Realisation Plan
Dynamic Professional Knowledge Base

Content

Version 1.0
dd 26-09-2012

Summary

The CLGE decided to take the initiative for an online collection (*Base*) of relevant information (*Knowledge*) about the profession of Geodetic Surveyors (*Professional*) in all CLGE Member countries. The information should be regularly updated (*Dynamic*). This collection is referred to as the *Dynamic Professional Knowledge Base* (DPKB).

In march 2012 a three phase approach is presented for the process to a full implemented DPKB . The first phase, the elicitation phase, is used to complete the list of requirements and to finalise the preconditions for the realisation of a DPKB. The final product of this phase is a realisation plan for phase two. In the second phase a version 1.0 of the DPKB will be developed. The DPKB will become operational in the implementation phase three and it is considered that following the DPKB in its operational environment is an important conclusion of the project.

Phase 1

At this moment the first phase is accomplished and the results phase are presented in a realisation plan for the second phase. All necessary information is available to start with the development of a DPKB. A Task Group, appointed by the CLGE and consisting of 7 member states and IG-Parls, helped us with their feedback and information on requirements of a DPKB, requirements on content and functionality.

For the content requirements, content themes are created to present a structure for the DPKB. Based on the feedback of the Task Group and CLGE Board a priority on these themes is established, either "Must Have" or "Nice to have". It is advised to focus on the most important and easily available information. A questionnaire for the Task Group allowed to prepare a concept on the functionality of a DPKB. It can be concluded that the functionality should be kept simple with only basic options.

Based on analyses of the results, two scenarios are presented for the realisation of the DPKB. After consultation with the CLGE Board it is noted that a "growth scenario" should be developed further. This scenario starts with the "must have" content themes and gives the opportunity to implement the "nice to have" content themes during phase three.

Realisation Plan

In phase two, version 1.0 of the DPKB will be developed according the "growth scenario". This means that version 1.0 will focus on the most necessary content and will only be developed based on the input, data and information of the Task Group.

During the realisation a roadmap will guide us through the process. We divided the process in a realisation part, an information collection part and an implementation part. These parts will lead finally not only to a DPKB version 1.0 but also to a blueprint of DPKB version 2.0. This blueprint is a document which will give all needed information on how to get a full developed DPKB based on version 1.0 and how to maintain the DPKB.

The task group plays an important and crucial role in order to complete a version 1.0 of the DPKB. Their tasks will be to review proposals (e.g. process definition of information collection), review versions of the DPKB, collect data and information for their country and validate and check information implemented in the DPKB. The CLGE Board will approve the deliverables of the project and will take decisions on specific moments during the realisation. It is planned to present the results of the realisation phase at the General Assembly at the end of march 2013.

1. Introduction

The CLGE requires the online collection (*Base*) of relevant information (*Knowledge*) about the profession of Geodetic Surveyors (*Professional*) in all CLGE Member countries. The information should be regularly updated (*Dynamic*). This collection is referred to as the *Dynamic Professional Knowledge Base* (DPKB).

> DPKB aims
> It will support CLGE to represent and promote the interests of the Geodetic Surveyors profession towards the European Commission (among others);
> It will be an authoritative source of information about the geodetic profession for individuals and organisations.

1.1 Realisation Plan DPKB

This realisation plan is part of the process to this full implemented DPKB. A three phase approach is used for this process.

> Phase 1: Requirements elicitation
> to complete the list of requirements (content, functional and non-functional) and to make several other preparatory analyses this phase will produce a product realisation plan for the next phase;
> Phase 2: Product realisation
> In this phase we will develop the DPKB version 1.0 as well as undertake the processes to collect initial content and prepare for implementing the full DPKB;
> Phase 3: Implementation
> this phase will lead to a full implemented DPKB as the final result.

The realisation plan is the final product for phase 1 and will therefore be the start for the next phase. Together with this realisation plan, a first draft of the DPKB has been developed. This first draft is presented separately.

> First draft
> This first draft is a dummy of the DPKB based on the realisation plan. This draft is a visualization of what the DPKB could look like and how a DPKB could be realised from the users perspective. It is neither a prototype nor an technical implemented example. The sketches give a concept idea.

