration Type 3, it needs to agree on:

- The (types of) datasets which can be published
- The format of the published datasets
- Legal (property/copyright) restrictions on the data to be published

Furthermore, the municipality has to agree on a principal way of how to grant access to the data. Interested citizens may access a list of data available and ask for them. Alternatively, they could also download the data themselves.

3.2.4 Manual Module 2 / Step 3: Technical Implementation of the CPMT-Approach¹⁷

The CPMT-Approach argues that harvesting the potential of mobile technology results in cost and efficiency savings, which are necessary for effective Open Government. This is due to the fact that the citizens can interact instantly with their public administration via their smartphone and according to their actual mood and in their environment. Furthermore, the data delivered by the technical possibilities is highly accurate and allows the authorities to base administrative decisions on them. Third, the high automation of the Open Government processes reduces the workload of the public authorities.

However, these benefits need to be realised by the adequate technical environments. They facilitate a number of novel functionalities and need to be connected to existing software systems of the public administrations. The following core requirements need to be met by novel software for accomplishing these new functionalities. They are mainly facilitating Reality Mining functionalities: they are capable of recognising, perceiving, and interpreting the actual environment of the user. Therefore, the system is capable of inferring the activity of the user and providing information, which is fitting to the respective activity. These components have been developed in the context of the Live+Gov project and are applied in three specific use-cases:

The core requirements of the CPMT-Approach are:

- **First**, the mobile devices need to recognise the environment of the citizens. Therefore, inbuilt sensors of the mobile devices can be used to collect data about citizens' location and their movement. Two principal possibilities exist for capturing the environment of the citizen: first, they can use the mobile device actively for collecting data about their environment, e.g. by taking pictures. Second, the mobile device can collect information about the citizen quietly
- **Second**, the collected data needs to be interpreted and analysed for substantial information. This can either be performed by the mobile device itself or on an external server if more complex calculations are performed. The aim needs to be that
- **Third**, communication pathways need to be established between the mobile device and the external server as well as between the Live+Gov system as such and the software systems of the public administration. Connections to the administrative systems are particularly important for bringing in further information into the system (e.g. traffic data in the mobility use-case) and for providing the public authorities with the sensor and analytical results.
- **Fourth**, the information needs special presentation and visualisation on the mobile device. In the Live+Gov context a special feature is the "Augmented Reality" (AR) view, which is provided on the screen of the mobile device. The AR functionality needs, however, important backup by the external server. A second feature is a special web-application which is specifically suitable for government communication.

Figure 3 shows how this is provided in the Live+Gov context:

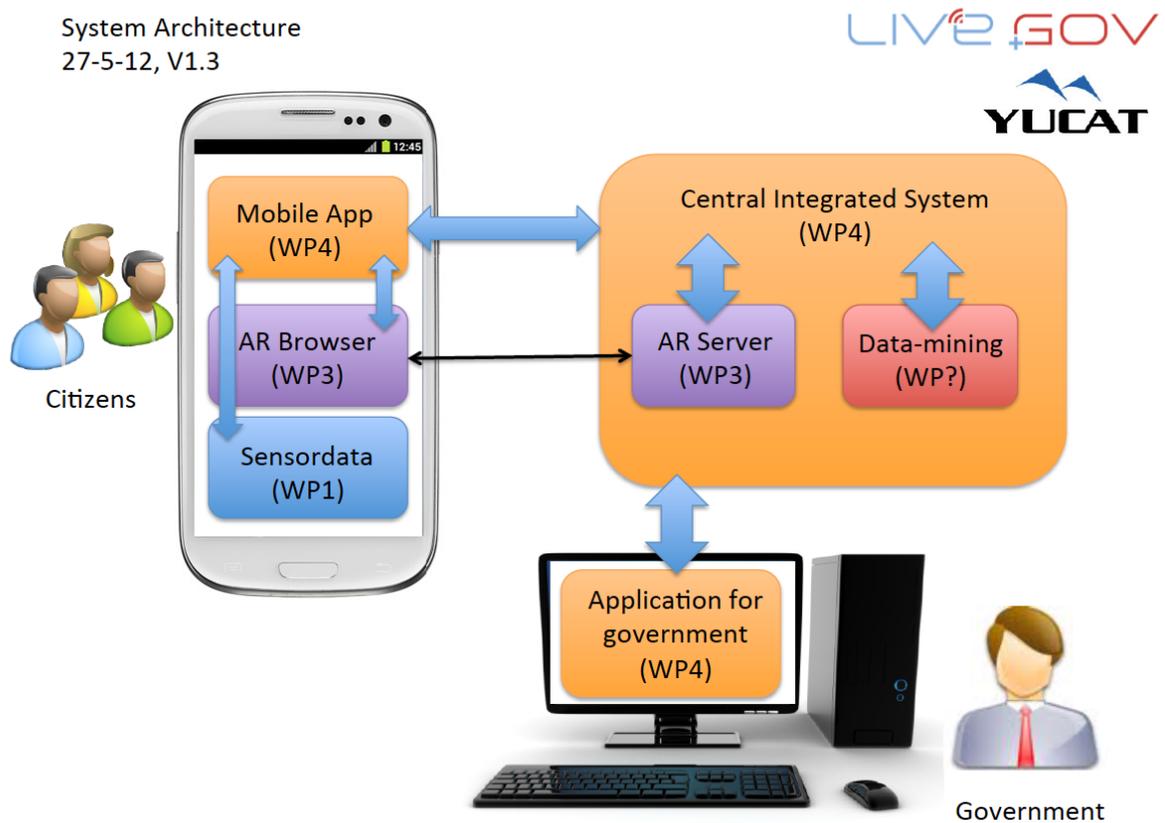
- the Mobile App is the central interface for the user. On the one hand it provides possibilities for actively entering information like text messages and pictures and establishes the communication with the external server and the public

¹⁷ Taken from the Deliverables D4.1, D4.2 and D5.2

administrations' IT infrastructure. It is also integrating the data of the other system components into the analytical process.

- The sensor-data component is utilising the in-built sensors of the mobile device for capturing the movement of the user. The sensors in use are GPS, Accelerometer, Rotation Vector, Gyroscope, Magnetic Field, WLAN, Bluetooth GSM, Google Activity Recognition Library. These sensor data allow for the following functionalities:
 1. Human Activity Recognition (HAR), which is recognising the human activities: “on –table”, “sitting”, “standing”, “walking”, and “running”.
 2. Service Line Detection meaning that the system is detecting the type of public transport, which the user is riding on.
 3. Traffic Jam Detection returning current delays in the public traffic – in particular in reference to buses and trams.

Figure 3: Simplified System Architecture



The AR framework

The Live+Gov system is providing an AR view on the screen of the mobile device. For the user, it is the only visible component of the AR solution, which is basically implemented by three components, namely the Augmented Reality Framework, the Mobile Augmented Reality Client and the Web application for Augmented Reality Configuration:

The AR framework is essentially a server application (<http://augreal.mklab.it>) that is mainly responsible for hosting the necessary resources such as text, images, 3D models and visual recognition models, publish them in a format suitable for the

different mobile augmented reality clients and interlink with external servers through a JSON API. The AR framework constitutes the base infrastructure that supports the SaaS-based service of augmented reality and is used to host the AR-related content of the e-Government solution deployed for the needs of the client municipality.

The web application for AR Configuration provides the necessary web interfaces for generating augmented reality content. These interfaces allow a registered user to determine the content (3D model, images) and the triggering mechanism (proximity based on location, visual recognition) of the metatags, as well as the generation of new visual recognition models. This web application can be used by both expert and non-expert users in order to create the AR-content that will be displayed to the citizens.

The mobile AR client is the smartphone application that receives data from the AR framework and implements the augmented reality functionality (i.e. meta-tags triggering, interaction and visualization). Live+Gov employs two different options for implementing the functionality of AR-client: a) Displaying content through existing mobile AR browsers, and b) Displaying content through the custom Live+Gov application. In the first case, the AR-related content that will be part of the e-Government solution adopted by the client-municipality will automatically become accessible through the three major AR mobile browsers, i.e. Junaio, Layar and Wikitude. As a result the municipality content will reach a rather extended audience since it will become accessible to all users that have already installed these browsers on their smart-phones. In the second case, the AR-related content becomes available through the custom Live+Gov mobile app that now offers additional functionalities compared to the standard set offered by the aforementioned mobile browsers. In this way, the municipality can provide auxiliary information offering a more focused experience. In both cases, the content displayed through the mobile AR browsers is determined by the web application for AR configuration and there are no development or configuration actions required on the mobile side.

- **Central Integrated System**

Accordingly, both the sensor-data component and the AR component cannot execute their functionalities without supporting components on an external server. This is due to limitations in computing power of the mobile device and battery consumption, in particular. In figure XY they are shown in the “Central Integrated System” box. Another feature, which is performed on this external server, is the data-analysis functionality. Therefore, the both the communication data as well as the movement data is stored and analysed for further information. This functionality can be adapted to the specific needs of a municipality. Two applications are presented in the following section.

- **Web-application**

Live+Gov has developed a central web-application, which is aggregating and visualising the collected data. It is accessible by the citizens as well as by the public authorities and can be used for analytical purposes

- **External system interoperability**

The implementation of the Live+Gov system depends on external systems. This section provides an overview of the foreseen external systems and data providers.

