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EPIC Roadmap – D6.2 Stakeholder Data Repository and PM Framework for Cities

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0.3	16/04/2012	MDX, WKG, MVG	DEL	Update with comments received in webinar, for Vision, Plan and Build phases
1.0	20/04/2012	MDX, WKG, MVG	DEL	Update with comments received on wiki, and final (draft) version for review
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1 Executive Summary

This document is the deliverable D6.2 Stakeholder Data Repository and PM Framework for Cities that is the result for the tasks T6.2 and T6.3 as part of Work Package 6. The task T6.2 encompasses stakeholder interviews and data collection, in conjunction with task T2.2 – Stakeholder requirements / workshops. The task T6.3 encompasses the creation of a project management framework to become a 'Smart City'.

For the stakeholder data repository, two questions were defined that need to be answered based on the information gathered in the workshops, meetings and webinar with relevant stakeholders. First, the question is answered on how a generic roadmap methodology should be adapted to the generic roadmap for EPIC that fits for as many cities as possible. A common context for the use of the EPIC roadmap was defined, including a conceptual model for an EPIC service. Next, the commonly defined scope and key features of the EPIC roadmap are described. Finally, the stakeholders are identified based on the conceptual model for an EPIC service. The conceptual model and the identified stakeholders for an EPIC service are shown in Figure 1.

Secondly, the question is answered on how the relevant stakeholders evaluate the provided generic roadmap for EPIC. The proposed EPIC roadmap is evaluated on its ease of understanding, the ease of adopting it in different situations, and the relevance and quality level of the content provided. The feedback received after the webinar was taken into account for the generic roadmap for EPIC.

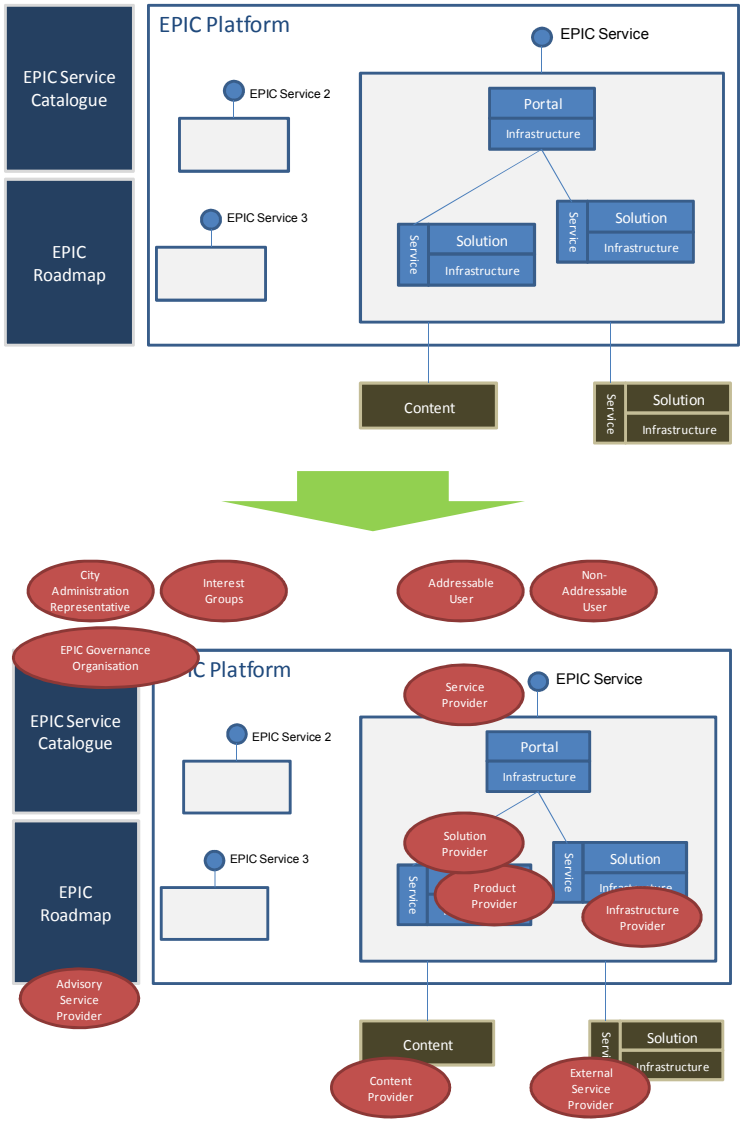


Figure 1 - Conceptual Model and Identified Stakeholders for EPIC Service

For the project management framework for cities, an overall structure of phases and disciplines is proposed in the EPIC roadmap based on selected proven methodologies. For an EPIC service implementation project, the proposed phases include the Vision, Plan, Design, Build, Deliver and Operate phase. An overview of the phases and disciplines for the EPIC roadmap is provided in Figure 2.

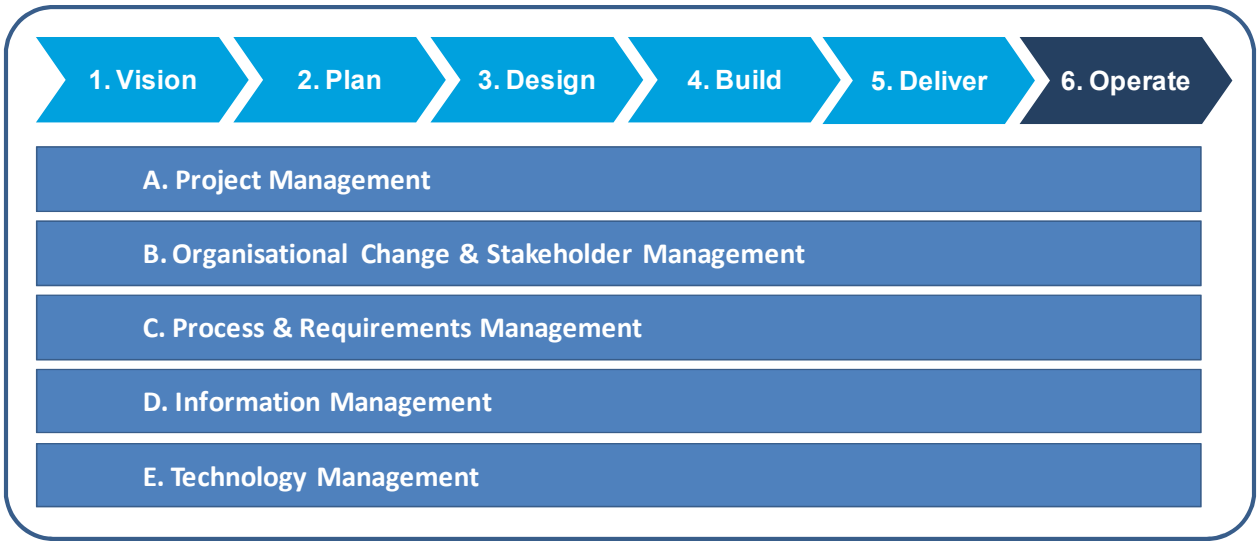


Figure 2 - Overview of Phases and Disciplines for EPIC Roadmap

For each phase, the objective is described and the tasks and work products are provided for each discipline. Templates will be provided for a set of work products that are identified as most specific for the execution of an EPIC project. Specific roles are identified in the EPIC project organisational structure that will perform the tasks within each discipline. The process gateway defines the elements that need to be provided or approved in order to successfully progress to a next phase.

2 Introduction

In this introduction, an overview of the context of the EPIC roadmap is provided in Section 2.1. Next, the long term vision for EPIC is described in Section 2.2. The objectives of the document are documented in Section 2.3 and the approach that was taken to develop the stakeholder data repository and the project management framework is described in Section D.4.

2.1 Context of EPIC Roadmap

The European Platform for Intelligent Cities (EPIC) project aims at creating the first truly scalable and flexible pan-European platform for innovative user-centric public service delivery by combining innovation ecosystem processes, fully researched and tested eGovernment service applications with a new cloud computing paradigm.

The EPIC project will encourage city administrations / decision-makers and Small and Medium Enterprises (SMEs) to take up the EPIC platform approach through the adoption of a practical, business-tested roadmap for implementation. In addition, a catalogue of innovative services and solutions (such as smart electricity, water and transport grids) can help European cities to upscale from the Living Labs environment in designing specific services and solutions for real-life urban deployment.

One of the major outcomes of the project is the development of a business focused roadmap to be used as a guide for a pan-European exploitation of EPIC. The roadmap will cover the important aspects and will describe the required steps for a successful adoption of EPIC by European cities (i.e. city administrations) and SMEs, including possible strategies, business cases, business models and key building blocks (such as identity, security, multiple-modal access and authentication).

By providing a comprehensive project management framework and business case template, the EPIC roadmap aims to achieve the following objectives:

- Detail the fundamental principles involved in becoming a Smart City
- Provide a comprehensive project management framework for European cities to adopt EPIC to become smarter
- Describe working business models for city administrations and SMEs, including criteria for partnership selection as well as contract management and intellectual property rights (IPR) related issues
- Outline best practices for organisational change and stakeholder management
- Elaborate on the requirements and process elements for offering user-centric innovative public services
- Elaborate on the value, usefulness, accessibility, and security of information assets
- Detail the approaches and building blocks for designing, developing, testing and operating the technical systems and services

The EPIC roadmap provides a deployment guide that indicates how a Smart City can transform and evolve eGovernment and other services and deliver them through the EPIC city portal, which is reflected in the overall vision.