In this realisation plan only a summary of the results of phase 1 are presented. All background information is available separately.

1.2 Preconditions

The CLGE board decided on forehand to focus on a "light alternative" for the implementation of the DPKB. This realisation plan has to fulfil that scenario.

> Light alternative
> This alternative foresees the implementation of a very flexible solution to gather and secure data in various formats, to establish links and create a rugged structure which can be further developed during the realization.
> This solution would entail the implementation of a custom "wiki like" database. A wiki is typically a collaboration type of system, inviting the community to participate and write or edit pages, while moderators keep control on what is published. Hypertext linking is used to connect pages.

A task group has been formed by the CLGE. The task group consists of 7 member states and IG-Parls. The task group will be used to gather specific input and feedback on proposals for the DPKB and they have to be involved during the whole process of realisation.

Task Group
CLGE: Rudolf Kolbe
Austria: Cornelia Hammerschlag
Bulgaria: Angel Yanakiev
Estonia: Hugo Toll
Germany: Jens Riecken
Ireland: ? (Change of contact person)
Spain: Ajejandro Guinea de Salas
Sweden: Monica Lagerqvist-Nilsson
IG-Parls: Maurice Barbieri

2.   Results Phase 1

Within this section the concept content and functionality of the DPKB is presented as part of the results of phase 1. The results are based on the feedback of the task group and CLGE Board.

2.1 Users/ User groups

For the foreseen use of the DPKB it is important to identify explicitly the different users of the DPKB. Different users will have different demands and wishes on content and functionality, which will have impact on the DPKB. By combining users and DPKB, a good base is created for the success of the DPKB. These users/ user groups are placed in figure 2.1 with their relation and interest in the DPKB, and their influence on the realisation of the DPKB.

Users/ User groups
- CLGE Board/ delegates and partners/ associations;
- National professional and business organisations/ associations;
- Individual surveyor and job seeker;
- Surveying companies; the private held surveying and survey related companies
- Non-private/ governmental organisations and EU institutions/ commission;
- Educational organisations; the organisations educating surveying or related professions
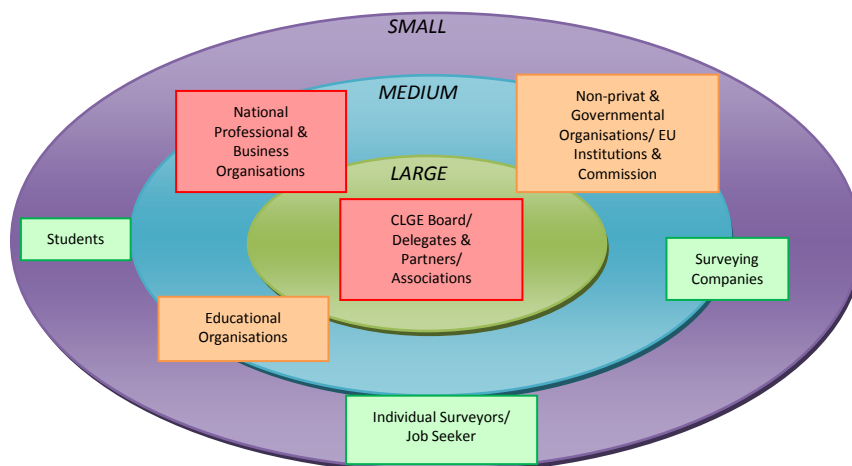- Students

Figure 2.1: The users/ user groups with their relation/ interest in the DPKB (small/ medium/ large) and their influence on the realisation of the DPKB (red=high influence, orange=medium influence, green= low influence)

2.2 Content

Content themes have been created to build a structure for the DPKB. The Task Group and CLGE Board gave their feedback on the proposal, resulting in a prioritised list of content themes. The priority is either "Must Have" or "Nice to have".

Advised is to focus on the most important and easily available information. The job bank was found very interesting, but only as nice to have. The Task group did not suggest other content to be included in the DPKB. The overall result is presented in table 2.1.

