Third PROGRESS REPORT

18 MONTH DELIVERABLE

June 2013

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CHAPTER I – WORK PACKAGE 1

1. Work Programme

1.1 Expectations and objectives

The objectives of WP1 as a whole are in line with one of the main issues addressed by the call for tenders:

> "*Development of an EU directory on quality/conformity marks (labels, certificates, technical assessment, etc.) for construction products, processes, works, technical equipment and professional qualifications".*

The five first planned tasks of WP1 mirror the detailed objectives of the call for tender:

- An inventory of quality/conformity marks in all EU-27 countries used in construction markets for products, processes, works, technical equipment and professional qualifications together with an appraisal of the level of impartiality of the procedures that are used to deliver the quality marks;
- A critical analysis of the rationale and of the relevance of the information provided by the quality marks to the operators of the construction value chain and to investors, including the compatibility and complementary issues with the CE marking;
- An appraisal of the conditions and of modalities to be followed by construction operators in order to access the quality/conformity marks, including those related to the mutual recognition of the marks by Member States;
- An assessment of the possible impact of the quality/conformity marks on the competitiveness of construction businesses and the functioning of the Internal Market;
- Evidence and assessment of the extent to which the quality/conformity marks are used in practice by the insurance sector, including in the context of cross-border services. The assessment will consider possible constraints on the Internal Market resulting from common practice in insurance.

The two other tasks concern the necessary IT development to make the directory available online.

1.2 Milestones and deliverables

The initial starting point and duration of each task were adapted to take into account observations and feedback from the Commission and forum members. The updated planning takes the following elements into account and is illustrated below:

- Task 1.1:
  - D1.0 delivered
  - D1.1 delivered
- Tasks 1.2 and 1.5 have started communicating with WP3.
- Task 1.3 and 1.4 have not yet started,
- Task 1.6 is underway and planned to be finished mid-May to start developing the web platform,
- Task 1.7 will start when D1.6 is delivered.

2. Work carried out so far

2.1 Quality signs delivery structure

The structure of the directory described in deliverable D1.1 was presented during forum 3 and validated as such. Formal comments from the Commission concerning compatibility and complementary issues of quality signs with CE marking were taken into account in the final D1.1 version.

2.2 Specifications of the on-line directory

Specifications based on deliverable D1.1 are being written. In April the Commission drew our attention to the demands of the IT department in charge of the Europa web environment.

A formal request for communication of these demands was introduced to the Commission on April 17. Together with this request, the main characteristics of the planned Elios 2 IT environment were communicated to the Commission.

Meanwhile, the preparation of the core of the specifications is being prepared. The following figures show the site-map that will be commented in detail in deliverable D1.6 as well as some preview of screen shots.