"To be the first choice service innovation and delivery platform (with Roadmap) for medium sized (50.000–500.000 habitants) cities across Europe, where any city can cost-effectively share, access and adapt a range of services to work smarter to meet the needs of most, if not all, their citizens, visitors and a wide range of business/social relations". [1]

2.2 Long Term Vision for EPIC

The European Platform for Intelligent Cities (EPIC) delivers a validated cloud computing-based platform for the provision of smart eGovernment processes as a service and an accompanying roadmap which cities across Europe will be able to use to become smarter. Unlike a typical cloud infrastructure platform (which is normally just a collection of virtualized servers and storage), EPIC is primarily driven by the need to govern business rules and security and authentication protocols – making it easier and more efficient for public administrations to harness the innovative potential of Living Labs and other eGovernment advancements across Europe to deliver state-of-the-art public services on a pan-European scale. [1]

EPIC wants to be a European 'innovation ecosystem' that provides an extensive range of opportunities to deploy sustainable, user-centric services for citizens and businesses in order to enable European cities to become smart. The two main target groups are (1) Cities and their Living Lab partners and (2) Citizens and Businesses either located in or visiting a city. User-centric open innovation, connected smart cities and web services are combined in EPIC in the following manner:

1. Partner Living Labs engages citizens and SMEs in the innovation process to help drive creation of the type of standard-based web services that citizens, businesses and city visitors want and are potentially willing to pay for,
2. Partner cities will work to plug existing and new co-designed web services into EPIC so that other cities can connect to the platform, discover and use them,
3. Partner consultants and subject matter experts can use findings from pilot trials to help refine the roadmap that incorporates a variety of differing business models from open source, to pay per use and licensing models.

The primary focus of EPIC is promoting smart eGovernment services through the use of a Smart City services catalogue. This catalogue enables cities to find, select and offer already developed web services or select the web services they need in the innovative creation of

[1] See Deliverable D2.1 Project Vision

new ones. A smart city portal is hosted through which end-users will consume the smart eGovernment services that are being developed.

The value of EPIC for the different stakeholders could be described as follows:

- **City Administrations:** Through the roadmap, EPIC breaks down existing barriers by enabling city administrations to obtain IT services in very small increments and with flexible conditions (i.e. on a pay-as-you-go basis). The ability to buy IT services in smaller increments could potentially help all administrations, but will be especially beneficial for smaller cities. The EPIC model allows for cloud consumption models to enable access to IT solutions that would not be otherwise economically possible.
- **Small and Medium Enterprises (SMEs):** The EPIC platform can offer several advantages for SMEs that develop commercial web services. EPIC bears an immediate value proposition not only for the SMEs in the consortium, but to all SMEs within the Smart City portfolio. Because EPIC offers easy and low-impact/cost on-boarding and integration services as well as provisioning and orchestration for various tools and capabilities, it can provide otherwise unaffordable benefits for SMEs. In particular, EPIC eases the go-to-market path for SMEs as the cloud web services platform virtualises the underpinning infrastructure, management framework and governance policies for security and regulatory compliance which apply in the network-enabled, cross-domain and cross-border environment.
- **Citizens:** The citizens living in or visiting the city will gain from accessing more innovative, user-centric, efficient and effective services through the smart city portal in EPIC. Even citizens can drive the development or provision of specific smart eGovernment services in Smart Cities.

The primary focus of the EPIC project must be on the hosting support of smart eGovernment services, and not on the creation of web applications or device-specific applications or 'apps'. Therefore, it is necessary to create a limited number of web services in the context of the pilots to demonstrate how such smart eGovernment services can be developed and consumed in EPIC.

The EPIC project will have three definite outcomes:

Outcome 1: EPIC Platform Infrastructure

- *A tested prototype for a pan-European web service delivery platform and Internet of Things (IoT) extensions*

Outcome 2: EPIC Smart City Services Catalogue

- *Three web services (pilots) extending to the private sector and to citizens*
- *A template service catalogue, where other SMEs can leverage on, in order to offer their services to the city administrations*

Outcome 3: EPIC Roadmap

- *A deployment roadmap that provides a project management framework and approach on how a Smart City can transition to web-based services and cloud computing*

2.3 Objective of This Document

This document describes the resulting stakeholder data for the EPIC roadmap and the comprehensive project management framework for cities. This document is the deliverable D6.2 Stakeholder Data Repository and Project Management Framework for Cities that is the result for the tasks T6.2 and T6.3 as part of Work Package 6.

For the stakeholder data repository, this document will provide the main conclusions from the interactions with the relevant EPIC stakeholders and the analysis of relevant documentation. The main findings are described on the context, scope and key features, and the actors and stakeholders of the EPIC roadmap. Furthermore, the main results of the evaluation of the proposed generic roadmap by the relevant stakeholders (based on a webinar and evaluation form) are provided. In Chapter 3, the results for the stakeholder data repository are provided.

For the project management framework, this document will provide a generic roadmap based on proven methodologies and templates that are already adapted for EPIC based on the stakeholder data repository. Furthermore, generic templates and guidelines are provided for the different phases and deliverables in the roadmap. In Chapter 4, the details for the project management framework are provided.

In Annex I, the abbreviations used throughout this document are listed and described.

2.4 Overall Approach for Stakeholder Data Repository and PM Framework

The overall approach for this deliverable D6.2 includes the execution of stakeholder interviews and data collection (for task T6.2) and the creation of a project management framework for cities (for task T6.3). These tasks are performed in close collaboration with both the end users (such as the EPIC pilot Living Labs) and the EPIC consortium. Especially for the stakeholder interviews, the results from the previously executed stakeholder (user) workshops (see deliverable D2.2) should be taken into account.

The planning of the activities for the development of deliverable D6.2 is provided in Figure 3.

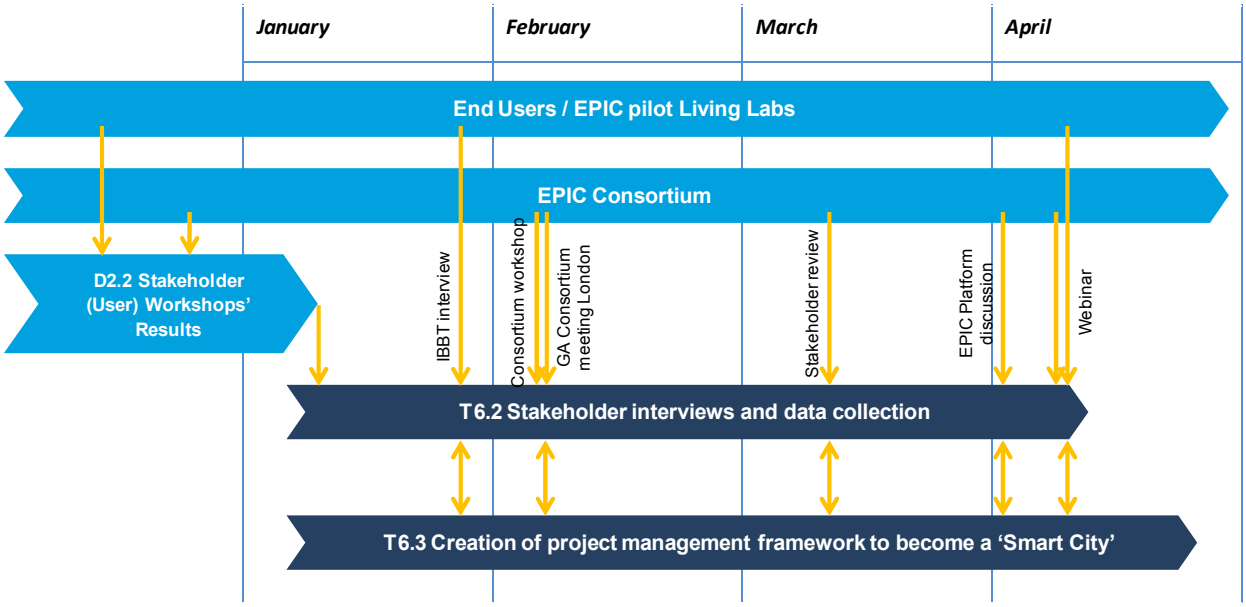


Figure 3 - High-Level Approach for D6.2

For the stakeholder data repository, the relevant documentation in the different work packages of the EPIC project was reviewed. Furthermore, a number of interviews and interactions were organised with relevant stakeholders, including the following:

- A workshop with the IBBT/Brussels Pilot (on January 30th 2012)
- A discussion meeting with ISP, 21c and IBBT (on February 9th 2012)
- A discussion meeting with Hildebrand (on February 9th 2012)
- A discussion with consortium members in London (on February 10th 2012)
- A discussion on the EPIC Service model and stakeholders (on March 19th 2012)
- A discussion on the EPIC platform with IBM (on April 4th 2012)
- A webinar with consortium members and other relevant stakeholders (on April 16th 2012)

For the development of a project management framework for cities, existing methodologies are used to create a generic roadmap for EPIC. The possible roadmap phases, disciplines and gating points are based on the documentations of the EPIC project and discussions with consortium members. Finally, in a webinar with all relevant stakeholders, the draft generic roadmap is discussed and the feedback is consolidated in order to finalise the deliverable D6.2.

3 Stakeholder Data Repository

The objective of this chapter is to describe the results from the stakeholder interviews and data collection. In the stakeholder data repository, interactions with the relevant stakeholders are organised in order to gather necessary information for the development of the EPIC roadmap. Two research questions are defined for the stakeholder data repository that will structure the analysis of the data gathered and to provide the results for the adaptation of the generic roadmap to a generic roadmap for EPIC.