MAIN CONTENT THEME	SUBTHEME	PRIORITY	DESCRIPTION
CLGE Documentation		Must have	All documentation and information of CLGE for internal or external use
Representation		Must have	The representation and governance structure of the surveyor on member state level
Legal framework		Must have	The legislation on surveying or survey-related. The legal framework distinguishes the EU-legislation and implementation within the member states, and focuses on the national legislation
Professional Recognition		Must have	Information in relation to the professional recognition of the surveyor
Education/ Research		Partly must have	Provides information on relevant education programmes, courses and research facilities
	Educative indicators	Nice to have	All educative relevant statistical and semi-statistical information
Commercial activities		Nice to have	Provides information about the private commercial activities. It can be more or less a EU survey-company-database with relevant information.
	Economic indicators	Nice to have	All economic relevant statistical and semi-statistical information
Government Activities		Nice to have	Provides information on the activities as part of the public and semi-public domain.
Social Network		Nice to have	The creation of or activities to create a social network for surveyors
Job Bank		Nice to have	The creation of or activities to create a marketplace for job seekers and vacancies

Table 2.1: Priority of the DPKB Content

Each content theme, prioritised as must-have, is described by using sub-items. These sub-items define the structure of the DPKB and will be implemented into the DPKB during the realisation phase. **Appendix A** shows all "must-have" themes and sub-items as the final result of the concept content.

2.3 Functionality

The DPKB is a database which needs functionality. We distinguish overall functionality, user/ use functionality and portal management/ administrator functionality. For each of these functionalities a questionnaire for the Task Group was prepared, which allowed us to prepare a concept on the functionality of a DPKB.

The functionality should be kept simple with only basic options. In detail this means an own website with 'look and feel' of the CLGE, only in English but with the possibility of Google translate. The search facility, as well as the analyses and download functionality, should be kept as simple as possible. The helpdesk should have a low service level and only reachable by email for technical issues. For questions concerning content there should be a link to the CLGE delegates.

For the input of data there must be a login with secure web management. It is however not decided whether an open or closed system should be implemented. However the Task Group recommends to start with a closed and checked system. This means that only specific users with specific rights can provide input and the input is partly checked and validated.

2.4 Scenario's

Based on the analyses of the content two scenarios are presented on the DPKB. After consultation with the CLGE Board it is noted that Scenario 2 should be developed further. Scenario 1 will be used as fall back scenario.

Scenario 1
Only must haves. We skip and forget the Nice to Haves.
Minimal database without possibilities for further development.

Scenario 2
Start with "must haves". Quick scan of availability of "Nice to haves" during the realisation phase. When finishing the must haves, a choice can be made which of the "nice to haves" should be implemented in the next phase.
The first version of the database must have possibilities to further develop the DPKB into a more comprehensive database.

3.   DPKB Roadmap

In this section we present a roadmap which shows all activities and products we foresee to be carried out or developed. The roadmap focuses on phase 2 and ends with a Blueprint on the full DPKB foreseen for April 2013. The roadmap includes products to be reviewed by the Task Group and CLGE Board. These products are crucial steps to realise a DPKB that fits the expectations. The roadmap in figure 3.1 only shows the main products. **The full roadmap is presented in Appendix B.** The roadmap shows the different parallel tracks each focusing on different parts of the realisation of the DPKB leading to a DPKB version 1.0 and a Blueprint. Each part of the roadmap is described in detail in section 4.
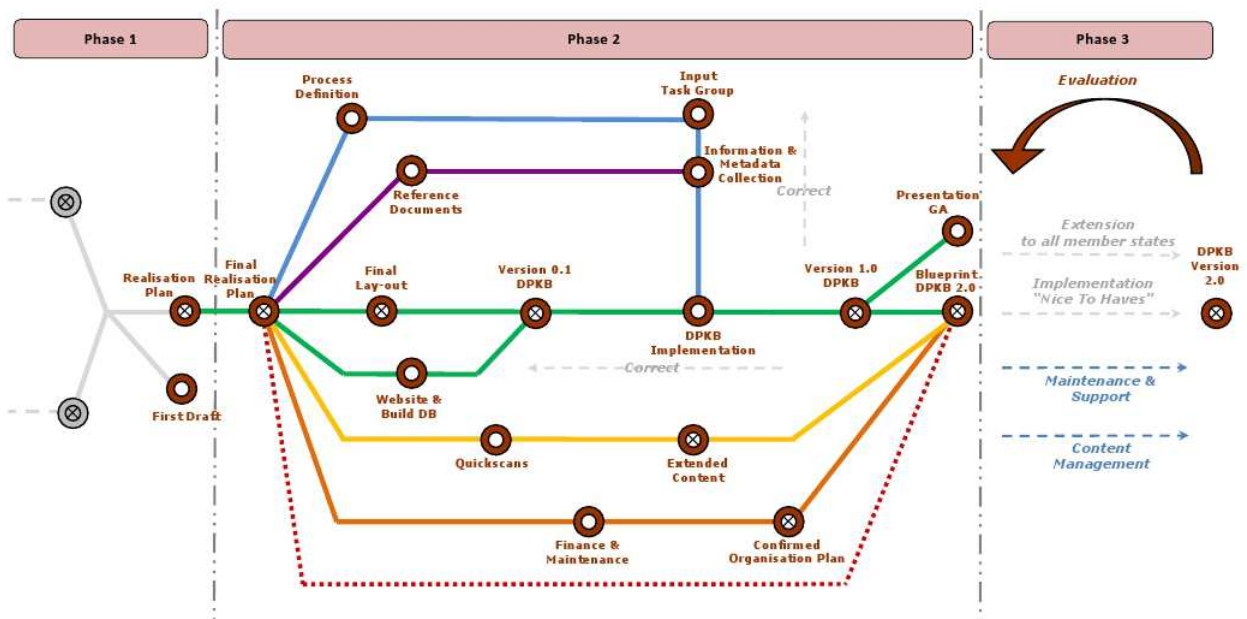