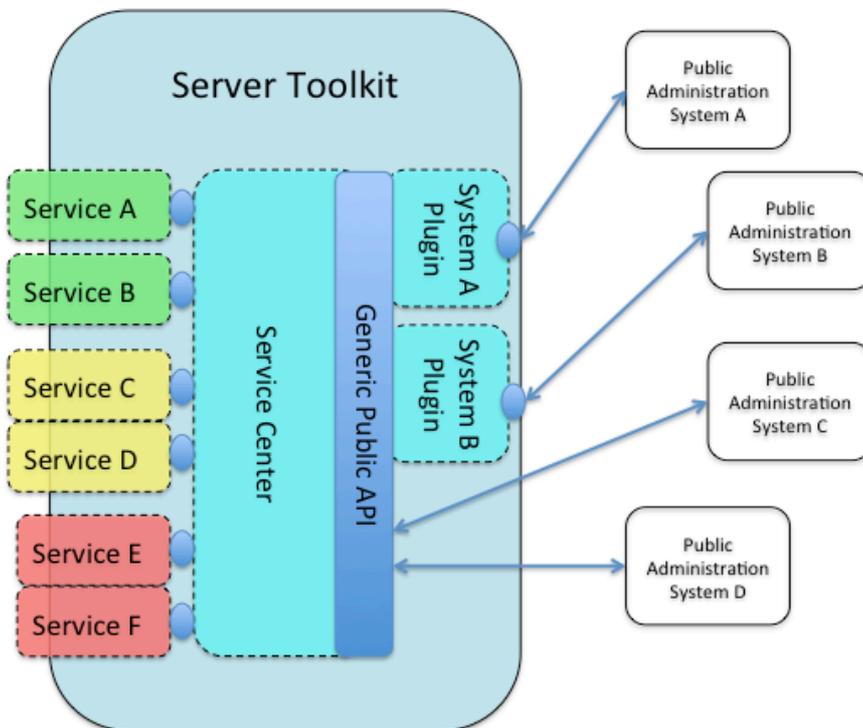
The Live+Gov Toolkit should be able to connect to the public administration systems of the municipalities. However, public administrations use a wide-spectrum of systems and applications. Therefore two options are offered for creating a link with the Public Administration System:

First, The Live+Gov Toolkit offers a generic interface, which can be used by the Public Administration System. This will probably require changes to the Public Administration System, although nation wide message standards are being developed (like StUF in the Netherlands and Open311 in the United States)

Second, the Live+Gov Toolkit offers the possibility to create a plug-in for a specific Public Administration System. The plug-in is built on top of the generic API in the Service Center and translates (or: bridges) between the interface of the Public Administration System and the Live+Gov Toolkit. In this way an adapter for the specific system/vendor is created. If municipalities use the same systems the adapters can be reused.

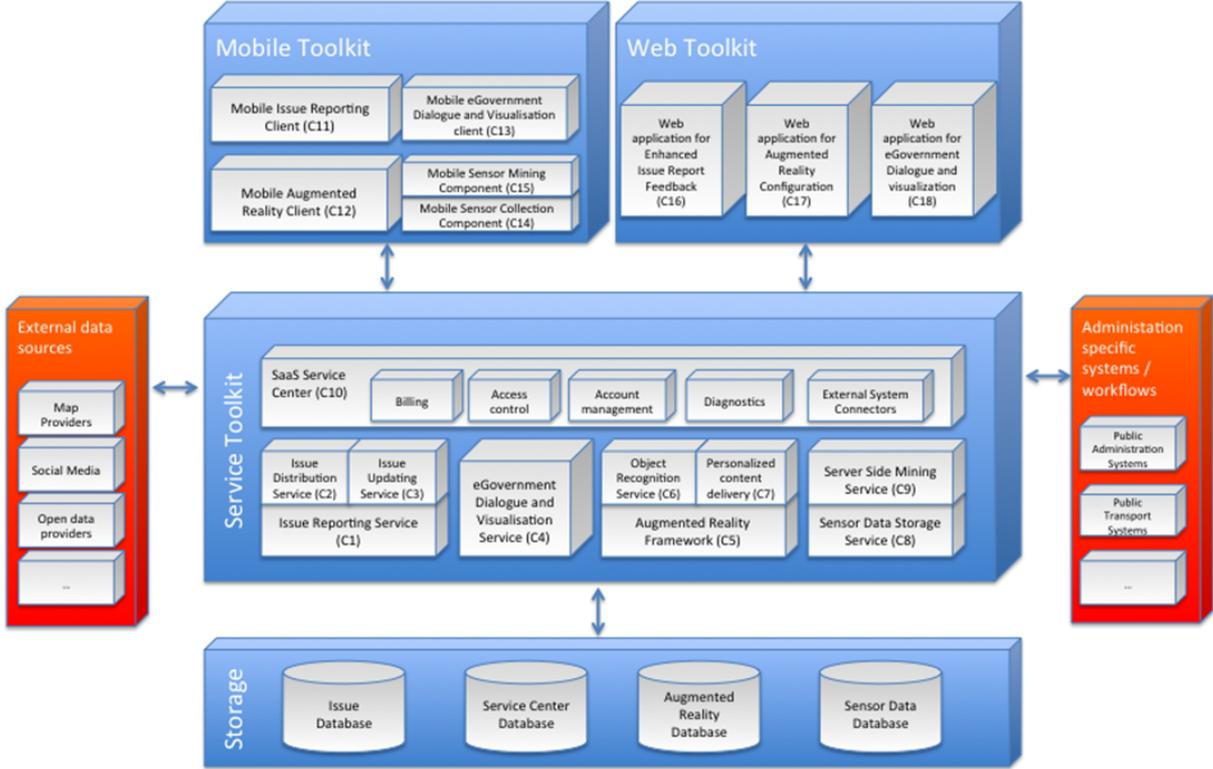
Fehler! Verweisquelle konnte nicht gefunden werden.⁴ is showing these two options in relation to the existing services, Service Center, Plug-in's and Public Administration Systems.

Figure 4: Connections between Live+Gov and External Systems



The general system architecture of the Live+Gov components can be summarised as follows:

Figure 5: Live+Gov system architecture



This figure makes up for the whole system providing all functionalities. In specific use-cases, however, the different components are assembled according to the demands and the needs of the public administration and the customer in respect. Four use-cases are presented in the following section.

3.2.5 Manual Module 2 / Step 4: The Communication Process

Even our liberal representative democracies in Europe are based on a paternalistic relationship between the citizens and the state: although the citizens are sovereign and determine the fundamental policies and state configuration they nevertheless have to follow the detailed instructions of the state executive. There is rather little room for the citizens to get involved in the everyday decision-making processes. Accordingly, citizens still experience a certain dichotomy between themselves and the state. Even more than this: the policy-making process is creating this dichotomy by the fact that the citizens do not have the right to participate in the concrete process. This is also visible in the communication strategy of many authorities: even if they make a participatory offer they remain passive and wait for the citizens come. We argue that, in contrast, the public administration, which is offering participation needs to take a more active role, approach the citizens and motivate them for giving their input.

Therefore, Live+Gov proposes to develop a communication strategy as part of the participatory process in order to motivate citizens to take action, to issue their opinion and to take part in the public debate, in general. Hence, if a new participatory process is introduced, authorities should use online and offline media communication channels (local newspapers, radio ads, websites, email messages, social media, telephone calls, mail) for advertising the new possibilities. Furthermore, they can organise and invite to public participation days where the new possibilities are presented and discussed. There, citizens can learn how the new processes are functioning, how new technical features are working, and can issue their opinion and attitude already in the development phase of the participatory process as such. This shows the citizens that the authorities have a genuine interest in the opinion of the people and that it has understood that its core role is to make policies for the benefit of the citizens and is not an end to its own.

3.3 Module 3: Applying the CPMT-Approach – experiences from the Live+Gov project

The four-step process, which has been presented in section two depicts the different possibilities that are at the disposal of the authorities, shows which fundamental decisions they have to take in order to implement participatory policies and the frame of the implementation measures. This frame is still rather abstract and high level and has to be newly applied in every real-world context for reacting to the specificities and the great diversity of public administrations and political circumstances. The general Live+Gov recommendation is to aim at the highest and most ambitious form of Citizen Participation by introducing all three pillars in the highest number of policy-fields. However, the various solutions are modular both organisationally and technically meaning that municipalities can choose which form of participation makes most sense to their circumstances. The following section presents the use-cases of the Live+Gov project and shows how they implement the four steps of the methodology.

3.3.1 Use-case 1: Mobility – Helsinki – HSL

Step 1 (A+B): Defining Aims and Targets

The focus of the Mobility Use-Case is to open up policies and decision-making concerning the traffic infrastructure to citizen participation. More concretely, citizens are asked for their collaboration by providing their individual data via their mobile devices. These data are collected actively and passively. On the one hand the citizens are having the possibility to report damages to the traffic infrastructure and issue their opinions or make some recommendations for improving it. On the other hand they are allowing their mobile devices to record how they are moving through the traffic system. This individual user-perspective provides the planning authorities with a much higher level of accuracy when supervising and analysing the traffic infrastructure. This reveals in particular, how the different modes of transportation could be better aligned to each other. Furthermore, the planning authorities can profit economically because such an automatic system could reduce their expenses for costly and resource-intensive research projects observing the traffic flows with traditional survey methods. Adequate automated analytical tools are enabling the decision-makers to draw their conclusions directly and make their decisions without being required to hire expensive consultancies.