The two research questions are

> **Question 1:** How can a generic roadmap methodology be adapted to a generic roadmap for EPIC that fits for as many cities as possible?
>
> **Question 2:** How would the relevant stakeholders evaluate the generic roadmap for EPIC?

In the next section (Section 3.1), the answers are provided for the first research question on the adaptation of the generic roadmap for EPIC. In Section 3.2, the answers are provided for the second research question on the evaluation of the generic EPIC roadmap by the relevant stakeholders.

3.1 Conclusions on Adaptation of the Generic Roadmap for EPIC

In order to adapt the generic roadmap to the specific context of the project, a number of aspects are investigated in the interviews with the stakeholders. These aspects include the common context, the scope and key features, and the stakeholders and roles for an EPIC roadmap. Therefore, the first research question for the stakeholder data repository was divided in different sub-questions, in order to better structure the results.

> **Question 1:** How do we adapt a generic roadmap methodology to a generic roadmap for EPIC that fits for as many cities as possible?
>
> > **Sub-Question 1.1:** What is the common context in which the EPIC roadmap will be used?
> >
> > **Sub-Question 1.2:** What is the commonly defined scope and key features of an EPIC roadmap?
> >
> > **Sub-Question 1.3:** Who are the stakeholders and roles involved in executing an EPIC roadmap?

For sub-question 1.1, the common context for the roadmap will be investigated in terms of a conceptual model for EPIC services. Corresponding to the PRINCE2™ project management methodology[2], this conceptual model will include the elements and interests of the business, users and suppliers. A project for the development of smart city services should meet the requirements of any of these interests to be considered successful.

For sub-question 1.2, the commonly defined scope and key features of an EPIC roadmap are described based on the specific objectives and requirements for the EPIC roadmap (see other work packages for relevant documentation).

For sub-question 1.3, the stakeholders and roles for the EPIC roadmap are identified based on the proposed conceptual model for an EPIC service. Based on the project management methodology of PRINCE2™, the primary stakeholders for a project can be identified using the categories business, user and supplier. The different interests of a project can be described as follows[3]:

- Business – the business viewpoint should be represented to ensure the product meets a business need (that will justify the investment in the project) and provides value for money.
- User – the user viewpoint should represent those individuals or groups that will use the outputs of the project, or operate, maintain or support the project's outputs
- Supplier – the supplier viewpoint should represent those who will provide the necessary skills and produce the project's outcomes (both in-house and external suppliers)

In the following sections, the conclusions on the different sub-questions are described in detail.

3.1.1 Common Context for Use of EPIC Roadmap

The starting point for the use of the EPIC roadmap will be the definition of a potential project for the implementation of smart city services. A project in the context of EPIC is understood to be a project for the implementation of an EPIC service in a particular city or city administration. In general, there are three distinctive business scenarios for the use of the EPIC roadmap, which could be described as follows:

[2] PRINCE2™ is a Registered Trade Mark of the Office of Government Commerce (OGC) in the United Kingdom and other countries

[3] See The Three Primary Categories of Stakeholder in the book Directing Successful Projects with PRINCE2, 2009 Edition Manual, The Office of Government Commerce (OGC), 2009

- Use of the EPIC roadmap for the implementation of a specific EPIC service that is available in the EPIC service catalogue, in a specific city
- Use of the EPIC roadmap for the development of new EPIC services on the EPIC platform (and to be made available in the EPIC service catalogue) in a specific city
- Use of the EPIC roadmap for the delivery of an EPIC platform for cities to provide cloud-based services

A conceptual model for an EPIC service can be defined based on general service-oriented principles and the specific EPIC definitions. A proposed conceptual model for an EPIC service is shown in Figure 4. In this conceptual model, the EPIC roadmap is identified as a main component for EPIC, next to the EPIC service catalogue and the EPIC platform. The roadmap will be used for the implementation of EPIC services in a city context, using the EPIC platform capabilities. These services should be available or provided in the EPIC service catalogue. For an EPIC service, the main access could be provided using a portal user interface or webservice connection point. Within this portal, the different services and solutions for the service could be integrated. Furthermore, external content and services could be integrated with the service within the EPIC platform.

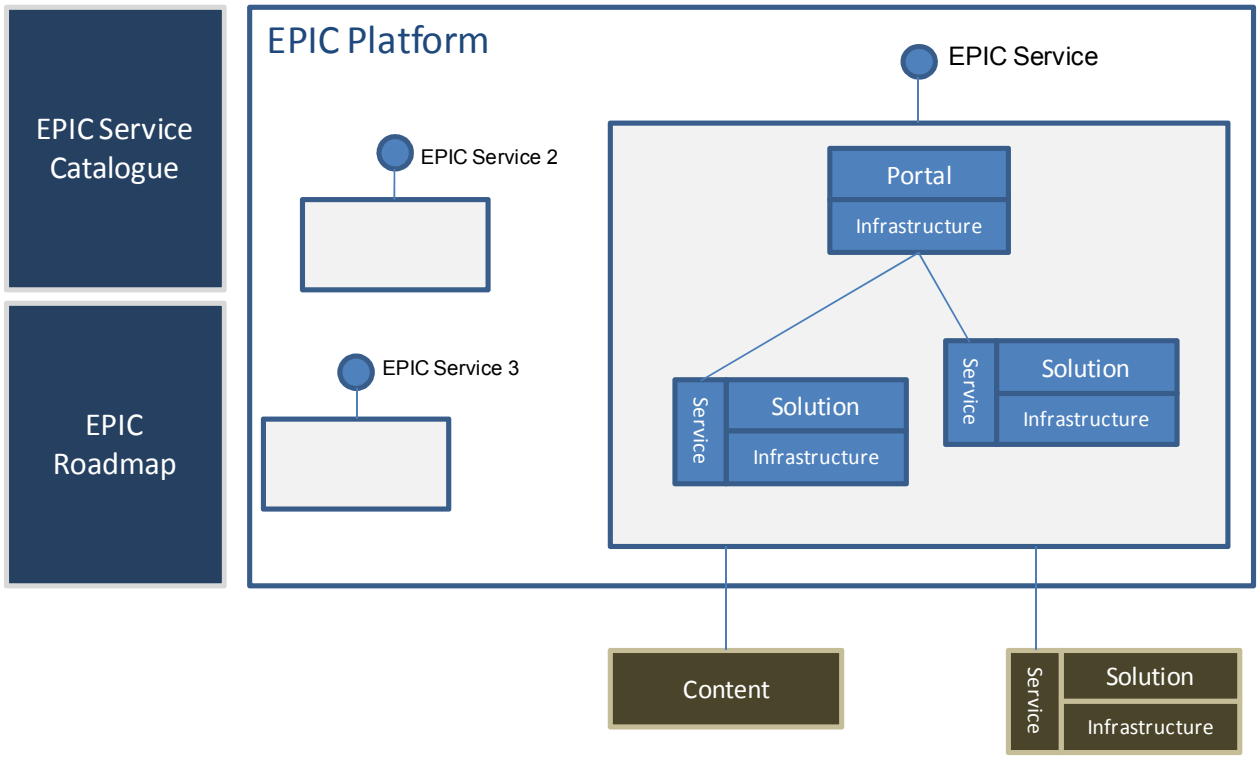


Figure 4 - Conceptual Model for an EPIC Service

In the roadmap, the conceptual model for an EPIC service should be used to structure and describe the activities necessary in the development of a service. Furthermore, this conceptual model can be used to identify the relevant stakeholders involved in the implementation and operation of an EPIC service.

In the following table, the different concepts used in the conceptual model for an EPIC service are described in more detail.

Table 1 - Overview of Concepts for EPIC Service

Concept	Description
EPIC Platform	The EPIC platform is the managed environment for running and delivering the EPIC services.
EPIC Service Catalogue	The EPIC service catalogue is the catalogue containing the list of services. Every new service that is developed on the EPIC platform should be registered in this service catalogue. For each service, the catalogue provides a description and detailed information on functionalities, contacts, SLA, etc.
EPIC Roadmap	The EPIC roadmap is a guidance tool for city administrations (and related SMEs) to implement and provide services on the EPIC platform.
EPIC Service	The EPIC service is a business service that is operational and available to end-users (e.g. citizens, businesses, etc.)
Portal	The portal is a user interface and a webservice connection point provided for the access to the EPIC service.
Service	The service is a functional service that is provided by the solution in composing the EPIC service.
Solution	The solution is a functional component that provides the processing and basic logic for the EPIC service
Infrastructure	The infrastructure is the technical environment on which the solutions are residing or operating for the EPIC service.
Content	The content is the external information and data that is provided for the operation of the EPIC service.

3.1.2 Commonly Defined Scope and Key Features of EPIC Roadmap

The roadmap should provide a deployment roadmap that shows how a Smart City can transition to web-based services and cloud computing. As defined before, the roadmap will be a guidance tool for city administration (and related SMEs) to implement and provide EPIC services on the EPIC platform. As a result, the roadmap will be applicable from the definition of a potential project for the implementation of smart city services until the smart city service is fully operational.

The EPIC roadmap is targeted towards the public administrations in European cities that are involved in the development of smart city services. This will be used by city administrations that want to move forward with smart city services (e.g. from the EPIC service catalogue) on the EPIC platform. However, the roadmap can be used by all relevant stakeholders involved in the implementation of services on the EPIC platform. The stakeholders that are identified for an EPIC service are described in the next section.

For an EPIC service implementation project, the roadmap describes the different phases that a city administration needs to go through in order to establish the service. In general, an EPIC service implementation project will start from an initiate phase and will end in an operate phase.