Figure 3.1: A simplified roadmap of phase 2

4.   Phase 2: Realisation

In this section we describe our activities and products in phase 2. It will be described into detail using parts of the roadmap.

4.1 Results

The final result of phase 2 is not only version 1.0 of the DPKB, but will also consist of a Blueprint for the realisation of the full DPKB.

DPKB version 1.0
A working version 1.0 of the DPKB is developed. This version is developed based on this realisation plan. This version of the DPKB gives full insight in the functionality and content of the DPKB.

Blueprint for the full DPKB
The blueprint of a full developed DPKB is a document which will give all needed information on how to get a full developed DPKB based on version 1.0 and how to maintain the DPKB.

Presentation
A presentation for the CLGE Board and General Assembly is planned. The DPKB version 1.0 will be presented.

4.2 Preconditions

The realisation in phase 2 is based on the results of phase 1. Therefor the following preconditions will be part of phase 2.

The version 1.0 of the DPKB will be developed according to scenario 2 as decided by CLGE Board. However the realisation phase will only focus on the realisation of the "must haves" both in content as in functionality. This means that version 1.0 will reflect the results as presented in section 2. The realisation plan is also only developed for the Task Group. Only the Task Group members will be used to finalise the DPKB version 1.0. This is visualised in figure 4.1. In this figure the version 1.0 is placed as part of the Full DPKB. The Full DPKB as shown here is the maximum result of the growth scenario as described in section 2.
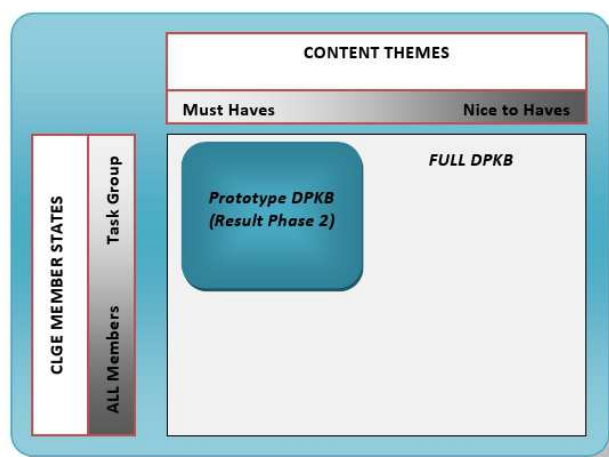

Figure 4.1: The version 1.0 focuses on a part of the content themes and member states.