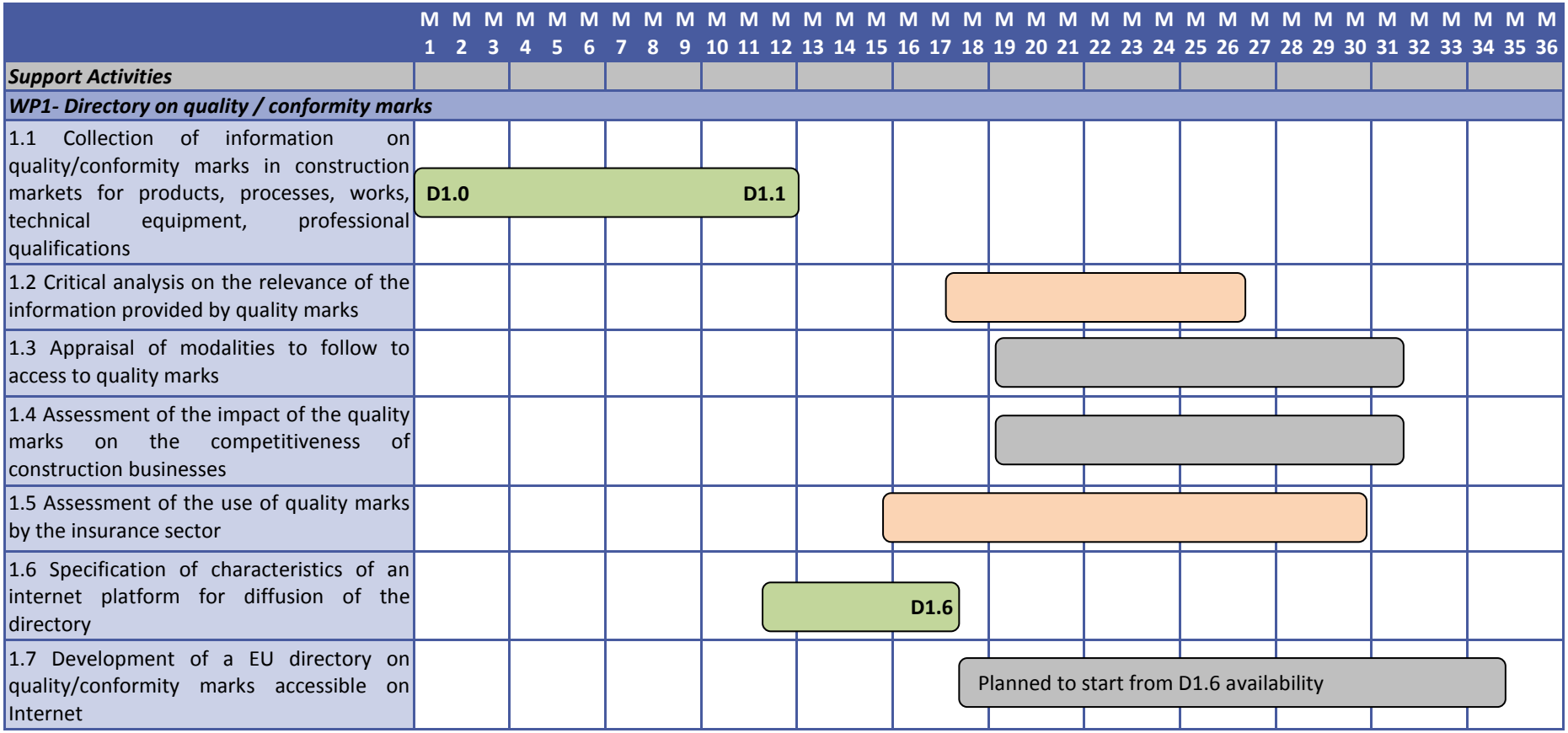
The use of the directory by four categories of users has been anticipated. The following table describes the rights allocated to each category:

User	belongs to	allocated rights
Administrator	Elios team	Full rights except creation of quality sign record
Manager	Quality sign provider	Management of information concerning his own organism : • contributors profile • created quality sign records (by himself or his contributors)
Contributor		Creation of quality sign record
User	Elios public	Look at quality sign records Process information: looking for, comparing, printing

In the next table you will see the progress of the activities within each task in more detail:.