For the different phases, the activities to be performed and results to be achieved by the different project actors are described in general. These activities are grouped in different disciplines and include both business (e.g. project management, change management) and technical aspects (e.g. information and technology architecture). The gateways between the project phases are described using clear deliverables. In order to facilitate the execution of these project phases, specific deliverables, templates and guidelines are provided.

The roadmap will be described in general terms and will not be focussed on the implementation of a specific service. The detailed descriptions of the activities and results for the technology implementation of a specific service will not be covered in the roadmap. For the development of a roadmap and the description of the different aspects, proven methodologies will be used.

3.1.3 Stakeholders and Roles Involved in EPIC Roadmap

The roadmap for EPIC needs to take into account the specific stakeholders and roles involved in the implementation and operation of an EPIC service. As defined before, the primary stakeholders for a project can be identified using the categories business, user and supplier. For the roadmap, these categories are investigated based on the project documentation and the interviews with consortium members. Furthermore, the project management methodology can be used to define a general project organisation structure for an EPIC service implementation project.

The general stakeholders for an EPIC project were identified based on the conceptual model for an EPIC service, a review of EPIC documents and the meetings with consortium

members. In Figure 5, an overview is provided of the identified stakeholders for the provision of an EPIC service.

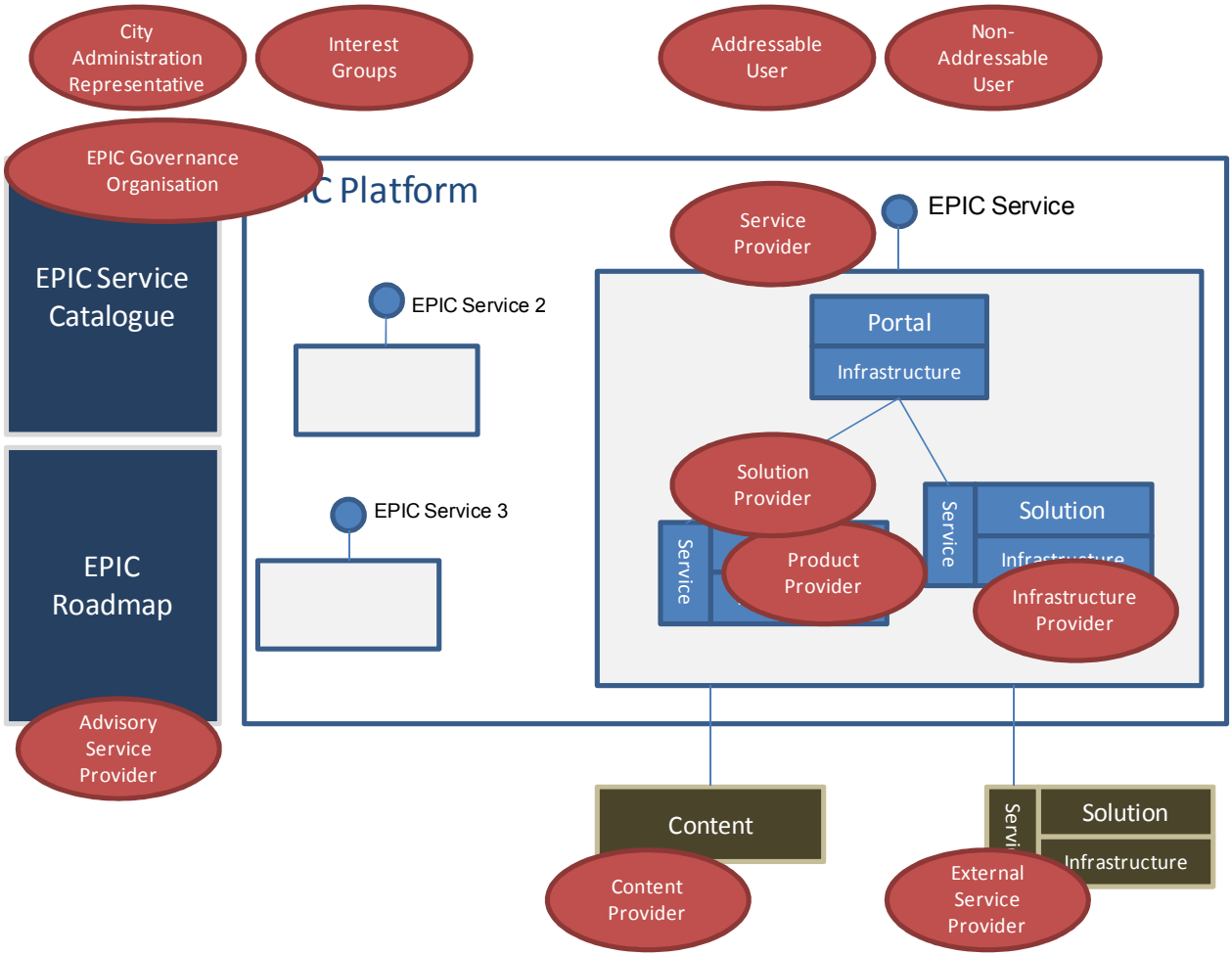


Figure 5 - Identified Stakeholders for EPIC

In the following table the identified stakeholders for the EPIC roadmap are described in more detail.

Table 2 - Description of Identified Stakeholders for EPIC Roadmap

EPIC Stakeholder	Description
City Administration Representative	The city administration coordinates the city services and will be the main requester for smart city services provided through the EPIC platform.

	A city administration representative represents the city administration for the implementation of smart city services and will be the main contact person for EPIC projects.
Interest Groups	Interest groups are communities or organisations that have an interest in smart city services and can influence the implementation of EPIC services. (e.g. national or supra-national governments, industry consortia, businesses or SMEs)
Addressable User Representative	An addressable user can be requested to perform project activities, for example testing. An addressable user representative represents the group of end-users that are closely involved and addressable within an EPIC project. (e.g. employees working for the city administration)
Non-Addressable User Representative	A non-addressable user is a generically identifiable person which can't be requested to perform project activities. This user representative represents the group of end-users that is not closely involved or addressable within an EPIC project. (e.g. citizens living in Europe)
Product Provider	The product provider delivers the underlying product(s) for the specific EPIC service.
Solution Provider	The solution provider develops and delivers the solution for the specific EPIC service using the product(s) of the product provider.
Infrastructure Provider	The infrastructure provider delivers and operates the infrastructure for running the solution of the EPIC service.
Service Provider	Within the context of an EPIC project, the service provider operates and offers the developed solution of the solution provider to the end-users.
Content Provider	The content provider connects and delivers relevant content to the developed solution of the solution provider.
External Service Provider	The external service provider delivers supporting services to the implemented solution of the solution provider, in

	the operation of an EPIC service.
EPIC Governance Organisation	The EPIC governance organisation coordinates and manages the delivery of the services and platform, and controls the EPIC service catalogue.
Advisory Service Provider	The advisory service provider delivers relevant support and guidance in the selection, development and operation of the EPIC services, in using the EPIC roadmap and the EPIC service catalogue.

Next to the stakeholders, a project organisational structure, including project roles and responsibilities, could be defined for the execution of an EPIC service implementation project. The project roles involved in the execution of the roadmap are identified based on the proposed phases, disciplines and detailed actions in the generic roadmap. A generic project organisational structure is provided in Figure 6, including the identified roles involved in the execution of the different tasks per discipline.

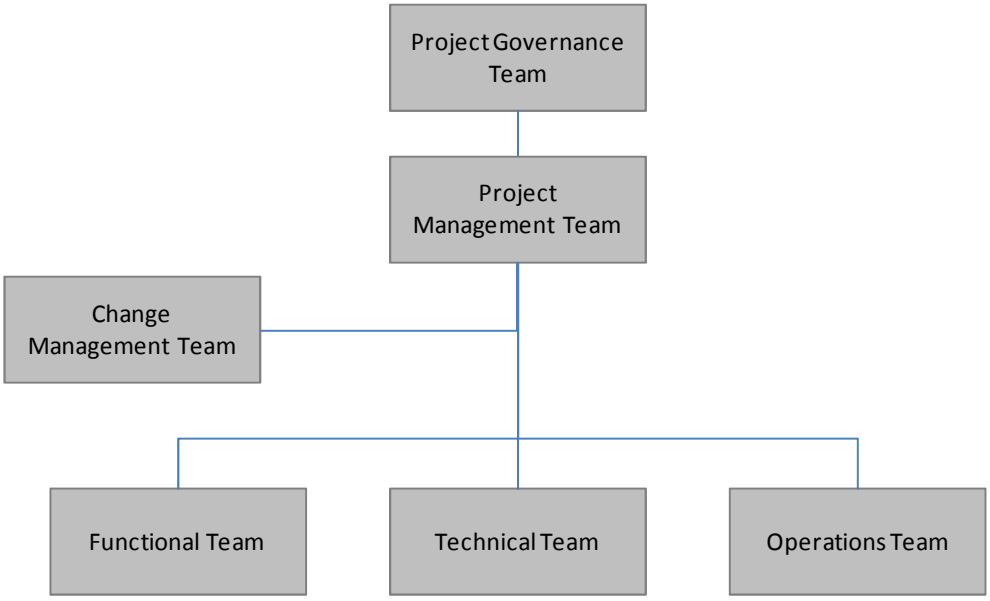


Figure 6 - Identified Roles in EPIC Roadmap

In the following table, the identified roles for the EPIC roadmap are described in more detail. Furthermore, the possible involved EPIC stakeholders are identified for each specific role. It is assumed that the service provider takes a leading role in the EPIC service implementation project, together with the city administration representative.