In return of their collaboration, the citizens are provided with an improved traffic infrastructure as well as with an additional service on their mobile device easing the usage of the different modes of transportation. Additionally, the citizens can profit from a new level of transparency by improved feedback through the reporting mechanism and improved oversight of the maintenance and planning processes.

In sum, we aim at the following:

- Mobile:
 - to provide citizens a reliable tool to provide data and input for the authorities
 - to provide citizens the possibility to receive relevant and personalized alerts and messages related to their daily travelling
 - to provide a tool for better interaction with the authorities.
- Web:
 - To provide public transport planners valuable information on how the services are used by citizens
 - To provide both public transport planners and authorities information on the issues passengers face when travelling with public transport
 - To provide a tool to directly communicate to citizens via the application

Step 2: Organisational Implementation

Concentrating on Collaboration type 1, the Mobility Use-Case will assist the authorities in the maintenance of the traffic infrastructure and in the long-term planning.

Improving Maintenance Procedures

For improving the maintenance procedures Live+Gov proposes a process, which is similar to the Eindhoven maintenance procedure. In general, both the Eindhoven area managers and the maintenance department of HSL are having similar tasks: they have to survey a large area, identify damages that have to be taken care of and have to initiate the maintenance process. Citizens can add further accuracy to this oversight task and therefore add valuable information: the maintenance process can be identified more quickly and, as a matter of fact, can be started more quickly as well.

The origin of the improved maintenance procedure is the maintenance department of HSL. It needs to be receptive for the incoming input by the citizens both technically as well as personally. Coming in via mobile devices, the citizens' input needs to be received by an electronic content management system displaying the report together with all the data obtained (picture, text, sensor data). Maintenance officers need to be able to assess the input and initiate the maintenance process executed either by external service providers or the own maintenance department. Regardless of the executing body, it is advisable to equip them with electronic devices as well or make them work with the Live+Gov application for organising the maintenance process, agreeing on the needed investment and the pricing. In general, the maintenance procedures can be equipped with a highly valuable data-source, which is the citizen using the infrastructure. The maintenance department can therefore reduce its surveillance tasks and shift its focus on quality control and on more complicated issues.

Improving the Planning Process

The planning process of the traffic infrastructure in the Helsinki metropolitan area is based on the “Helsinki Transport System Plan (HLJ)” [6]. This is a strategic, long-term plan that aligns the regional transport policy. HLJ is prepared as a joint project of the Helsinki region consisting of 14 municipalities. It has to be approved first by the HLJ committee, the executive board of HSL as well as by KUUMA (Keski-Uusima) region in Southern Finland. Further cooperation is taking place with the Helsinki Region Land Use, Housing, and Transport Program (MAL), which is the core political planning authority in Helsinki.

The HJL is based on empirical evaluations of the actual system and a number of projections, which are calculated through a number of statistical demand and supply models. The database for the calculations stems from an extensive Travel Behaviour Survey of round about 20 000 users of the traffic infrastructure. They are either contacted and interviewed by telephone or cooperate by filling out explicit travel diaries accounting for their travel behaviour. This survey is conducted by two large consultancies – TNS Gallup Ltd. and WSP Finland Ltd. The obtained data are then combined with distinct traffic databases maintained by state authorities themselves: The Finnish Transport Agency provides the “Digiroad” and “VALLU” databases – both accounting for the entire road and street infrastructure in Finland. The Helsinki Regional Transport authority provides the “JORE” database, which is the basic registry of public transport; it is including all up-to-date timetables, lines, stops, specific departure times and GIS information [7]. All three datasets are combined and serve as the basis for the describing and forecasting models.

Live+Gov’s core contribution to the planning process is that it is dramatically reducing the cost for the Travel Behaviour Survey, which is currently done by external consultancies. The Live+Gov method is quicker and easier, requires fewer resources both in terms of effort and money, and is more accurate.

Survey Results quicker and easier

Live+Gov provides a largely automated system that is constantly collecting the movement profiles of the citizens / passengers. As the system is running and is therefore delivering data permanently the authorities can easily produce up-to-date statistics about the functioning of the transport infrastructure. There is no need to conduct a large survey as it is currently done.

→ Survey Results more accurate

Due to the fact that the survey can be done more easily and quickly its results can be obtained more often. Therefore, in contrast to the current interval of 5 years, the authorities can perform such an automated Live+Gov survey – which corresponds basically to a periodic analysis of the running system – more frequently. This increases the accuracy of the data which is forming the basis of the HLJ. Furthermore, an automated system as Live+Gov is much less prone to error as compared to traditional surveys. Those contain errors due to faulty coding, misinterpreted questions and instructions and simply wrong answers (due to a lack of memory of the interviewees or their unwillingness to give the correct answers). The automatically collected data do not contain significant errors and can be interpreted as direct empirical data just as the data from the Digiroad, VALLU, or JORE databases.

→ Live+Gov survey requiring less resources

The Live+Gov solutions are developed for permanent usage in the organisation. Therefore, inhouse expertise is sufficient to produce the respective survey results. In fact, Live+Gov produces a new database and provides the required analytical tools for enabling the staff in the maintenance department to compile their own statistics. Shifting responsibility from external service providers to inhouse experts saves costs. This relates not only to the objective movement profiles but also to subjective opinions and attitudes that are delivered by Live+Gov's maintenance and feedback mechanism. In fact the planning process can spare one big and resource intensive component, which is the survey with 20.000 participants.

Step 3: Technical Implementation

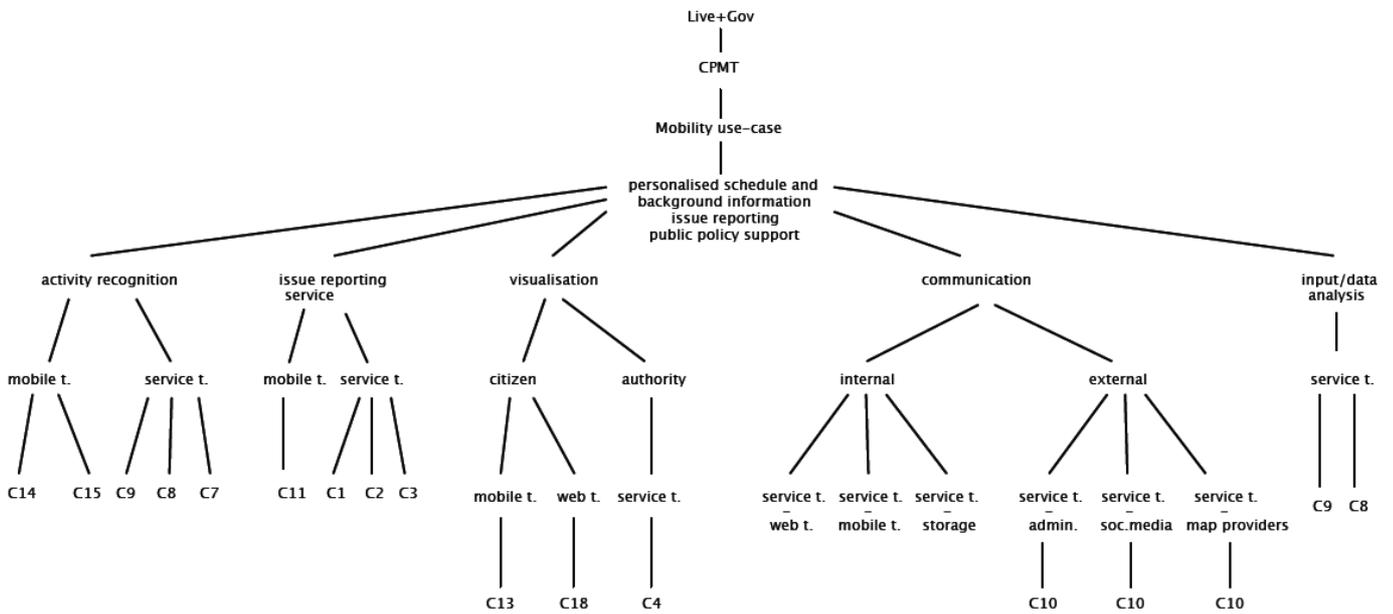
The four main functionalities of the Mobility Use Case are:

- Citizens get immediate information about the state of the public transportation system. The information fits to the actual demand of the citizen, meaning that they should get information about blockages and traffic jams on the line they are travelling on and fitting to the activity that they are pursuing.
- Citizens get access to specific information about the traffic infrastructure e.g. about actual developments and future planning, the respective decision-making processes, the acting bodies, and the possibilities to participate in this decision-making process.
- Citizens get the possibility to report damages in the traffic infrastructure and get the respective feedback about the repairing process.
- The authorities obtain an additional policy support feature by making use of the user-data that is generated by the Live+Gov system.

Therefore, the Urban Mobility Use-Case is combining elements of the conceptual pillars of transparency/service and collaboration. Accordingly, their technical components need to be combined for making the Use Case work. Therefore, we have defined five functional dimensions that need to be accounted for technically:¹⁸

¹⁸ Just as before in the general description how to implement the conceptual pillars technically, we resort to the denominations from the general software architecture having been defined in work package 4. They are described and illustrated there in great detail.