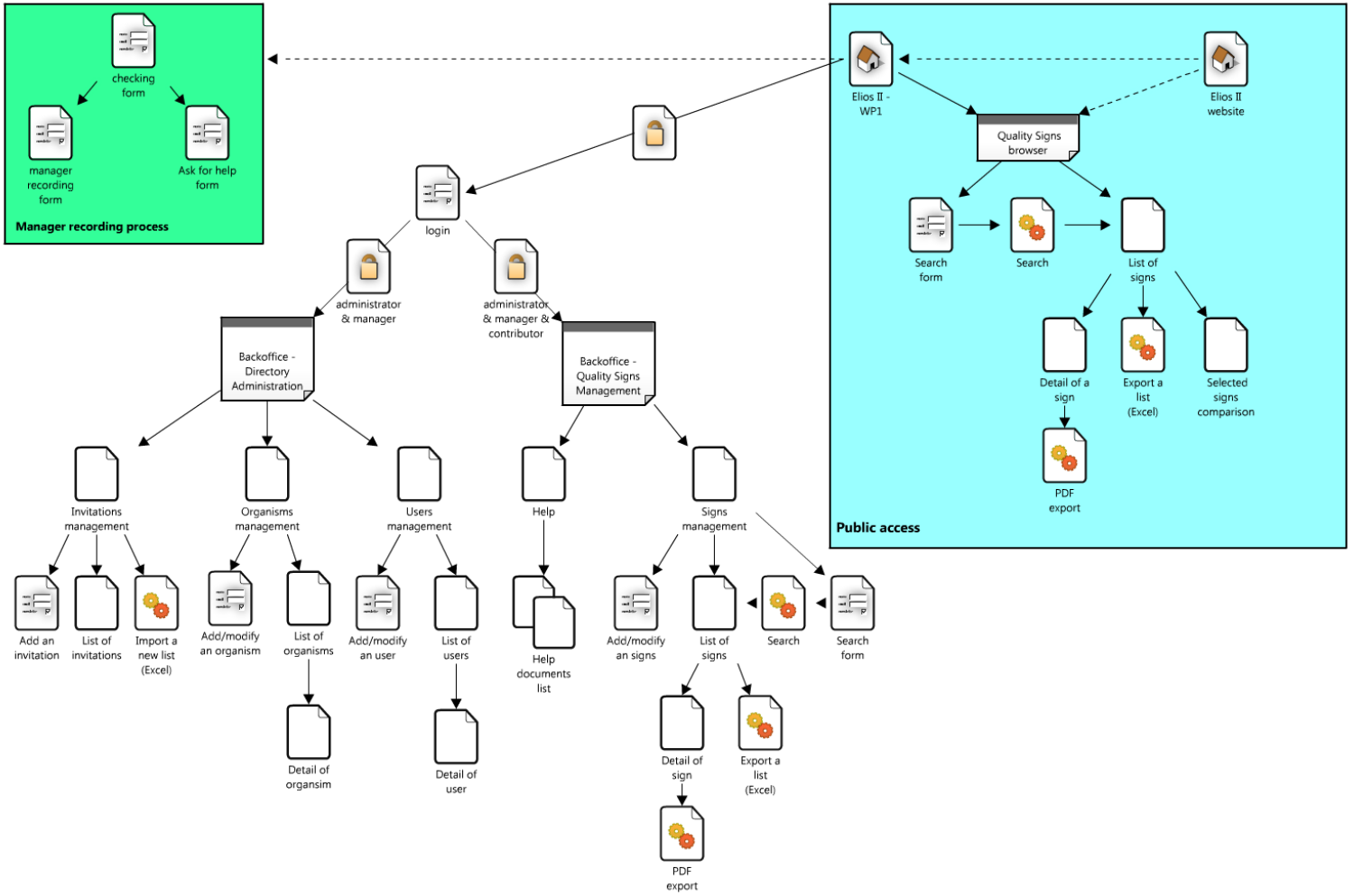
Activities	*Progress as for June 2013*
1.1 Collection of information on quality/conformity marks in construction markets for products, processes, works, technical equipment, professional qualifications	Finished, D1.0 and D1.1 delivered
1.2 Critical analysis on the relevance of the information provided by quality marks	Progress: 5%
1.3 Appraisal of modalities to follow to access to quality marks	To be started September 2013
1.4 Assessment of the impact of the quality marks on the competitiveness of construction businesses	To be started June 2013
1.5 Assessment of the use of quality marks by the insurance sector	Progress: 10%
1.6 Specification of characteristics of an internet platform for diffusion of the directory	Progress D1.6: 95%
1.7 Development of a EU directory on quality/conformity marks accessible on Internet	To be started June 2013

Below, an updated version of the time schedule for WP1 is provided. The deliverables marked in green are finished tasks. The deliverables in orange are in progress.