Table 3 – Description of Identified Roles for EPIC Roadmap

EPIC Roles	Description	Possible Involved EPIC Stakeholder
Project Governance Team	The project governance team evaluates and takes decisions on the initiation, control and delivery of the project according to the defined strategy and goals, as documented in a business case.	City Administration Representative, EPIC Governance Organisation, Service Provider
Project Management Team	The project management team is responsible for the day-to-day execution and delivery of the project, especially of the delivery of the required products within the defined scope.	City Administration Representative, Service Provider
Change Management Team	The change management team ensures the communication and adoption aspects within the project for the operation of the EPIC service.	City Administration Representative, Advisory Service Provider, Service Provider, Interest Groups,
Functional Team	The functional team is responsible for the definition and control of the functional requirements for the EPIC service.	Service Provider, Solution Provider, Content Provider, External Service Provider, Addressable User, Non-Addressable User
Technical Team	The technical team is responsible for the development and control of the technical components for the EPIC service.	Service Provider, Solution Provider, Product Provider, Infrastructure Provider, Content Provider,

		External Service Provider
Operations Team	The operational team is responsible for the support and operations of the EPIC service, in an operational mode.	Service Provider, Infrastructure Provider, Content Provider, External Service Provider

3.2 Evaluation of the Proposed EPIC Roadmap

For the evaluation of the proposed EPIC roadmap, a webinar was organised on Monday, April 16th 2012 with the relevant stakeholders to present and discuss the initially proposed EPIC roadmap. A feedback form was provided on the project wiki to collect the feedback and comments on the proposed EPIC roadmap, evaluating its ease of understanding, the ease of adopting it in different situations, and the relevance and quality level of the content provided. The initial proposed roadmap was updated based on the feedback provided by the relevant stakeholders after the webinar. The following changes were taken into account in updating the generic roadmap:

- The testing is described in general terms, including both functional testing and Living Labs testing
- For communication management, the marketing and publicity for the EPIC service is taken into account

For the different questions that were defined in the feedback form on the project wiki, the feedback can be summarised as follows.

Is the generic roadmap for EPIC easily understandable for cities?

In general, the roadmap seems very consistent, starting from general objectives towards specified tasks for every phase. It is understandable for different roles and actors identified. It is perceived that there is a clear logic in the way the roadmap is built. It was indicated that the background of the reader might facilitate the adoption of some of the concepts in the roadmap.

In order to increase the understanding, the aspect of functional testing could be clarified more. The difference between technical testing and the Living Labs testing with end-users could be explained. The use of the term 'functional' implies only the technical testing.

The term 'communication' in the roadmap can be defined and elaborated more in detail. Sometimes the communication is aimed at a particular group (e.g. stakeholders) and is

defined as ongoing communications. Maybe it would be better to identify possible target audiences or communication objectives more clearly. In the roadmap, marketing is not directly mentioned. Therefore, a question was posed if this roadmap (and the communications included) defines actions to create awareness within cities (especially in the operating and delivery phase).

Does the generic roadmap for EPIC provide relevant content for cities?

It is mentioned that relevant content for cities is difficult to define at this moment. If all cities have the same objectives then they may need the same relevant content. It is indicated that the roadmap provides relevant content given the clear identification of context, the hierarchy in roles and the identification of different disciplines. Each of these elements highlights a crucial aspect of the organisation of the phases and the development process.

Is the generic roadmap for EPIC adoptable (e.g. feasible, usable) for different cities?

It is mentioned that the roadmap provides a very general approach that has the potential to be adoptable in different kind of cities. Nonetheless, there are concerns that in the elaboration of the deliverable a possible differentiation could be made between bigger and smaller cities. It is indicated that smaller cities with smaller administrations/resources will have different persons performing many different roles, while in larger cities one person can focus on one role or work on one task within a discipline. This aspect will be investigated in more detail in the following phases of the project.

Does the generic roadmap for EPIC provide the right quality level of content for cities?

It is indicated that the quality level of the content is perceived high for the generic roadmap.

4 Project Management Framework for Cities

In this chapter, a base roadmap is described for EPIC that could be used by city administrations to initiate an EPIC-triggered project for the provision of smart public services. In the first section (Section 4.1), an introduction to the EPIC roadmap is provided including an overview of the phases and disciplines and guidelines on the use of the roadmap. In the second section (Section 4.2), the detailed description of the roadmap is provided.

For the development of a project management framework for cities;

- the relevant methodologies are selected for creating business roadmaps in the context of cloud computing and smart cities
- the descriptions for the roadmap phases, disciplines and gating points are provided based on the documentation of EPIC project and discussions with consortium members
- the possible 'crossing' activities, work products and phase end deliverables are provided and elaborated
- feedback is requested from consortium members on the understanding and content of the roadmap elements

In a webinar with relevant stakeholders, the draft generic roadmap is discussed and feedback is consolidated. Based on this feedback, the proposed generic roadmap is updated and finalised for the deliverable D6.2.

4.1 Introduction to the EPIC Roadmap

A project is typically defined as a temporary undertaking including a carefully planned set of activities to achieve a particular aim as documented in a specific business case. A roadmap is an action plan describing a planned series of actions, tasks or steps designed to achieve an objective or goal.

An EPIC project is a project undertaken by a city or city administration to take up the EPIC platform to develop, transform and evolve smart services in order to become a smart city. For an EPIC project, the EPIC roadmap describes the planned series of actions, tasks and steps to achieve the objectives that are documented in an EPIC Smart City business case.

The project management framework for the roadmap provides a method for cities or city administrations to manage an EPIC project. The project management framework provides the structures, a set of templates, a common vocabulary and a list of recommended standards to be used in the management of an EPIC project.

An overview of the phases and disciplines for the roadmap are provided in Figure 7. The phases of the EPIC roadmap represent the progression of key groups of activities in the project life cycle. The disciplines of the roadmap reflect themes of expertise that span these project phases. Within the roadmap, each discipline consists of tasks that are performed by specific roles and that produce work products, using specific development aids (e.g.

templates). For the base EPIC roadmap, a sequential execution of the project phases is prescribed.

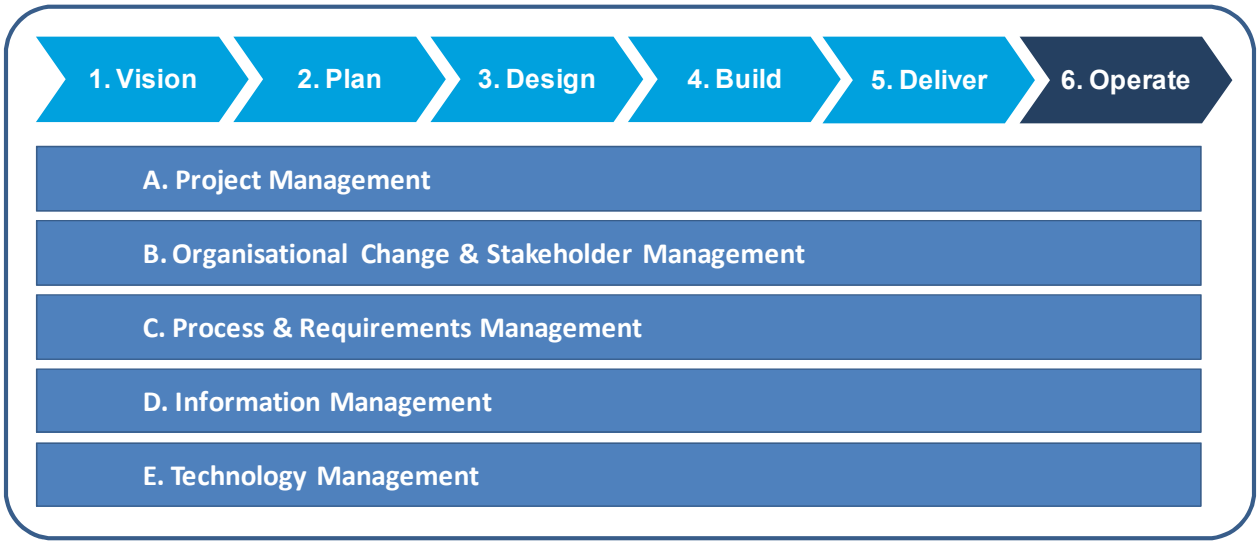


Figure 7 - Overview of Phases and Disciplines for EPIC Roadmap

4.1.1 Overview of Phases in EPIC Roadmap

In the Vision (1) phase, the business case is defined for the city administrations for the provision of smart public services. The project definition, budget and master plan are developed in order to clearly define the goals and expected benefits, as well as describing the project approach, scope, and key milestones.

In the Plan (2) phase, the project management plan is developed for the implementation of smart public services on the EPIC Platform, including the work plan and deliverables log. The project management plan defines the project organisation, method scope, project tools, and the processes for managing risks, issues, change requests, action items, decisions, deliverable acceptance, and budget and project status. A quality management plan is defined to address the project's quality objectives and activities for quality assurance, control and support.

In the Design (3) phase, the business requirements are documented and a detailed design for the smart public services is created. In order to create a design, the business processes, software configuration, software gaps, change impacts, application security, and technical infrastructure are taken into account. A proof of concept prototype (or an initial mock-up) is developed to show how the city administrations and citizens/businesses will operate and use the smart public services on the EPIC Platform. The proof of concept prototypes will be mostly developed in a living lab context.

In the Build (4) phase, the smart public services are implemented using the EPIC Platform based on the design. The testing of the smart public services is performed as is defined in the test management plan. Furthermore, end-user training materials and user guides are developed.

In the Deliver (5) phase, the system and business transition to the new environment are prepared and executed. This includes conducting user-acceptance testing, performing end-user training, conducting go/no-go evaluations and establishing the support organisation to help the city administrations after transition.