4.3 Roadmap Step by Step: Realisation

This part describes in detail the part of the roadmap that focuses on the realisation of the database itself, see figure 4.2.
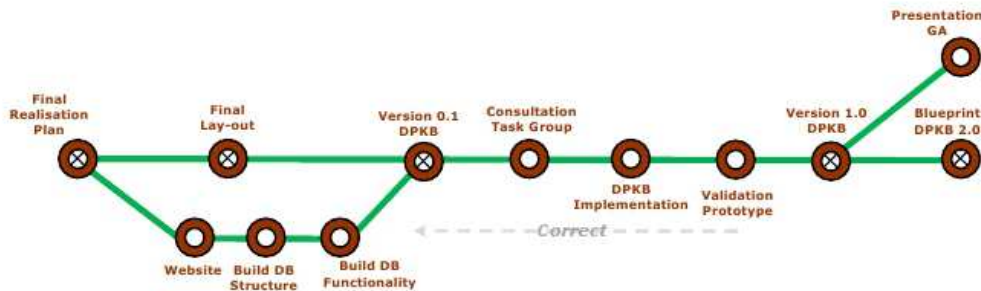

Figure 4.2: A part of the roadmap focusing on the realisation of the database.

We foresee the following steps to version 1.0 of the DPKB. First of all we will start with a website and the linking to the CLGE website. The database structure and functionality need to be developed and build and accordingly implemented on the website. Parallel we start to work on the final lay-out of the DPKB. Both will be combined to version 0.1. We foresee this version not to be already an online version. This version 0.1 will first of all be developed offline. After consultation of the Task Group the proposed changes will be made and all data and information (see section 4.4) will be implemented and tested and validated accordingly. This validation step also gives the opportunity to correct the DPKB if necessary. If the validation is accepted version 1.0 is available and is ready to go online. Finally all information gathered will be input for the blueprint on the full DPKB.

4.4 Roadmap Step by Step: Information Collection

This part describes in detail the part of the roadmap that focuses on the collection of the information as input for the database, see figure 4.3.
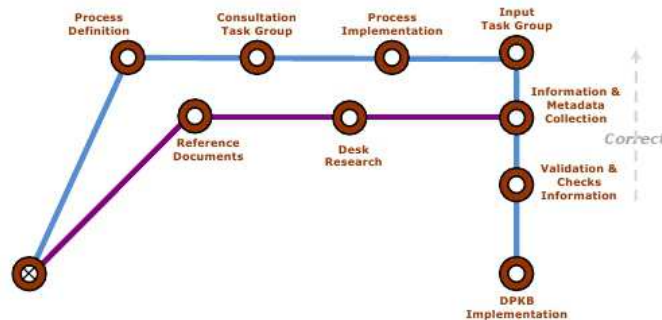

Figure 4.3: A part of the roadmap focusing on the information collection of the database.

During these steps we will collect all information that is needed or available on the themes as selected (see section 2.2). First of all we start with a definition on the process how to collect all information. This process will also have its influence on the building of the database as the functionality of collecting data also has to be implemented technically. Moreover the process definition is a "manual" for the users of the DPKB. The process will be checked by the task group and changes will be made, if needed. The process of collection of the information has to be implemented and the task group will need time to collect all information. Parallel we will start with a scan of all reference documents and information that is already available. We will use input from CLGE but also form partners of the CLGE, like FIG, IG-Parls, etc.. Important part of the collection of

the information is the metadata. We will give the metadata an important place within the DPKB. We foresee the metadata to give extra information that will be of great use when all is implemented.

Metadata
- Time of entry (time stamp)
- Contact person/ member state
- Expected quality in categories (e.g. green=good, yellow=ok, red=poor)
- Expected update (periodically/ date)
- Comments (e.g. if information is Not Available)

After a validation of the information, we have the possibility to correct, or to directly implement it into the DPKB (see section 4.3).