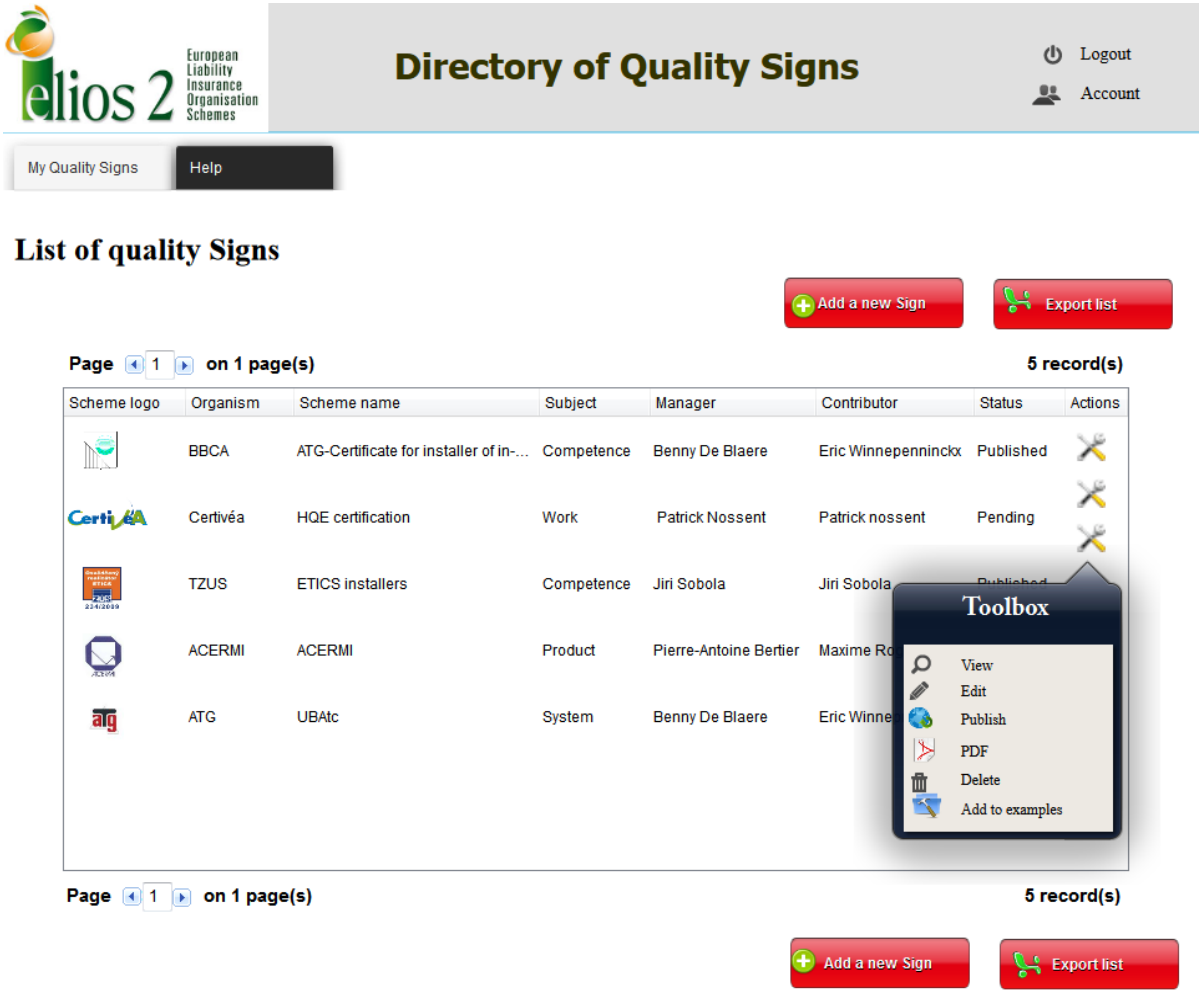


Colour coding		
	Green	Finished at month 18
	Orange	In progress
	Grey	Future tasks

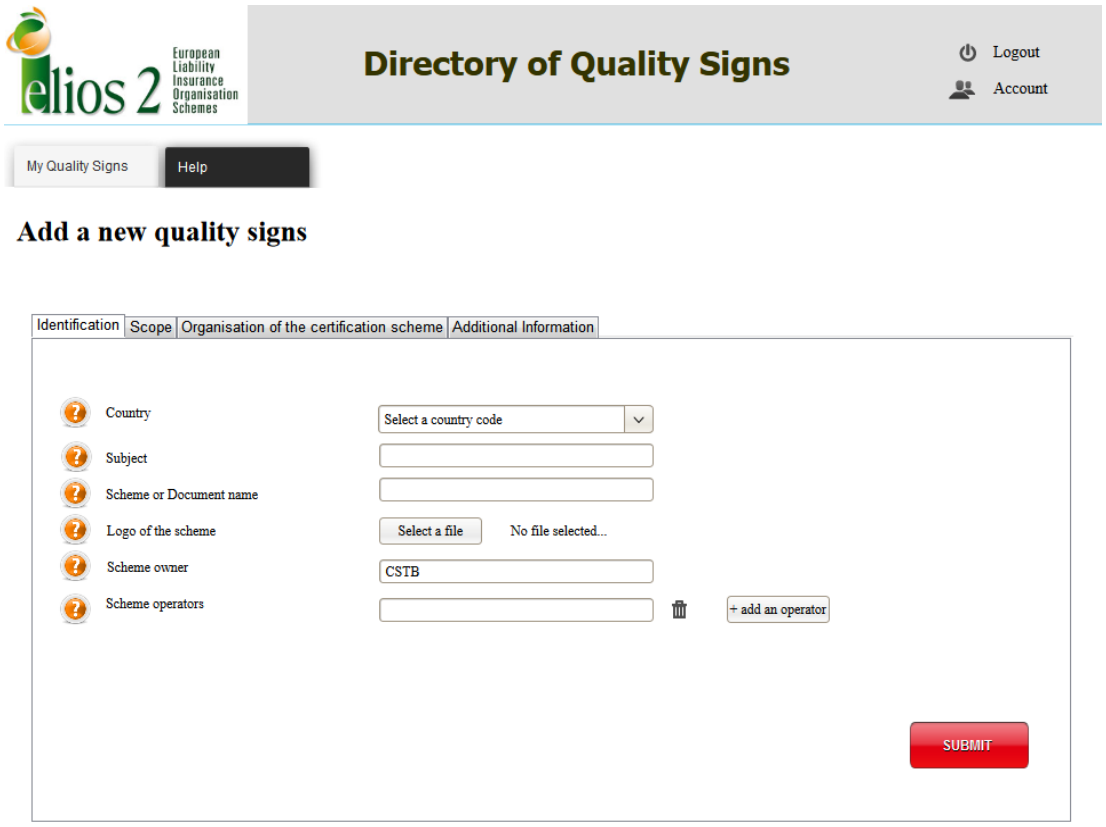
Site map of the web directory
(based on D1.1, full details to be found in D1.6)