In the Operate (6) phase, the readiness activities of the preproduction environment are being transitioned into actual business operations.

4.1.2 Overview of Disciplines in EPIC Roadmap

Project management (A) provides the approaches and assets for effective project planning and management, corresponding to general project management methodologies. Quality management defines tasks to plan and monitor project quality, control and confirm work products, and assess project processes and standards.

Organisational change management (B) addresses adoption and sustainability of the change initiatives. It encompasses an integrated approach to communications, stakeholder engagement and preparation, training, and organizational alignment and transition.

Process and requirements management (C) addresses business process design, package software development, user requirements definition and management, business process controls, functional testing, and business continuity planning.

Information management (D) addresses the value, usefulness, accessibility, and security of an organization's data and information assets. It includes tasks related to data and information requirements, standards, management, and security and controls.

Technology management (E) defines the approach to design, develop, test, and operate the infrastructure and software components required for the system applications.

4.1.3 How to Use the EPIC Roadmap

In general, the EPIC roadmap will be used by city administrations and relevant stakeholders in the development of EPIC services on the EPIC platform. The roadmap will facilitate the process from initiating the EPIC service implementation project to the operation of the service itself.

The EPIC roadmap will be publicly available as an online tool (e.g. web portal) as well as a brochure (e.g. pdf document) that can be collected from the EPIC website (http://www.epic-cities.eu/). A set of templates for the EPIC roadmap will be made publicly available.

For the use of the EPIC roadmap, the following steps could be taken:

- Identify and assemble a team (from city administration and possible involved service and solution providers) that will be responsible for the initiation and execution of the Vision phase
- Start with executing the initial Vision phase and verify the deliverables and gateways for moving to the following phases of the EPIC roadmap
- Execute the phases of the EPIC roadmap in sequential order, from the initial Vision phase to the final Operate phase
- Use and adapt the provided templates according to the specific requirements of the EPIC service development project

4.2 Detailed Description of EPIC Roadmap

In this section, the different phases of the EPIC roadmap are described in more detail based on selected methodologies. For each phase, the objective is described outlining the aspects to be achieved. Next, the tasks and work products are provided and described for each discipline. The tasks within each discipline are performed by a specific role in the EPIC service implementation project. The process gateway defines the elements that need to be provided or approved in order to successfully progress to a next phase. Finally, a number of supporting templates are defined for selected work products in each phase.

The templates are provided for a set of work products that are identified as most specific for the execution of an EPIC service implementation project. These templates will be further developed and adapted to the EPIC context, based on the EPIC pilot developments. For the majority of the work products, possible templates could be derived from general project management methodologies and are not EPIC specific.

4.2.1 Vision Phase



Objective

The objective of the vision phase is to

- Define a vision for the city to become a smart city
- Define the business case for the implementation of an EPIC service from the EPIC service catalogue or from specific SME solution, on the EPIC platform
- Develop the project charter for the specific EPIC project, including the budget and master plan to clearly define the goals, expected benefits as well as the project approach, scope, and key milestones

Tasks and Work Products per Discipline

Discipline	Tasks	Work Products
A. Project Management *Performed by*	The business case is developed for the implementation of a specific EPIC service in a city, in order to translate the vision for the city into actual	EPIC Smart City business case Business case scope statement, workplan and financial

Project Management Team	solutions. In the business case, the scope statement, estimates of benefits, costs and key assumptions for the different alternatives are investigated. It will provide the relevant stakeholders with information needed to make investment decisions on the proposed EPIC projects. Based on the agreed business case, the project charter is developed and will define the goals and expected benefits of the project. It will address the high-level project scope, assumptions, constraints and other important project information.	analysis EPIC service ownership cost estimate EPIC project charter
B. Organisational Change & Stakeholder Management *Performed by Change Management Team*	The change management strategy is defined and will encompass an integrated approach to communications, stakeholder engagement and preparation, training, and organisational alignment and transition. The relevant stakeholders are identified and a process of involving stakeholders is designed in order to build commitment to the project	Change management strategy
C. Process & Requirements Management *Performed by Functional Team*	Specific customer interviews could be conducted in order to analyse and understand the customer behaviours, needs and preferences. This will provide necessary inputs for the evaluation of alternatives in the business case. For a transformational project, the conceptual process model and process changes are investigated in visioning workshops.	Customer needs analysis Business process vision
D. Information Management *Performed by*	As a first step, the critical data sources are identified for key master data, transactional data and historical data	Critical data sources

Technical Team	that will be involved in the EPIC service. Technical metadata standards could be defined in order to enforce consistency and appropriate reusability of data across systems.	
E. Technology Management *Performed by Technical Team*	The security environment for the EPIC platform and the EPIC service is assessed and applicable security requirements are documented. The policies and procedures at city administrations are compared to the EPIC platform policies and procedures. The security strategy for the EPIC platform and services is adapted for a set of security risk areas (e.g. operational security, data management and storage, disaster recovery, audit and compliance, etc.).	EPIC platform and services security strategy

Process Gateway

In order to move to the next phase, the defined work products represent the minimum results that need to be delivered and approved in this phase. Without those approved deliverables, the project for the implementation of the EPIC service may have important delivery risks moving forward.

Supporting Templates

- Business Case template (EPIC - 1Vision - Business Case - Template.doc)
- Project Charter template (EPIC - 1Vision - Project Charter - Template.doc)
- Change management roadmap tool (EPIC - Change Management Roadmap - Tool.pdf)

4.2.2 Plan Phase



Objective

The objective of the plan phase is to

- Define the specific EPIC service to be implemented and assemble the relevant stakeholders from EPIC for the project
- Initiate and plan the project for the implementation of an EPIC service by developing the project and quality management plan, the work plan and deliverables log

The project management plan defines the project organization, method scope, project tools, and the processes for managing risks, issues, change requests, action items, decisions, deliverable acceptance, budget and project status.

A quality management plan is defined to address the project's quality objectives and activities for quality assurance, control and support.

General accepted project management methodologies could be used for the development of this phase.

Tasks and Work Products per Discipline

Discipline	Tasks	Work Products
A. Project Management *Performed by Project Management Team*	The project and quality management plan are developed for the initiation of the specific EPIC service implementation project. The project management plan is created during project planning and maintained throughout the life of the project. It will be a comprehensive plan for how the project is organised and how it will be executed, monitored and controlled. The quality management plan includes the tasks to plan and monitor project	Project management plan Quality management plan Deliverables, issues, risks, action items, decisions and change requests log Budget and cost tracking sheet Project status report

	quality, control and confirm work products, and assess project processes and standards. Specific project management documents are created and agreed upon that will be used throughout the project, including project logs and tracking sheets, status reports.	
B. Organisational Change & Stakeholder Management *Performed by Change Management Team*	Determine an organisation's capacity to change and identify opportunities and barriers to change that must be addressed for the project to move forward effectively. Provide initial onboarding materials for the team members of the EPIC project. Provide an overall strategy for the communications during project execution and set the objectives for "what" will be communicated to "whom" and "when". The communication strategy should include possible publicity and marketing efforts towards non-addressable users.	Change readiness assessment results Communications strategy EPIC project onboarding materials
C. Process & Requirements Management *Performed by Functional Team*	The high-level scope information needs to be described for the business processes that are affected by the project. The scope statement clearly states which processes and sub-processes are in scope and which are not. The roles need to be identified and defined that are required to support the organisation for the EPIC service.	Business process scope statement Business role definition
D. Information Management *Performed by Technical Team*	Identify and describe the logical, high-level structure for all the master data and reference data in scope of the EPIC service. Provide the data description, transmission standards, and formats	To-be data design

	for the integration data requirements.	
E. Technology Management *Performed by Technical Team and Operations Team*	Analyse the current state of the technology infrastructure and develop a roadmap for future state technical infrastructure that includes hardware, network, and software components. The roadmap validates whether or not the infrastructure satisfies the configuration and support requirements for the EPIC service. Conduct assessments from business, information, and technical perspectives in order to understand the current identity and access management environment. Conduct assessments of the current configuration and operation strategies and policies in order to identify gaps and provide recommendations on the configuration and operation strategy and policies.	Technical infrastructure roadmap Identity and access management assessment Configuration and operation strategy and policy assessment

Process Gateway

In order to move to the next phase, the work products are the minimum results that need to be delivered and approved in this phase. Those approved deliverables ensure that the quality and the execution of the project is aligned between the different stakeholders.

Supporting Templates

Templates could be derived from general project management methodologies.