4.5 Roadmap Step by Step: Implementation

This part describes in detail the part of the roadmap that focuses on the further development and implementation of the DPKB, see figure 4.4.
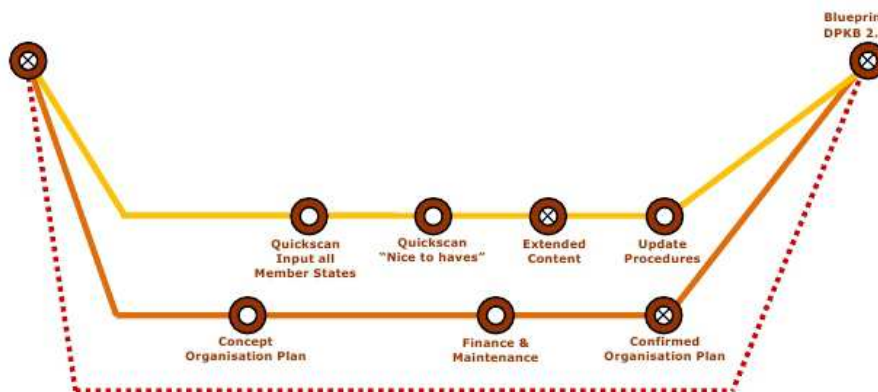

Figure 4.4: A part of the roadmap focusing on the development and implementation of the DPKB.

During these steps we will work on the further development of the DPKB. During the whole realisation phase we will track the lessons learned (= dotted line??). These lessons learned will be direct input for the blueprint.

An important part for further development will be the governance and organisation. Therefor we will work on an organisation plan and proposals on finance and maintenance of the DPKB. Without a good vision/ perspective? and commitment on these items the further development and success of the DPKB might be endangered. For the impact on the further development of the DPKB we will work on two quick scans. One focuses on the impact if the 'must have' items in the DPKB would be implemented for all member states, the other focuses on the impact if the DPKB would be implemented with all 'nice to haves' elements. We foresee impact on availability of information, quality of information, lead time and budget. The results will lead to a proposal for the extended content and a proposal on the update procedures for the DPKB. All information will be combined in the blueprint.

5.   Organisation

In this section the organisation of the realisation phase is presented. The organisation scheme is presented in figure 5.1. The Project Team is accountable to the CLGE Board. The organisation consists of the project team, the CLGE Executive Board, the CLGE General Assembly and the Task Group.
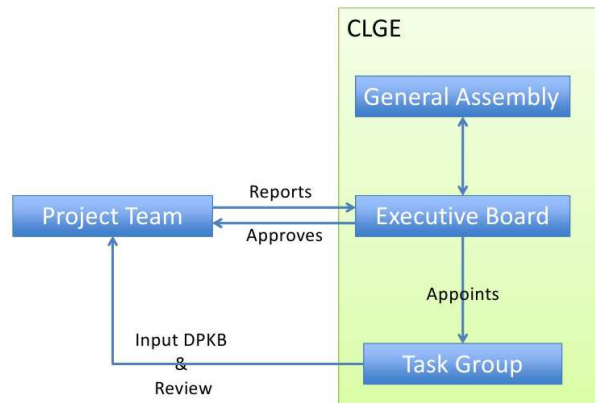

Figure 5.1: The organisation scheme for the realisation phase.

5.1 Project team

The project team is led by AeroVision. The project team further consists of TU Delft – OTB and for the realisation and building of the DPKB, Tremani. Aerovision will take care of the overall management of the project. Primary contact and project manager is Leon Hendriks.

Frequently the progress will be reported to the executive board of CLGE reports, foreseen is once a month. Furthermore the project team is responsible for and will ensure the delivery of the envisioned (sub-)products in the realisation plan.

On behalf of the Executive board, the final outcome of the realisation phase will be presented to the General Assembly of the CLGE.

5.2 CLGE

The CLGE Executive board is the client for this project. It will approve the deliverables of the project and will take decisions on specific moments during the realisation phase. These moments are presented in the roadmap (see Appendix B). The executive board also appoints the members of the task group for the DKPB project.

5.3 Task Group

The task group consists of 7 member states, IG-Parls and a representative of CLGE Board (see also section 1). The members of the task group play an important and crucial role in order to complete a version 1.0 of the DPKB. Their input and feedback is also crucial for the impact the development of a full DPKB can have.

Main tasks
- review the proposed process definition for the information collection;
- collect the 'must have' information for their respective country;
- review version 0.1 of the DKPB;
- validate and check information implemented in the DPKB

6. Planning

The planning for the main activities is presented in table 6.1. This table gives also information on the moments the CLGE Board and Task Group are consulted or need to decide on our proposals. This planning is only a global planning based on the roadmap. As foreseen a detailed planning will be part of the final realisation plan. The project team aims for presenting version 1.0 of the DPKB and the blueprint before the 1st of April 2013.