Preview of a synthesis screen accessed by an administrator. Managers and contributors will access similar screens but only for their own quality sign records.



Preview of a data capture screen (quality sign identification section) used by a manager or a contributor



3. Next steps

Directory of quality signs:

- Validation of the specifications of the web directory on both contractual and IT compliance aspects.
- Development of the web directory according to the validated specifications.
- Creation of invitation lists from membership directory of organisations dealing with quality signs.
- Sending of invitations to fill in web questionnaires on quality sings.

Whilst the directory is becoming an autonomous action, WP1 members start addressing compatibility and complementarity issues of quality signs with CE marking as well as other WP1 subjects presented in 1.1.

CHAPTER II – WORK PACKAGE 2

1. Work programme

1.1. Expectations and objectives

As a reminder, the overall objective of work package 2 (WP2) is to develop an EU-wide knowledge base on quality indicators and building pathology, that could support (re)insurers in their risk appraisal of new innovative technologies, especially eco-technologies.

1.2. Deliverables and milestones

The main WP-2 deliverables and milestones, based on the Proposal by the Elios 2 consortium, are shown in figure 2.1 below.

The work performed from July to December 2012 covered the following tasks:

- Task 2.1: State of the art on quality in construction and building pathology, and
- Task 2.2: Needs and criteria to develop an EU database on quality and pathology indicators.
- Task 2.3: Setting up a format for the database, validation and data requirements

In the next table you will see the progress of the activities within each task in more detail:

Activities	*Progress as for June 2013*
Task 2.1: State of the art on quality in construction and building pathology	
T.2.1.a Definition of construction quality and building pathology	Finished, see Progress Report 1
2.1.b Review of existing research work and data sources	Finished, see Progress Report 1
2.1.c1 Selection of 10 eco-technologies	Finished, see Progress Report 1
2.1.c2 Questionnaire and case studies on 10 eco-technologies	Progress: 90%
2.1.d Assessment of the value of existing research work, data sources	Progress: 90%
Task 2.2: Needs and criteria to develop an EU database on quality and pathology indicators	
2.2.a Analysis of the needs and criteria of insurers	Progress: 90%, see section 2.2
2.2.b Program of requirements for the pilot database	Progress: 90%, see section2.2
Task 2.3. Setting up a format for the database, validation and data requirements	
2.3.a Setting up a format for the database	Progress: 70%, see section 2.2
2.3.b Validation of the format	Progress: 70%, see section 2.2
2.3.c Definition of informatics requirements for the database	Not yet started

- As for task: 2.1.c2 ('Questionnaire and case studies on 10 eco-technologies'): In the 2nd Progress Report we mentioned that an improvement of the response rate of the questionnaire for some countries (especially France and Belgium) was envisaged by follow-up reminders or phone calls. This action has not been finalized yet. From one of the project partners an additional list of personal contacts of French insurance organisations was received, and those persons were asked to fill in the questionnaire. Up till now the response rate has been very low. The next step will be to contact those persons by phone directly.