Figure 6: Live+Gov concepts and technical implementation for the Mobility Use Case



The technical dimensions that need to be covered by the Live+Gov application for performing the functions of the mobility Use Case are depicted in Figure 5. The connecting lines between the dimensions and the concepts mean: “consisting of” the following concepts, components and sub-components. So, for example the dimension of activity recognition is performed by components of the mobile toolkit and components of the service toolkit. Therefore, activity recognition contains elements of the mobile toolkit and the service toolkit. The denominations of the components are taken from the architectural plan of deliverable D4.1. The following list defines the functionalities of the components:

Table 11: Technical Components in Use-Case 1

#	Live+Gov component	Description of functionalities	Purpose	Mobile/ Web
C1	Issue reporting Service	The issue reported is subsequently uploaded through the issue reporting service.	Issue reports	M/W
C2	Issue distribution service	Distributes alerts and messages to mobile users. Alert are automatically extracted from the HSL System, messages are manually entered by the officials in the back-end application.	Issue reports, alerts/messages	M
C3	Issue Updating Service	Provides issue updates to mobile client, e.g. when feedback received on submitted issues.	Issue reports	M/W

C7	Personalized content delivery	Enables users to determine preferences on the messages they want to receive & provides possibility to send relevant information to the user based on their location and preferences.	Filter messages based on tendencies, avoid users from being overloaded with all possible alerts	M
C8	Sensor Data Storage Server	Data collected from the sensors is stored in a flat file along with time-stamping information. Upon request of the mobile base application all data are uploaded to the Sensor Data Storage Server and removed from the mobile phone	Information about the travelled route (activity, route)	M
C9	Server Side Mining Service (Service Line Detection Module)	Based on a series of GPS coordinates obtained from the citizen's mobile phone, identify the tram line that user is currently travelling on.	Information about the travelled route (define service line)	M/W
C9	Server Side Mining Service (travelled journeys reports)	Based on a series tracked routes and reported issues all relevant reports are extracted	Information about the travelled route (reports)	M/W
C10	SaaS Service center	Access control, Account management and diagnostics.		M/W
C11	Issue reporting Client	The user is provided with a mobile interface to report an issue about his environment	Issue reports	M
C12	Mobile Augmented Reality Client	Enables users to view details of nearby stop-information.	AR, provide information of nearby pt-services	M
C14	Mobile Sensor Collection Component	The raw data values are collected from the sensors of the mobile phone.	Information about travel (raw data)	M
C15	Mobile Sensor Mining Component	The application is able to automatically recognise the user's current state of activity	Information about travel (activity)	M
C16	Web application for enhanced issue report feedback	Present the issue reports in multiple visualization modes (list view, map, photo gallery, heat map, management charts) and enables the HSL to give feedback to specific issue reports.	Issue reports, alerts/messages	W

C19	Traffic jam detection module	Traffic jam detection module analyses actual tram location against schedules to detect jams	Traffic jams	M
	Google maps API	Tram lines and stops, as well as user routes and activity types are drawn on a map	visualization	M
	Public Transport System (HSL)	Static information about the tram lines and stops.	External information	M/W

Step 4: Communication Strategy

HSL is in permanent contact with the passengers that are using the public transport system. The basic form of communication is via the large passenger survey, which is conducted periodically. It asks the passengers explicitly for their opinion about the traffic infrastructure as well as for issues and annoyances when using it. Feedback possibilities are also given through the traditional media like the contact interface on the HSL website as well as more traditional contact possibilities via telephone and mail. In order to extend communication with the passengers, HSL is using the Live+Gov system to establish a constant flow of information between the people using the public transport and the authorities providing them.

3.3.2 Use-case 2a: Co-Maintenance in the City of Eindhoven

One very impressive and advanced best practice example of how **collaboration type 1** can be organised is the maintenance department of the city of Eindhoven in the Netherlands. There, the public administration has introduced a sophisticated maintenance system allowing the citizens to share information about the state of the public infrastructure and report damages and nuisances. The core characteristic of the system is that the input coming from the citizens is treated in exactly the same way as input from public authorities like for example the municipal public order office surveying the functioning of the city. Accordingly, both public authorities as well as the citizens report their issues through the same system whereas both are having equal priority: citizens and public authorities are treated equally if it comes to reporting maintenance issues.

Step 2: Organisational Implementation

The functioning of the maintenance system in Eindhoven has three central pre-conditions.

1. The first is a central administrative reform process of the maintenance department of the city. Before the reform in the year 2009, maintenance of the city's infrastructure had been the responsibility of eight independent municipal districts applying and following their own rules and procedures. This led to major inefficiencies and confusion about the best way to handle the maintenance of the public infrastructure. Accordingly, the city administration enacted common rules and procedures for the whole maintenance department including all eight districts. Area managers have

been kept to handle the issues in a certain district but they all have been connected by a comprehensive and consistent set of rules and procedures.

2. A second pre-condition is that the maintenance department has introduced a common and single electronic management system that is identical for all area managers and implements the coherent rules and procedures. Area managers are continuing to execute their task autonomously but with the new system they are bound to a set of standardised procedures and are connected among each other. This improves their communication considerably.
3. The third pre-condition of the system in Eindhoven, in particular is the fact that maintenance of the public infrastructure has completely been outsourced to external service providers. Ever since these external service providers execute the complete maintenance of the public infrastructure ranging from sweeping the roads and mowing the lawns to maintaining the electricity or sewage system.

The basic administrative act is as follows: besides internal communication procedures of the public authorities (e.g. between the maintenance department and the public order office), the citizens have manifold possibilities for reporting issues with the public infrastructure.

1. First, they can apply the most traditional method and write a letter to the public administration describing their concern.
2. Second, they can call the administration by telephone and explain their issue.
3. Third, they can access the online portal of the city of Eindhoven and report their issue. They also have the additional possibility to upload a picture.
4. Fourth, they can utilise the “BuitenBeter” application on their mobile device and submit a report possibly augmented by a picture and the exact GPS location as well as the compass course.
5. The reporting citizens are provided with feedback in reference to their report. After an initial feedback that the report has been received the citizen gets a regular update about the state of the maintenance process.

Letters and telephone calls are received by the “Citizen Contact Centre” of the city. The public employees and civil servants have access to the maintenance system and enter the reported issue directly into the system. If the citizens choose to communicate via the web-service or the “BuitenBeter” application their message is sent directly to the information system of the administration. From there it is forwarded to the “middle-ware”, which is a back-office application introduced and maintained by the Live+Gov partner YUCAT. The received input is then presented to the maintenance department in a coherent manner regardless of the means of the previous communication.

Depending on the exact location of the issue, area managers take care of the report and initiate the maintenance process. Therefore, they assess the reported damage and send a request to a private contractor capable of executing the required task on site. The contractor is connected to the city’s maintenance department via the same maintenance system and receives the area manager’s request via “Personal Digital Assistants” (PDAs). Once the contractor assumes the job, it has a period of five days for accomplishing the maintenance except for the case that the reported issue turns out to be more severe than expected before. Surpassing this time limit is costly for the contractor: for every day of delay it has to pay a certain fine. Furthermore, the contractor is obliged to document the progress of the work and record the invested resources, which is all done electronically via the PDAs. Therefore,

the area managers in the maintenance department have full control of the maintenance issue and can intervene immediately if things proceed differently than envisaged.

Eventually, as soon as the task is accomplished and the area manager has approved the work of the service provider, the maintenance system automatically compiles the receipt based on the documented work and sends it to the service provider. They can then claim the incurred costs from the finance department of the public administration.¹⁹

Placing the area manager in the centre of this maintenance system makes it particularly flexible. Having full control of the maintenance process, the area manager can negotiate with the contractors about the needed investments or can contact external service providers if there is no appropriate company among the contractors.²⁰ This can be the case if the reported issue requires extraordinary expertise or some other form of special treatment that cannot be covered by a regular partner. Furthermore, the area manager is in permanent contact with an external quality control unit, which is controlling and spot-checking the work by the contractors.

There are various advantages of such a maintenance system for the public administration.

1. First and foremost, it saves costs. Although the public administration has to bear the costs for setting up and maintaining the electronic system, the consequent transparency of the maintenance process facilitates an unprecedented degree of control over the maintenance the related costs. As a matter of fact, this gain in efficiency results in saving a considerable amount of the budget.
2. The second advantage for the administration relates to decreasing workload for the civil servants and the public employees. This relates basically to the transparent and clear-cut relations between the contractors and the individual area managers that leave less room for interpretation or discussion. Additionally, the clear and unambiguous procedures are pre-defining the workflows to a considerable extent enabling the area manager to focus on the more important issues and problems. Furthermore, the coherent maintenance system connects the individual area managers and enables internal communication and learning from the experiences of the others.
3. The third administrative improvement relates to the quality of the public service. The system allows handling damages of the public infrastructure much more rapidly. Therefore, they can be tackled before becoming too severe. If a citizen reports an issue via the BuitenBeter application web-service it takes roundabout one minute (!) until the message appears on the screen of the area manager and is ready to be dealt with.