- Project management plan template (EPIC – 2 Plan – ProjectManagementPlan – Template.doc)
- Quality management plan template (EPIC – 2 Plan – QualityManagementPlan – Template.doc)

4.2.3 Design Phase



Objective

The objective of the design phase is to

- Document the business processes, business requirements, change impacts, data architecture, software configuration, security and privacy requirements, and technical infrastructure requirements
- Create a detailed design for the EPIC service on the EPIC platform, including the products, solutions, infrastructures, external services or content
- Develop a comprehensive testing strategy and approach for the EPIC service
- Define detailed testing scenarios based on the business requirements
- Perform a proof of concept prototype showing how the end-users will use the EPIC services

Tasks and Work Products per Discipline

Discipline	Tasks	Work Products
A. Project Management *Performed by Project Management Team*	Adjust and refine the project management plans and procedures as the project progresses and evolves. Provide the necessary project logs, including a follow up of the deliverables, issues, risks, change requests, etc. Provide a budget and cost tracking sheet for the specific reporting period and deliver the project status report to the EPIC project governance team.	Project management plan Deliverables, issues, risks, action items, decisions and change requests log Budget and cost tracking sheet Project status report
B. Organisational Change &	Stakeholders may be less committed to the project than they appear to be. Therefore, action plans need to be	Stakeholder action plan Initial stakeholder

Stakeholder Management *Performed by Change Management Team*	created for all stakeholders. The activities need to be documented for involving the identified key stakeholders and other stakeholder groups in the project and change process. Create initial communications material that should prepare key stakeholders to answer project questions on the scope, vision, and change imperative. In short, the initial communications need to answer the who, what, why, when, and how questions about the project. Identify change impacts resulting from process, policy, technology, performance management, and organisation structure changes. This includes review of process design changes, policy changes, organisation or technology changes, etc.	communications Change impact summary
C. Process & Requirements Management *Performed by Functional Team*	Analyse the as-is business processes included in the project scope in order to understand the city administration's current processes and the differences between the current-state and the to-be integrated process designs. Describe the relevant use cases for the EPIC service. Determine the requirements and set the objectives for a proof of concept prototype. The proof of concept configuration includes organisational elements, data and process configurations, and configuration settings that are made in the non-production environment of the EPIC platform. Define the overall testing scope and approach in order to verify that the service will meet business	Business process analysis documentation Proof of concept prototype EPIC overall test approach

	requirements. This includes defining the unit testing, functional and integration testing and user-acceptance testing approach. The functional integration test focuses on testing all elements of an end-to-end business process. The user-acceptance test aims to achieve a sign-off by the responsible stakeholders, and could include possible Living Lab testing with selected end-users.	
D. Information Management *Performed by Technical Team*	Design the subject areas of the conceptual data model and identify the relationships between the subject areas that are central to the business activities. Develop the data entities, their corresponding attributes, and the relationships among them as defined by the business processes in the logical data model. Design the future data architecture and the high-level interaction of systems based on a review of the current architecture assessments and the new requirements for the EPIC service. Identify privacy requirements based on applicable laws, regulations, city policies, contracts, and strategy. Document the applicable privacy-related legal, regulatory, city policy, and contractual requirements organised into the defined categories and subcategories.	Data models Data architecture and integration approach Privacy and data protection requirements and framework
E. Technology Management *Performed by Technical Team and Operations Team*	Define the functional specifications for application-level interface and data interchange. These specifications are validated or refined to ensure that they provide a high-level understanding of what needs to be created or modified to integrate the solutions and services	Interface and workflow functional specifications EPIC service technical architecture EPIC platform security policies, standards, security model and implementation

	into the EPIC service. Develop the technical solution architecture for the EPIC service, including the software, infrastructure and integration components architectures. Document the security policies and standards applicable for the city and define a security model and implementation plan for the EPIC service on the EPIC platform. Define the requirements for identity and access management and develop a corresponding design for the EPIC service. Detail the deployment strategy for the EPIC service on the EPIC platform within the city, including the transition of business processes and solution components.	plan Identity and access management solution requirements and design EPIC service deployment strategy and support plan

Process Gateway

In order to move to the next phase, the work products are the minimum results that need to be approved and delivered in this phase.

Supporting Templates

- EPIC overall test approach template (EPIC – 3 Design – Overall test approach – Template.doc)

4.2.4 Build Phase



Objective

The objective of the build phase is to

- Configure the products and solutions for the EPIC service based on the design
- Develop the EPIC service on the development environment of the EPIC platform, using the defined portal, infrastructures, external services and content
- Perform the testing of the EPIC solution and service as defined in the test strategy and approach, using the testing environment of the EPIC platform
- Develop end-user training materials for the EPIC service

Tasks and Work Products per Discipline

Discipline	Tasks	Work Products
A. Project Management *Performed by Project Management Team*	Adjust and refine the project management plans and procedures as the project progresses and evolves. Provide the necessary project logs, including a follow up of the deliverables, issues, risks, change requests, etc. Provide a budget and cost tracking sheet for the specific reporting period and deliver the project status report to the EPIC project governance team.	Project management plan Deliverables, issues, risks, action items, decisions and change requests log Budget and cost tracking sheet Project status report
B. Organisational Change & Stakeholder Management *Performed by Change*	Determine an organisation's capacity to change and monitor the effectiveness of change management activities completed. Identify opportunities and barriers to change that must be addressed for the project to move forward effectively.	Change readiness assessment report Ongoing communications material Project team training materials and log

Management Team	Collect feedback as the project progresses to determine whether communications are effective and successful. Consistently use the feedback evaluation, communications feedback report, and communications log tools in order to achieve reliable results. Develop or acquire the training materials to meet the training needs for the project team. For the individual training courses, detail the format of each course, the planned training sessions, participants, and their completion records.	
C. Process & Requirements Management *Performed by Functional Team*	Document the step by step instructions for completing a task using the EPIC service. A business process procedure should be written for each in-scope task / transaction.	Business process procedures
D. Information Management *Performed by Technical Team*	Test the effectiveness of the privacy and data protection control activities during integration testing to verify functional, performance and reliability. Create privacy and data protection test cases that will represent the conditions or issues to be tested.	Privacy and data protection control activities
E. Technology Management *Performed by Technical Team and Operations Team*	Develop the integration common services and components for the EPIC service. Establish a security vulnerability assessment program for operating EPIC service and platform, external services or connections. Configure and customize installed identity and access management components based on the identified solution requirements for the EPIC service.	Integration common services and components EPIC platform security vulnerability assessment program Identity and access management solution component installation and test results Production backup and recovery test materials

	Create the materials for testing backup and recovery mechanisms and to execute the backup and recovery test, which examines production system failure. The test should simulate an actual failure of the service, as closely as possible. Provide the city administrations with an approach if any part of the cutover fails for the EPIC service. Create and document criteria for evaluating the state of readiness for the go-live date of the new EPIC service. Conduct the functional integration tests according to the overall functional test approach. The testing of the service occurs on the prepared platform testing environment and is a well-orchestrated replication of system and business processes.	EPIC service release readiness criteria Functional integration test materials and environment

Process Gateway

In order to move to the next phase, the work products are the minimum results that need to be approved and delivered in this phase.

Supporting Templates

- EPIC service release readiness criteria template (EPIC – 4 Build – Service release readiness criteria – Template.doc)

4.2.5 Deliver Phase



Objective

The objective of the deliver phase is to

- Prepare for and execute system and business cutover of the EPIC service to the production environment of EPIC platform, which includes conducting user-acceptance testing and performing end-user training
- Establish an operations and support organisation by the EPIC service provider to help the end-users after cutover
- Conduct go/no-go evaluations by the city administrations in order to decide on the cutover to the operational EPIC service

Tasks and Work Products per Discipline

Discipline	Tasks	Work Products
A. Project Management *Performed by Project Management Team*	Adjust and refine the project management plans and procedures as the project progresses and evolves. Provide the necessary project logs, including a follow up of the deliverables, issues, risks, change requests, etc. Provide a budget and cost tracking sheet for the specific reporting period and deliver the project status report to the EPIC project governance team.	Project management plan Deliverables, issues, risks, action items, decisions and change requests log Budget and cost tracking sheet Project status report
B. Organisational Change & Stakeholder Management *Performed by*	Follow up on the action plans for the involvement of all relevant stakeholders in the project and change process. Plan, design, develop, and deliver the end-user learning program. The	Stakeholder action plan End-user training materials Project team training log

Change Management Team	training sessions can be organised as in-class, instructor-led sessions or as remote training presentations. Deliver the scheduled training for the project team and update and maintain the project team training log with the course conduct information.	
C. Process & Requirements Management *Performed by Functional Team*	Execute an analysis and validation of the EPIC service meeting the initially defined requirements. Define a comprehensive transition plan for the business processes impacted by the EPIC service.	EPIC service requirements validation Business process transition plan
D. Information Management *Performed by Technical Team*	Verify the privacy and data protection control activities and to update the privacy and data protection system control framework with any results from unit and integration testing.	Privacy and data protection system control framework
E. Technology Management *Performed by Technical Team and Operations Team*	Perform a security vulnerability assessment for operating the EPIC service and platform, external services or connections. Execute the user-acceptance test cases in the user-acceptance test environment according to the user-acceptance work plan; and confirm the results. Develop an integrated team plan that details deployment activities and which presents the sequence of activities, resource requirements, and timing and dependencies needed to set up and initialise the production environment, to migrate data, and implement new business processes. Evaluate the readiness for going live and make a decision as to whether or not the EPIC service will go live according to the go-live date on the	EPIC service security vulnerability assessment report User-acceptance test results Cutover and deployment plan EPIC service release go/no-go criteria evaluations

cutover plan and project plan.

Process Gateway

In order to move to the next phase, the work products are the minimum results that need to be approved and delivered in this phase. To move from the deliver phase to the operate phase, the deployment and cutover of the EPIC service to an operational environment should be finalised and the support organisation should be established.