Activity/ Product	Link to Roadmap	Work Period	Final date	CLGE Board	Task Group
- Final Realisation Plan		October 2012	1 November 2012	X	
- Final Lay-out DPKB		October/ November 2012	1 December 2012	X	
- Website - Build DB Structure - Build DB Functionality		October – December 2012	15 December 2012		
- Version 0.1 of the DPKB - Consultation		December 2012	1 January 2013	X	X
Presentation for CLGE Board Version 0.1		*Early January 2013*		X	
- Process Definition - Consultation - Process Implementation		November – December 2012	1 January 2013		X
- Reference documents - Desk research		November – December 2012	1 January 2013		
- Input Task Group - Information/ Metadata Collection - Validation & Checks		December 2012 – January 2013	1 February 2013		X
- DPKB Implementation - Validation version 0.9 - Version 1.0 of the DPKB		February 2013	1 April 2013	X	X
Presentation for CLGE Board Version 1.0		*Mid February 2013*		X	
- Quickscan All Member States - Quickscan Nice To Haves		December 2012 – January 2013	1 February 2013		X
- Extended Content - Update Procedures		February 2013	15 February 2013	X	
- Concept Organisation Plan - Finance & Maintenance - Confirmed Organisation Plan		December – February 2013	15 February 2013	X	
- Blueprint Full DPKB		February 2013	1 April 2013	X	

Table 6.1: The global planning of phase 2

7. Risk Management

The main risks within this realisation phase are assessed. The risks are categorised in probability of event and impact. Also the preventive actions are described and actions if the risk occurs are described.

Risk	Probability	Impact	Preventive Action	Action when risk occurs
Change of specifications (must haves, functionality, input)	Low	Medium	Commitment	Revision realisation plan
Availability of Task Group	Low	Medium	Strict planning Commitment	Involvement CLGE Board Change planning
Commitment CLGE Board	Low	High	Communication	Meeting with CLGE Board
Reactions/ Feedback delayed	Medium	Low	Strict planning Communication	Change planning Involvement CLGE Board
Building DB delays	Low	Medium	Strict planning	Change planning Extra capacity
Exceeding budget	Medium	Medium	Clear specifications Clear expectations	Meeting with CLGE Board Extra budget Reduce activities
Delay on deliverables	Medium	High	Strict planning Control Capacity	Communication Increase capacity
Validation fails	Low	High	Clear specifications Clear expectations	Change planning Change budget Meeting with CLGE Board
Consortium changes	Low	Low	Commitment	Communication Involve other partner(s)

8. Phase 3: A glance on DPKB 2.0

The DPKB will become operational in the implementation phase. As the proof of the pudding is in the eating, we consider that following the DPKB in its operational environment is an important conclusion of the project.

<u>The implementation phase</u>
- Extension of the DPKB to all Member States
- Implementation of "Nice to Haves"
- Maintenance and Support
- Content management
- Evaluation of the DPKB

8.1 Extension to all Member States

In the second phase, the database will be filled with data from a limited number of member states to test the DPKB. The testing involves the database itself, the interface and the functionality of the system, among others.

In the second phase, the members of the Task Group will provide the data for their state. In the instance of not readily available data, the Project Team together with CLGE will attempt to find these data through alternative sources/ means. All the information will give input how to extend to other member states. In phase 3 the database will be filled with the agreed readily available data from all Member States. If required data and information appear to be not readily available, their

inclusion in the Blueprint of the full DKPB will be discussed with and decided upon by the executive committee .

8.2 Implementation "Nice to Haves"

The implementation of the "Nice to Haves" will follow normally the process that is used for the implementation of the "Must Haves". However it will be decided on bases of the Blueprint which "Nice to Haves" will be implemented.

8.3 Maintenance & Support

Maintenance and Support addresses the technical management of the DPKB. This task could be included in the agreement of CLGE with the service provider of their website or with another specific service provider.

The service provider of the CLGE website/ DPKB will provide the support on general technical issues (server down, limited bandwidth, etc.). Normally a Service Level Agreement will be used.