The advantages for the citizens are basically as described in the previous section: they have a channel to become active and contribute to improving their municipality or city. Additionally, they can follow the maintenance process and see the concrete working

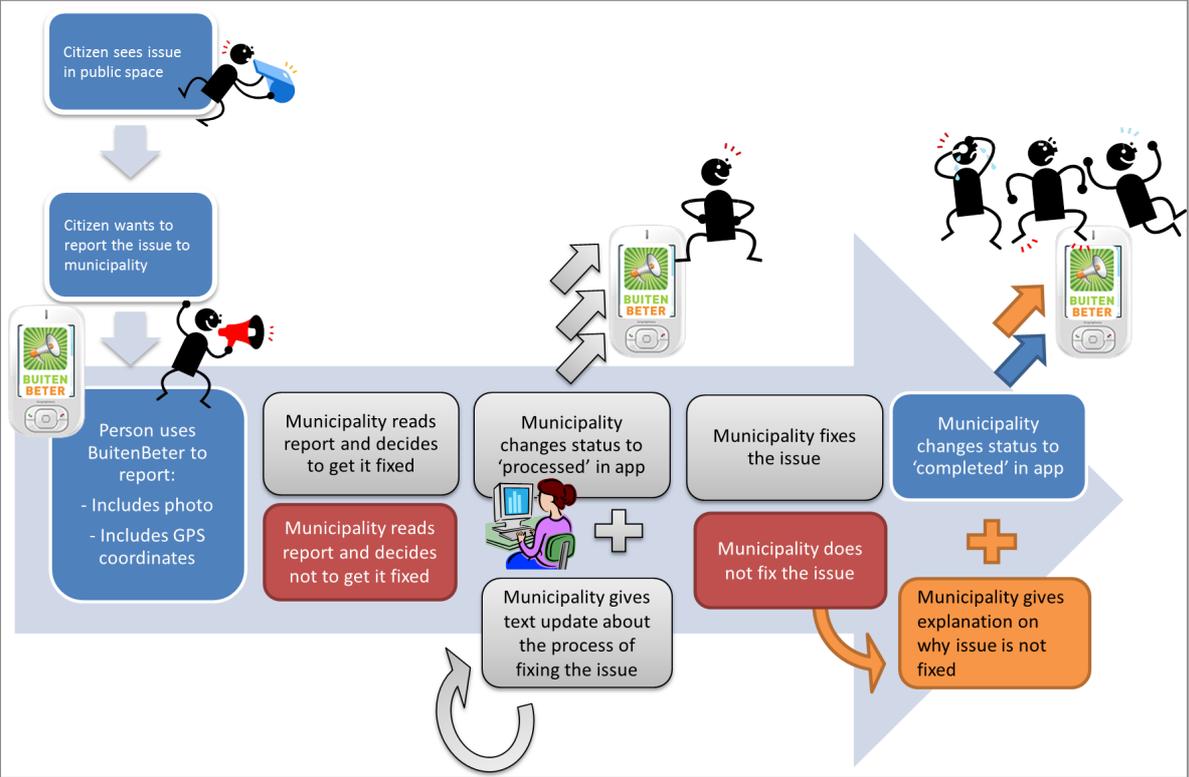
¹⁹ In this respect, it is interesting to know that the budget of the maintenance department of the city of Eindhoven is flexible. Accordingly, all tasks that are deemed necessary to be taken care of by the area managers will be accomplished.

²⁰ It should be noted that the contracts with the permanent service providers define the costs of all conceivable service. Therefore, the negotiations with the contractors involve mainly the effort that can be accounted for.

procedures of the administration. This is greatly increasing their satisfaction with the public authorities.²¹

An additional effect of the transparent maintenance system in Eindhoven and the mobile component is that it has indeed increased the attentiveness of the citizens. As surveys of the public administration have revealed, citizens have developed a view for issues in the public space and their environment and are more concerned about the state of the public infrastructure. This effect is highly valuable for the administration because they can rely on an improving and expanding their informational basis when it comes to overseeing the needs and demands of their municipality. Figure 9 illustrates the process:

Figure 7: Co-Maintenance Process



²¹ The city of Eindhoven has installed a Twitter account available for further comments about the public maintenance. Following these tweets shows vividly that the citizens are appreciating the effort and the general work of the administration and the maintenance department after having reported and issue via the different channels and having observed the maintenance process.

Step 3: Technical Implementation

The following list describes the main components and their functionalities, which are at work in this Collaboration Type 1 setting:

Table 12: Technical Components of Use-Case 2

Extended feedback mechanism for BuitenBeter			
#	Live+Gov component	Type	Description
C1	Issue Reporting Service	Back-end web services	Issue Reporting (BuitenBeter) Service. Back-end Web Service for the mobile data-collection prototype, which allows filing a report.
C2	Issue Distribution Service	Back-end web services	The server side service for distributing the specific data collected with the mobile data-collection prototype. For BuitenBeter the distribution service handles the specific allocation of the correct municipality of the reported issue.
C3	Issue Updating Service	Back-end web services	Issue Reporting Updating Service. Updates issue report status information. For the extended feedback prototype, this service has been advanced with the possibility of textual feedback.
C11	Mobile Issue Reporting Client	Mobile Application	BuitenBeter extended with the possibility to receive textual feedback of municipalities on the specific issue.
C16	Webapplication for Enhanced Issue Report Feedback	Webapplication	Webapplication for enhanced issue report feedback enables a 'low-tech' municipality to give feedback to issue reports. They receive an e-mail for the issue reporting distribution service, including a link to this webapplication. In this webapplication one can change the status of the issue report and with the extended feedback mechanism which is prototyped for the Urban Maintenance Use Case; also a free text message can be added for the citizen that submitted the report.

Step 4 - Communication Strategy

The communication strategy of the City of Eindhoven consists of two elements:

1. First (as mentioned in the organisational context), once the citizens issue a report they are receiving automatic updates about the state of the maintenance process. Accordingly, they are close enough to the process to see what the authorities are doing and how they work. This creates more understanding among the people for the possibilities and the constraints of their public administration.
2. The City of Eindhoven has installed a twitter-account in reference to the BuitenBeter application where the people can share their experiences and comment on the service. This communication shows that the citizens are highly satisfied with this issue-reporting service and appreciate the transparency of the municipality's work.

3.3.3 Use-case 2b: Co-Creation in the City of Utrecht

Step 1: Aims and Objectives

The webapplication *Jij Maakt Utrecht* has several goals as has been described in D5.1 for its initial (functional) design. Overall, it provides digital support for participation, collaboration and initiatives within the municipality of Utrecht. In other words, it supports all three pillars of citizen participation: *Transparency* by showing relevant information, *Public participation* by supporting governments in actively asking input from citizens on certain topics, and *Collaboration* by supporting co-maintenance of a certain object in public space. To achieve this, there are four sub-goals, defined from a citizen perspective:

1. What is going on in my neighbourhood? The webapplication applies to the information needs of citizens.
2. Where can I add influence? The webapplication supports policy- and decision making: participation.
3. What can I undertake myself and/or what can I organise with others? The webapplication responds to the self-organising ability of neighbourhoods and areas: collaboration.
4. Which data/tools/applications are available, can I use for other applications, what can I share myself and/or with others, what can I add? The Webapplication prompts local economy and engagement by making open data sets available to citizens.

For the Webapplication itself, this means that there is also a prominent place for citizens to share their opinion and input about the concept itself. The Webapplication thus facilitates participation and activity on several projects and initiatives, at the same time citizens can provide input on how to further facilitate this (see for the general guidelines for the customisation section as well). This is shown prominently on the screen at every first visit.

Step 2 – Organisational Implementation

In contrast to the City of Eindhoven the city of Utrecht has chosen Collaboration Type 2 as their ideal form of Open Government. In their initiative “Jij Maakt Utrecht” (We make Utrecht) the city has defined executive and maintenance areas where they are granting the citizens far-reaching responsibility for shaping their neighbourhood or municipality. By transferring responsibility to their citizens for their direct environment the authorities are deliberately giving up a certain amount of power allowing the citizens to make their direct, visible input. Concretely, the citizens have the power to initiate gardening projects in their neighbourhood, they can organise festivities and events for their neighbourhood, they can mobilise their fellow citizens for political and social movements, to name just a few.

The major innovation in the City of Utrecht is that the authorities are actively supporting this involvement and these activities of the citizens. They do not only provide logistical support but are even granting financial assistance to those citizens who are becoming active. Hence, the public authorities appear as partners to the citizens and not as a paternalistic entity that is blocking anything which is beyond its bureaucratic scope. It is open for innovation, receptive for the ideas of the people and is flexibly responding to actual developments in the society.

Please note that the municipality of Utrecht is currently performing fundamental organisational reforms for implementing co-creation and co-maintenance procedures and

making them standard in the administrative organisation. Research about this organisational implementation process is currently underway and a working paper is in preparation.

Step 3 – Technical Implementation

Deliverable D5.2, p. 52 – 67

Step 4 - Communication Strategy

The City of Utrecht is showing how a successful communication strategy for improving Citizen Participation can be implemented. The city is, in particular consequently connecting mobile, online, and offline components for getting in touch with their citizens. The most convincing part of Utrecht's communication strategy is the fact that it is a participatory approach from the beginning of the process: after the authorities have decided to introduce more Citizen Participation they have opened the agenda-setting process to the public. This means that the city has informed the citizens about this determination but has immediately asked them what they think about it and where they would like to be participated. Citizens could issue their opinion about future participation online and, in particular on real-world events. There, they could learn about the new offer of a web-application serving as a central hub for all kinds of Citizen Participation and make suggestions how this portal as well as its functionalities (technically and organisationally) could be improved. Accordingly, the citizens themselves could choose how tightly they would like to be involved in public decision-making and where they would like to collaborate with the authorities. To our knowledge, this is one of the most advanced forms – if not the most advanced form - of Citizen Participation in a municipality in Europe.

3.3.4 Use-case 3: Urban Planning in Gordexola

Spanish and Basque municipalities are usually having highly developed participation processes. Citizens' initiatives and associations are asked regularly for their opinion about local policies in townhall meetings and consultation processes. These are usually organised in the traditional way with physical meetings and central discussions. It is, however, not entirely clear how the input of the citizens is treated and how influential they are. Here, the citizens are regularly confronted with a black box when it comes to transporting their direct interests through the administrative and political systems until they reach the concrete decision-making arenas. This is clearly a problem for the throughput legitimacy of the state.