Supporting Templates

- EPIC service cutover and deployment plan template (EPIC – 5 Deliver – Service cutover and deployment plan – Template.doc)

4.2.6 Operate Phase



Objective

The objective of the operate phase is to

- Transition from the readiness activities of a preproduction environment to actual business operations of the EPIC service on the EPIC platform, provided and supported by the EPIC service provider

Tasks and Work Products per Discipline

Discipline	Tasks	Work Products
A. Project Management *Performed by Project Management Team*	Adjust and refine the project management plans and procedures as the project progresses and evolves. Provide the necessary project logs, including a follow up of the deliverables, issues, risks, change requests, etc. Provide a budget and cost tracking sheet for the specific reporting period and deliver the project status report to the EPIC project governance team. Based on the initial business case for the EPIC project, a service provisioning document should be developed and approved for the operation of the EPIC service. Obtain approval to begin project closure activities and ensure and confirm that the project has completed all relevant project closure activities and is ready to be closed.	Project management plan Deliverables, issues, risks, action items, decisions and change requests log Budget and cost tracking sheet Project status report EPIC service provisioning document EPIC project closure report

B. Organisational Change & Stakeholder Management *Performed by Change Management Team*	Finalise the ongoing communications to the relevant stakeholders for the closure of the EPIC project. Roll out the publicity and marketing communications to the public and non-addressable users.	Ongoing communications material
C. Process & Requirements Management *Performed by Functional Team*	Perform a post-implementation review of the controls, including a testing of selected controls in order to verify that they are operation as designed.	Controls post-implementation plan
D. Information Management *Performed by Operations Team*	Implement the identified remediation plans and document new or changed controls in the privacy and data protection control activities. The control activities should include action items, owners, remediation plans, development requirements, and verification requirements.	Privacy and data protection controls post-implementation plan
E. Technology Management *Performed by Operations Team*	Run security reports, monitor users and their security access, and perform security audits for the production environment of the EPIC platform and service. Document and implement release management controls, including error tracking, error correction, and subsequent release management.	EPIC production security administration results Release management controls

Process Gateway

This step is a continuous step in operating an EPIC service on the EPIC platform, and has no process gateway.

Supporting Templates

- EPIC service provisioning template (EPIC – 6 Operate – Service provisioning – Template.doc)

5 Conclusions

In this document, the resulting stakeholder data and the comprehensive project management framework for cities is described in order to develop the EPIC roadmap. In the stakeholder data repository, a conceptual model and identified stakeholders are described for an EPIC service. In the project management framework, a generic EPIC roadmap is proposed based on selected methodologies. This roadmap is structured in different phases and disciplines that include the tasks and work products to be executed in an EPIC project.

Concrete templates will be provided for a set of work products that are identified as most specific for the execution of an EPIC project. These templates are provided as generic templates that need to be further aligned and adapted to the EPIC context. In the next phase of the roadmap development, the generic EPIC roadmap will be tested in the specific EPIC context in collaboration with the three pilots and relevant stakeholders. As a result, the specific templates in the roadmap (including the business case, project charter and service provisioning document as most important) will be updated and included in the functional and business EPIC roadmap.

6 References

[1] EPIC Deliverable D2.1 “Project Vision”, http://www.epic-cities.eu, 2011
[2] EPIC Deliverable D2.2 “Stakeholder (User) Workshops’ Results”, http://www.epic-cities.eu, 2011

Annex I: List of Abbreviations

Abbreviation	Description
BPaaS	Business Process-as-a-Service
DEL	Deloitte
EPIC	European Platform for Intelligent Cities
IaaS	Infrastructure-as-a-Service
ICTPSP	ICT Policy Support Programme
IOC	Intelligent Operations Center
IoT	Internet of Things
IPR	Intellectual Property Rights
ISV	Independent Software Vendors
IT	Information Technology
PaaS	Platform-as-a-Service
PM	Project Management
SaaS	Software-as-a-Service
SME	Small and Medium Enterprise
WP	Work Package

TEMPLATE

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EPIC Roadmap

1 Vision Phase – EPIC Smart City Business Case Template

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Statement of originality:

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Annex 1 – Business Case Development Approach

TEMPLATE

Project Acronym: EPIC

Grant Agreement number: 270895

Project Title: European Platform for Intelligent Cities

EPIC Roadmap

1 Vision Phase – EPIC Project Charter Template

Version: 0.1

Authors:

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C	Confidential, only for members of the consortium and the Commission Services	X

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TEMPLATE

Project Acronym: EPIC

Grant Agreement number: 270895

Project Title: European Platform for Intelligent Cities

EPIC Roadmap

1 Vision Phase – Change Management Roadmap Tool

Version: 0.1

Authors:

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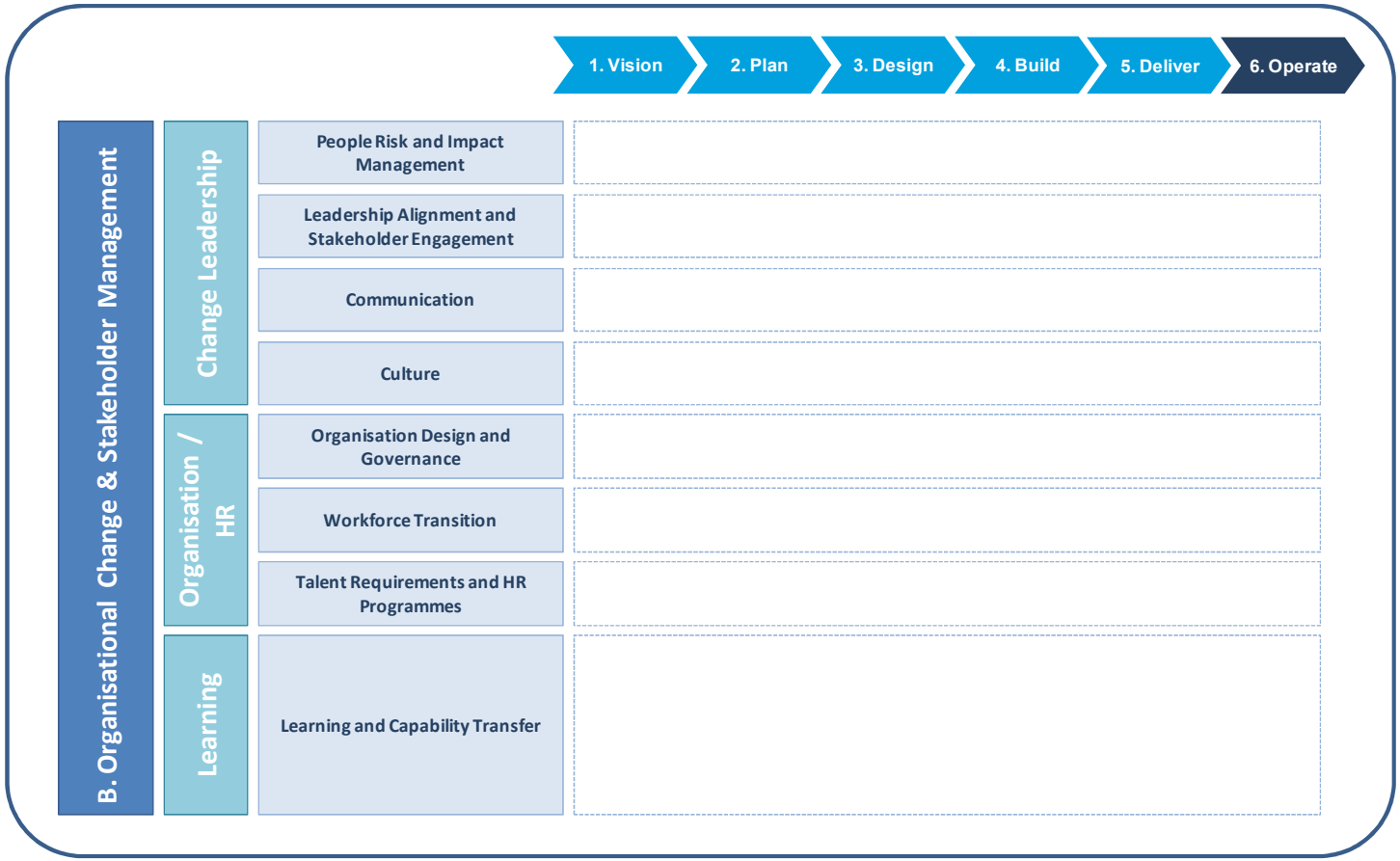
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1 Change Management Roadmap Tool



Existing framework to be customised to EPIC in the next phase

TEMPLATE

Project Acronym: EPIC

Grant Agreement number: 270895

Project Title: European Platform for Intelligent Cities

EPIC Roadmap

2 Plan Phase – Project Management Plan Template

Version: 0.1

Authors:

Michel Dirkx (Deloitte)

Werner Keutgens (Deloitte)

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Project co-funded by the European Commission within the ICT Policy Support Programme		
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TEMPLATE

Project Acronym: EPIC

Grant Agreement number: 270895

Project Title: European Platform for Intelligent Cities

EPIC Roadmap
2 Plan Phase – Quality Management Plan Template

Version: 0.1

Authors:

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TEMPLATE

Project Acronym: EPIC

Grant Agreement number: 270895

Project Title: European Platform for Intelligent Cities

EPIC Roadmap

3 Design Phase – EPIC Overall Test Approach Template

Version: 0.1

Authors:

Michel Dirkx (Deloitte)

Werner Keutgens (Deloitte)

Marc Van Gastel (Deloitte)

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TEMPLATE

Project Acronym: EPIC

Grant Agreement number: 270895

Project Title: European Platform for Intelligent Cities

EPIC Roadmap

4 Build Phase – EPIC Service Release Readiness Criteria Template

Version: 0.1

Authors:

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Marc Van Gastel (Deloitte)

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TEMPLATE

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Grant Agreement number: 270895

Project Title: European Platform for Intelligent Cities

EPIC Roadmap

5 Deliver Phase – EPIC Service Cutover and Deployment Plan Template

Version: 0.1

Authors:

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TEMPLATE

Project Acronym: EPIC

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Project Title: European Platform for Intelligent Cities

EPIC Roadmap

6 Operate Phase – EPIC Service Provisioning Template

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Authors:

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