Specific technical issues on the DPKB (e.g. search function does not work, etc.) should be addressed in the contract with the DPKB developer. Also with the developer a Service Level Agreement can be used to address all needed support.

8.4 Content Management

There are several options to manage the content of the DPKB. At the moment we identify two responsibilities.

Responsibilities of the DPKB
1. overall responsibility for the content of the DPKB, including
   ➢ to provide general, not country specific, content,
   ➢ to manage the authorisation process (who can upload data or fill the database), including the identification of misuse.
   ➢ to review periodically the content and functionality of the DPKB,
   ➢ to review the quality of the content: identify empty fields, broken links and out-dated data, and
   ➢ to make CLGE members aware that content is missing, wrong or out-dated.
2. responsibility for the content of a member state's content

These responsibilities can be managed in different ways. The first option is to make the CLGE as an organisation fully in charge and responsible for the content of the DPKB. This implies that the CLGE secretariat will take care of the content of the database for individual member states. The second option is to make the CLGE overall responsible for the DPKB, but to make the CLGE members responsible for the content of their member state.

The content check may be performed automatically using broken link identifiers, automatic checks on the date, on correct input, etc. when data was provided to the DPKB.

The Content Management of the DPKB will be such that much data will be extracted from external reliable websites. Data available from partner organisation websites such as IG-Parls, FIG, EUROGI, EuroSDR, Eurogeographics, ICA, GSDI and the European Commission might be used to make the content management as efficient as possible.

8.5 Evaluation of the DPKB

At the end of the third stage the steps executed will be evaluated. The evaluation will include an assessment of the functionality of the DPKB, the content of the DPKB, its technical and content management, the progress of the database content, and the extent to which the status of "nice to haves" should be changed into "must have" or should be left out.

However foreseen now as an evaluation once, it is recommended to execute the evaluation frequently (for example once per year).

8.6 Responsibilities

A lot of responsibilities have to be addressed and need to be agreed upon. At the moment we only focus on the main responsibilities. During the realisation phase this will be further worked out.

Task	Proposal	Through
Maintenance and support DPKB general	CLGE	Contract with current service provider
Maintenance and support DPKB specific	CLGE	Contract with DPKB developer
Content management overall	CLGE	CLGE Secretariat
Content management: content member states	CLGE members	CLGE delegates
Evaluation	CLGE	CLGE Secretariat

Appendix A: Concept Content Themes and Sub-Items

Main Content Themes		Sub Items						REMARK
CLGE Documentation								
Documentation	INTERNAL	Date	Meeting	Weblink				
	EXTERNAL	Report number	Name	Description	Author	Year of publication	Weblink	
	EVENTS	List of Events						*Meetings/ forums etc.*
Organisation	STRUCTURE	Visualisation	Description					
	CONTACT	Name	Address	Weblink	Contact person	Mail		
	PARTNERS/ ASSOCIATIONS	Name	Description relation	Address	Weblink	Contact person	Mail	
Representation								
National Platforms	CONTACT	Name	Address	Weblink	Contact person	Mail		
	REPRESENTING	Description						
	EVENTS	List of events						*Meetings/ forums etc.*
	JOURNALS	Name	Weblink					
Legal Framework								
EU Legislation	SCOPE	Description (english/ national language)	Key words	Weblink				
	NATIONAL IMPLEMENTATION	Description (summary english/ weblink to national language)	Key words	Weblink				
National Legislation	SCOPE	Description (summary english/ weblink to national language)	Key words	Weblink				
Professional Recognition								
Certification	CERTIFICATION	Yes/ No	Description	Minimal Educational Level				
	PROCEDURE	Description	Duration	Address	Contact person	Weblink	Mail	
Regulation	LEGAL FRAMEWORK	Description	Key words	Weblink	Contact person			
	RESTRICTIONS	Description	Key words	Weblink	Contact person			
Educational Acknowledgement	ACKNOWLEDGEMENT	Member state	Description					*Given per member state*
	PROCEDURE	Description	Duration	Address	Contact person	Weblink	Mail	
Education & Research								
Education	INSTITUTION	Name	Grade	Address	Weblink	Contact information	Mail	*See also FIG database/ Greek website*
Research	INSTITUTION	Name	Address	Weblink	Contact information	Mail		