Step 1 – Aims and Objectives

The municipality of Gorexola has currently no explicit participation processes in place: neither direct and individual nor group participation are currently institutionalised. Due to its small size communication about the municipality's development and the respective investments is done on a personal basis and on public hearings that are, however, only taking place very rarely. Accordingly, Live+Gov is taking the opportunity to make suggestions for how to introduce a participatory process even in a small community using modern mobile technology. Accordingly, the core aims of the Consultation Variant 2 process in Gorexola are

- first, to enable a decentralised participation process which is not exclusively relying on physical townhall meetings and the like and
- second, to establish a transparent process of how the outcome of the consultation is treated in the political decision-making process

Step 2 – Organisational Implementation

Due to the fact that there is currently no institutionalised consultation process in Gordexola the Live+Gov project has designed one for the municipality. For any kind of Citizen Participation in the public infrastructure domain this results in a distinct problem: planning such infrastructure requires the cooperation of a number of administrative stakeholders, which are all represented in the decision-making process. Involving the citizens in this process is difficult as the respective decisions quickly become very complicated. For example, negotiating the budget of infrastructural project and determining the exact share of the different state entities as well as inferring the consequences for the general budget easily exceeds the capacity of the citizens.

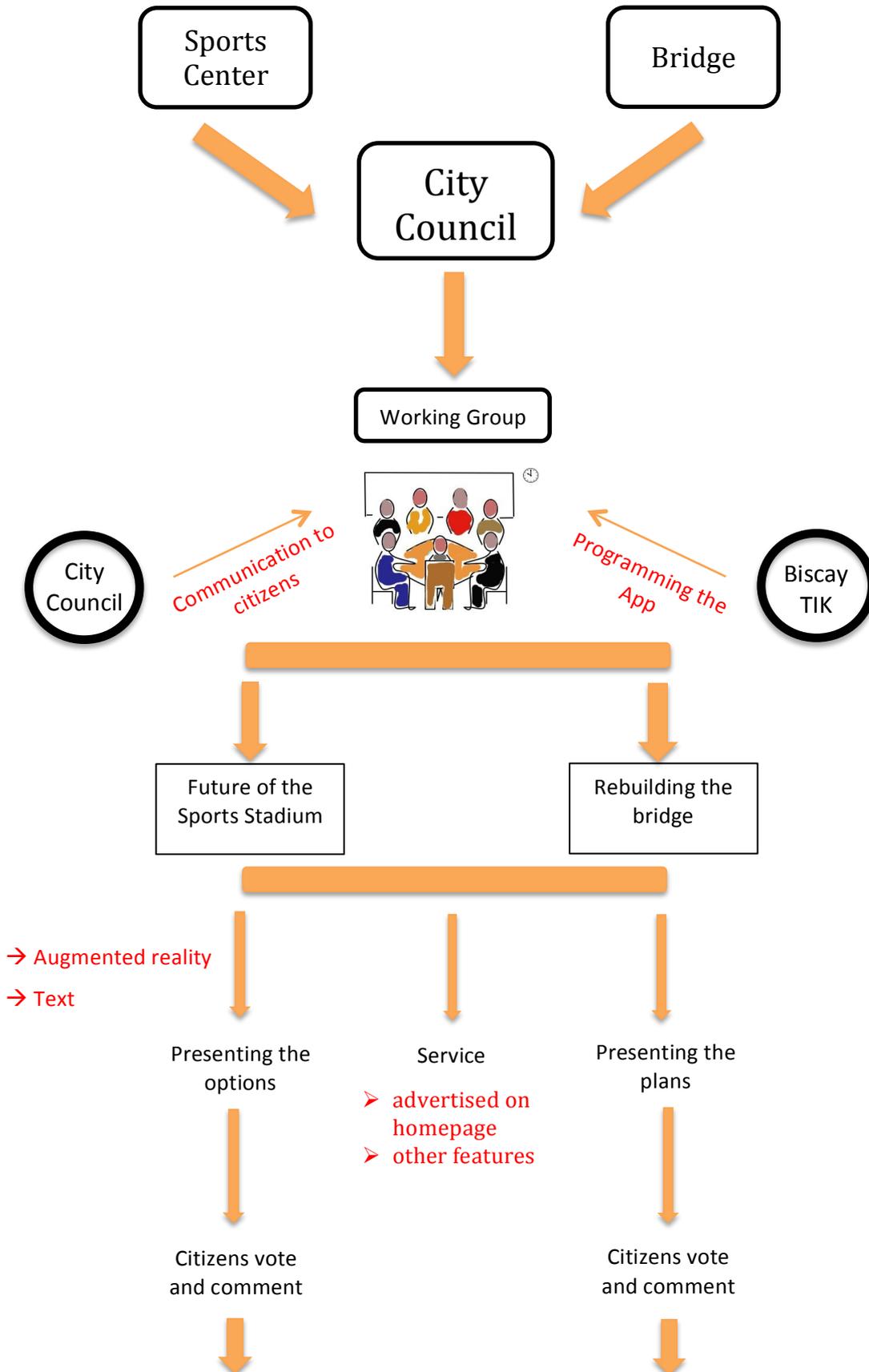
Therefore, public participation has to be granted when the most fundamental decisions are taken. This can take place at the lowest levels of the decision-making process, which is at the municipal level or the district level, respectively. Here, the citizens can be involved in the fundamental deliberations about future plans without being overburdened by the complexity of the following processes. Therefore, they become part of the policy formulation process and do not only obtain decision-making power but agenda-setting power as well: citizens initiate and decide about the municipality's policies.

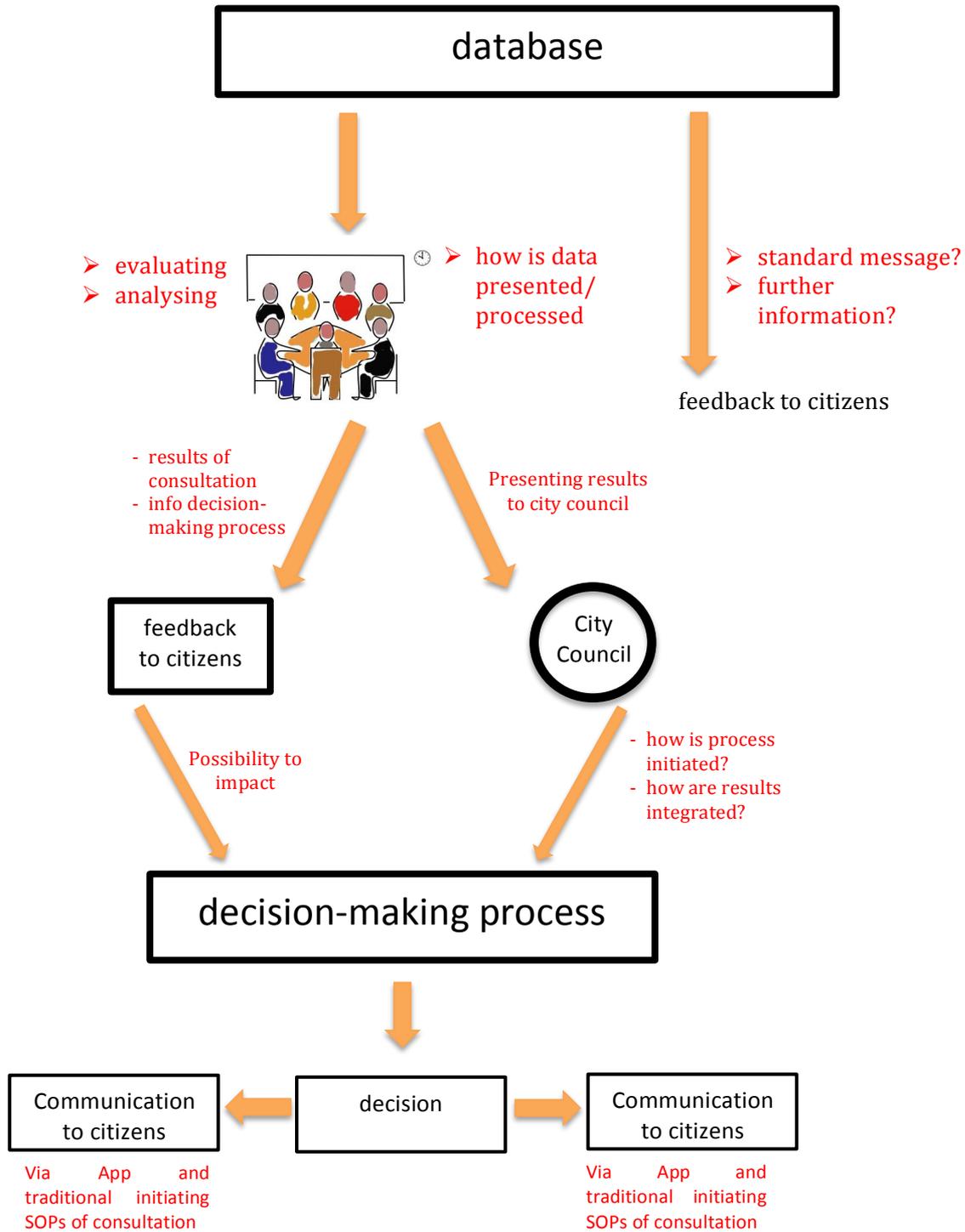
Accordingly, Live+Gov is proposing the following procedure:

1. Once the City Council has initiated a political debate this should immediately be opened up for the citizens. Public debate should be going on in parallel in the City Council and among the Citizens with online, offline, and mobile solutions (Live+Gov). Clear alternatives and choices need to be formulated.
2. The communication process is organised by a special working group consisting of experts implementing the communication plan (e.g. BiscayTIK providing the technical expertise in programming the AR application and producing the background reports about the participatory process, also managing the feedback processes)
3. Results of the participation process are prepared by experts and Council Members of the working group and presented to the Council
4. Council takes the respective decisions and communicates this to the citizens
5. The Council starts the technical decision-making process
6. The Working Group keeps the citizens updated about the decision-making process through the mobile AR application.

It can be presented as follows in Figure 8:

Figure 8: Use Case, BiscayTIK





Step 3 – Technical Implementation

Deliverable D5.2, p. 81-91

Step 4 – Communication Process

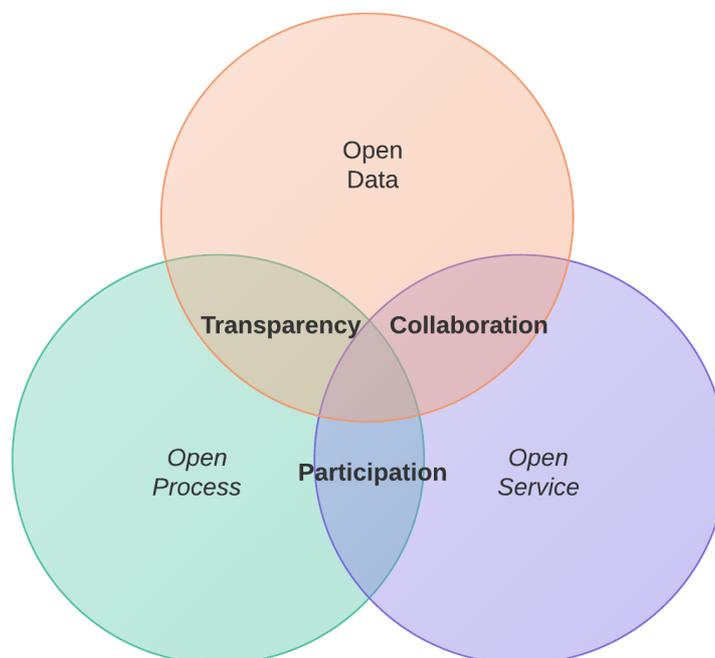
The communication process in the Urban Planning Use-Case starts already in the Working Group consisting of the participants from BiscayTIK and the Local Council members from the Governing Body (not the whole Council). The results of this first communication have been presented in detail to the plenary of the Council during a “Pleno”, a Plenary Session, which took place July, 29th. This has been delaying the rest, the political arena is a delicate environment). It has decided about the following process including the presentation of the topic to the citizens. The following actions have been agreed upon:

- a special section in Gordexola’s municipal web page about walking areas in the town and healthy lifestyles will be included in the proposed walking trails. This will also include information about the participation initiative. A draft already in preparation and people from the Health Department will help to generate and validate the content.
- a reference to this participation initiative during the health talk in September. These “meetings” or gatherings are done on a monthly basis. The person who leads them is the town nurse and a member of the communication area of the Basque Health Department, who also worked on the development of the plan for the second field trial as an advisor for the Working Group, participated in a meeting, and she has also been the person who received the initiative initially from a group of citizens from several associations.
- in the health talk of October (end of October), that is about “healthy lifestyles and being active”, one of the topics will be this participation initiative: Urban Planning Gordexola. This will in fact be one of the two personal events that are planned to be held in order to allow citizens to “participate or vote” in a traditional way (paper) if they can’t access the application – avoid the digital gap (smart phone not compatible, no smart phone or not interested in technology...)
- traditional municipal communication channels will be used to create awareness among citizens, such as the municipal magazine (not sure how this is in Gordexola, but in the Working Group meetings the council member mentioned printing information and sending it to the people), news on the web page, posters on the municipal bulletin boards, etc.
- information will be sent specifically to the associations of Gordexola so they know about the initiative and they inform the members of the associations

3.4 Module 4: Ontology-Based Scenario Development

The **Open Government concept** has been identified as the **ideal form of the government of the future**, which is coping with the challenges of the 21st century. It comprises three tasks: opening publicly available data, opening public decision-making, and opening public services. These are implemented by **transparency initiatives**, which are publishing data as well as internal documentation like reports or evaluations (e.g. one stop open government data portals) and are informing about internal decision-making processes. **Participation initiatives** are opening up decision-making by enabling direct citizen impact (e.g. participative budgeting or eParticipation in urban planning). **Collaboration initiatives** enable citizens and stakeholders to take direct executive action for maintaining and shaping their municipality.

Figure 9: Open Government Approach²²



Nevertheless, there is still **no coherent approach how to implement Open Government** and municipalities are confronted with high uncertainties when deciding about the right form. They are struggling to answer basic questions:

- *Why should we introduce Open Government – which societal need do we need to respond to?*
- *Does it save costs or does it ease workload? Which Open Government format is adequate for us? Which ICT solutions fit best to us? How can we introduce Open Government? Do we need new workflows or standard operating procedures?*
- *How long does it take us to introduce the new processes? How high are our investments?*
- *How can we engage citizens and in which areas do citizens want to be engaged?*

²² EC DG CONNECT "A vision for public services" (2013).

-
- *On which policy area's we can give up control and leave it to self-organisation of active citizens?*
 - *In which policy areas does co-maintenance and co-creation with stakeholders add value and how can this be organised this effectively?*

As long as these questions are not adequately answered, introducing Open Government is a risky endeavour for public administrations: they can hardly identify concrete objectives and aims for their Open Government approach and can neither assess the required investments nor their success. And even if they have managed to find the right answers, the implementation process still remains cumbersome and is requiring high investments both in terms of personnel and financial efforts. Therefore, municipalities are modest and reluctant when it comes to Open Government initiatives. Unfortunately, this leads both the citizens and the public administrations to missing out on the promising opportunities of a comprehensive Open Government approach: citizens are left with the impression that their state authorities are not responding adequately to the needs and the demands of a modernising society, which is asking for more transparency, more far-reaching participation and new forms of collaboration; the public administrations on the other hand are not able to realise the large optimisation potential of the Open Government approach, which refers to improving the quality of the public services provided, easing the workload of the individual civil servant and reducing the respective administrative costs.

Therefore, the training package offers **Ontology Based Scenario Development**, which is providing important decision support for choosing the individual form of Open Government and is guiding municipalities through the entire process. The Live+Gov ontology defines ten Open Government Categories (four variants of Transparency, 3 types of participation, 3 types of collaboration) as they are derived from the CPMT-Approach. These are rooted in the aspirations of citizens towards their state and the new role of the public administrations to meet the related demands. Once the categories are chosen they define the relations to all necessary organisational, technical (IT-related), and communications related tasks that need to be taken care of. Therefore, the tasks pinpoint on the important things that need to be taken care of without dictating the exact path how to achieve it in the greatest detail. Accordingly, this ontology-based process leaves enough room for the creativity and the experience of the individual policy-modellers and harvests their specific knowledge.²³

Thus, **Ontology Based Scenario Development** in Module 4 of the training is customizing the scenario and therefore increasing the chance for its future implementation. Methodologically, the participants are utilising the Live+Gov ontology for describing, analysing, and advancing Open Government in their municipality. **The ontology is particularly well suited for this because it is giving an overview of all tasks to be accomplished for designing Open Government including all organisational and technical elements. Furthermore, it makes the connections and relations among the tasks, the interactions and dependencies among the technical components and the interactions between organisational and technical tasks explicit.**

EXAMPLE

Accordingly, if for example a participant is choosing the Collaboration Type 2 to be implemented (for training or in a real application), the ontology is showing clearly what has to be done and how the different tasks lead up to a sophisticated Business Model for Open Government. Therefore, the ontology is structuring the planning and the implementation process, which is leading to a working Open Government process and is satisfying the principal aim of creating and strengthening the

²³ This is deemed highly important because the field of applications of Open Government are as diverse as the possible solutions.

throughput legitimacy of the state. The example is shown in “protégé”, which is a software for creating and visualising ontologies. In the following, two figures illustrate how the ontology supports the Open Government implementation process. Please note that the whole process will not be presented here.

Figure 10: Choosing Collaboration Type 2

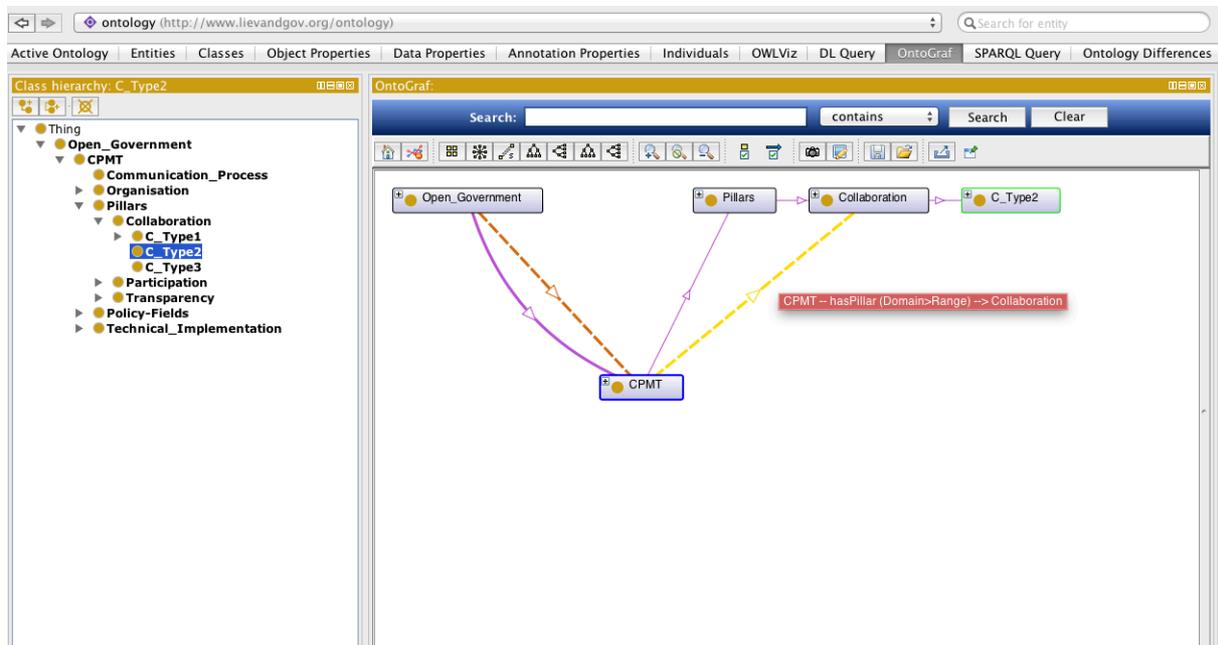


Figure 10 is showing the first steps of the Ontology Based Scenario development. The right-hand side of the figure illustrates the concepts and their relations. The left-hand side presents the class-hierarchy.

- It shows that the participant has chosen the CPMT-Approach for implementing Open Government in his/her municipality. This is indicated by the orange relationship between the concepts “Open Government” and “CPMT”.
- Within the CPMT-Approach, the participant is choosing the pillar of “Collaboration” which should be implemented in the public administration. This is indicated by the yellow relationship between the concepts “CPMT” and “Collaboration”.
- The menu on the left-hand side provides an overview of the content of the ontology. It shows – among others - that Open Government according to the “CPMT”- Approach has two other pillars as well (Transparency, Participation) and that there are three types of Collaboration that could also be chosen. The violet connections between the concepts depict their relation as subclasses and superclasses.

The following Figure illustrates how the process is predefined by the ontology which is assisting the civil servant to take the necessary decisions for making Open Government work.

Figure 11: Identifying the decisive tasks to accomplish Collaboration Type 2

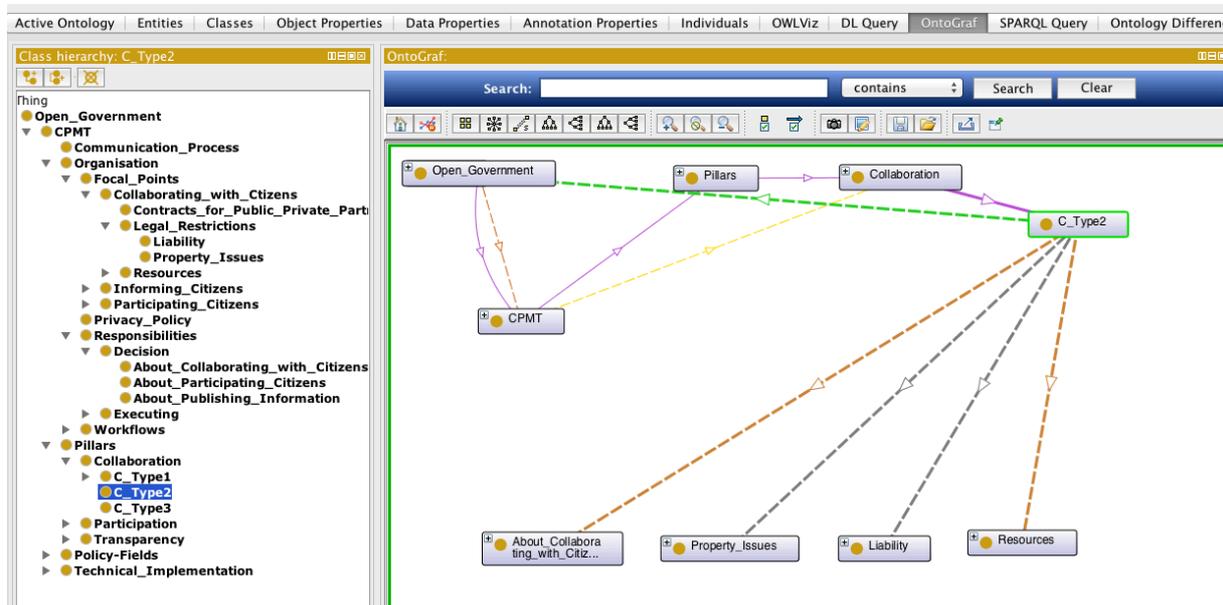


Figure 11 illustrates the central asset of the ontology: Once the participant of the training package has chosen Collaboration Type 2 as the preferred pillar of the CPMT-Approach, the ontology shows immediately what has to be done in the following implementation process. In this example the concepts and their relations define the following tasks to accomplish the tasks which are about to come.

- The concept “C_Type2” is connected to the concept “Liability” by the grey relationship “is restricted by”. This signifies that the public administration has to consider liabilities and legal restrictions when introducing Collaboration Type 2. This is due to the fact that citizens should be given the possibility to create something on their own in the public infrastructure. Accordingly, the public administration needs to sort out where they have the right to do so and which rules should apply in case of damages or even personal injuries.
- The same grey relationship is connecting the concepts “C_Type2” and “Property_Issues”. This signifies that Collaboration Type 2 may conflict with property issues. If for example the area, which should be opened for private action belongs to privately run transportation service providers, co-creation might not take place. Accordingly, the public administration needs to sort out where it has the right to entitle citizens to become active.
- The ochre relationship between the concepts “C_Type2” and “Resources” expresses that if citizens should co-create their environment they are required support: they need a minimum of personal and financial resources. This reminds the public administration to provide this support.
- The second ochre relationship between the concepts “C_Type2” and “About_Collaborating_With_Citizens” is also defined as a requirement. In this case it expresses that such an undertaking requires a formal decision by the respective decision-making bodies. This intends to tell the participants that they need to be aware of the whole process and plan it already at the beginning of their initiative because it can be related with high hurdles and problems.

Thus, using an ontology for both training and implementation purposes of Open Government has the great advantage that it predefines all the necessary steps of the implementation process. The relations between the concepts determine which action needs to be performed and which challenges have to be resolved. The ontology makes all related tasks explicit and the respective civil servant who has the to execute the implementation knows what needs to be done. It is therefore an important instrument for guiding the implementation process.

4 Conclusion

The Live+Gov Training Package as it is presented here is intended to reach out for policy-makers and decision-makers who are interested in implementing Open Government in their municipality or city. It has three central assets:

1. First, the training is explaining the reasons why Open Government reforms are necessary and important for our liberal democracies to remain stable and sound. Therefore, public employees and civil servants understand the reason of their effort in reforming their processes and their everyday working procedures. This increases their motivation and lowers individual barriers. Eventually, this enables and facilitates the whole reform- and implementation process.
2. The Live+Gov Training Package attaches great importance to the fact that Open Government in the form of the CPMT-Approach has the great potential of making life for the public employees and civil servants easier as well as improving the quality of their services. This refers in particular to the fact that communication and collaboration via modern (mobile) ICT produces a great amount of data that can be harvested as a resource. For example, the data can be used to improve the short-term maintenance procedures and alleviate corruption if they are analysed the right way. Equally valuable is this data for improving mid-to-long-term planning of the (traffic-) infrastructure.
3. The training package as such is highly participatory. The participants are received as experts in their domain who are sharing their experiences and contributing to the field of Open Government as such. This acknowledges the fact that the field of Open Government is new and research results are rarely reliable. Accordingly, the expertise is still developing and the seminar participants are part of this development.

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LIVE+GOV DELIVERABLES

- [26] D2.1: Conceptual documentation on issues, organization and stakeholder assessment (Version1)
- [27] D2.1: Conceptual documentation on issues, organization and stakeholder assessment (Revised Version)
- [28] D4.1: Report on Live+Gov toolkit requirements and architecture
- [29] D4.2: Technical Verification and System Integration Concepts and Guidelines
- [30] D5.1: Detailed Use-Case descriptions and Requirements
- [31] D5.2: Prototype / demonstrator for first trials

INTERNET SOURCES

- [32] “General Social Survey” (GSS;
<http://www.norc.org/Research/Projects/Pages/general-social-survey.aspx>)
- [33] European Social Survey (<http://www.europeansocialsurvey.org/>)
- [34] International Institute for Democracy and Electoral Assistance ([www. Idea.int](http://www.idea.int))

A Appendix

The following list is presenting the presentation material of the Live+Gov Training Package. They are provided in a separate zip-file.

- M1: Presentation Training Package
- M2: Open Government in the Making
- M3: Prezi Urban Planning
- M4: Prezi Urban Maintenance
- M5: Prezi Mobility
- O1: TNA Live+Gov Training
- O2: Training Evaluation Form
- PR1: L+G Poster
- PR2: Live+Gov Brochure