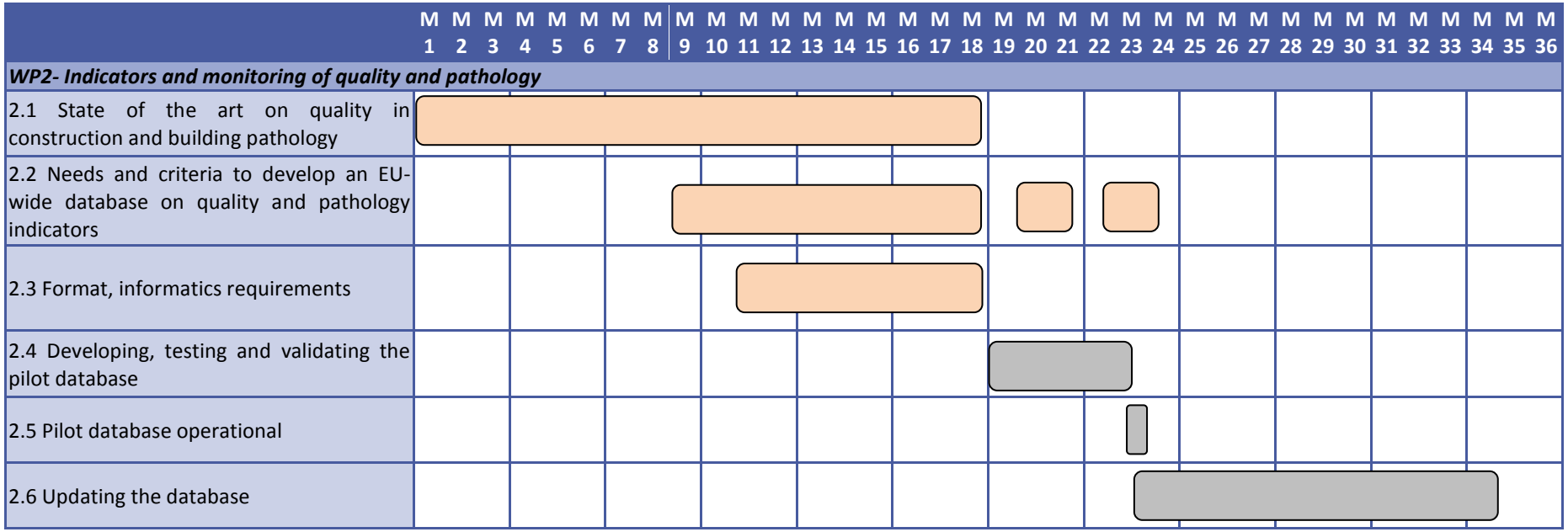
- As for task 2.1.d ('Assessment of the value of existing research work, data sources'): This is an on-going activity. Additional information has been found on German, Italian, Portuguese, Dutch, Belgium and UK pathology databases. By studying these and other sources on pathology we have gained a better understanding of the design, the organisation and the use of such pathology databases. This has helped us to define the criteria for the EU-wide pathology database for eco-technologies.

- As for task 2.2.a ('Analysis of the needs and criteria of insurers') and 2.2.b ('Program of requirements for the pilot database'): In the 2nd Progress Report we already mentioned that this analysis has been done on the basis of workshops with Hannover Re and Allianz in Paris in September and October 2012, and additional interviews of Hannover Re with other insurance companies. This gave us the basic requirements for the database on pathology to be developed. But it also means that task T.2.2 is not yet completed and will continue during 2013 in collaboration with WP3 since determining the needs and criteria of the insurance sector is one the deliverables of WP3. This task is scheduled for the Progress Report of December 2013.

- As for Task 2.3 ('Setting up a format for the database, validation and data requirements'): see Section 2.2.

It means that WP2 is largely on track with the work programme.

Below, an updated version of the time schedule for WP2 is provided. The deliverables marked in orange are in progress.



Colour coding		
	Green	Finished
	Orange	In progress
	Grey	A future deliverable

2. Work carried out so far

2.1 Activities

The main focus of the WP2 activities from mid December 2012 to the beginning of May 2013 was to prepare the draft specifications for the EU pathology database for eco-technologies, including setting up models for the organisation of this database.

Further activities during this period were:

- Sending out additional questionnaires to French organisations: AXA France, SMABTP, MMA, MAF, Albingia, AVIVA, Socotec, Bureau Veritas, Qualiconsult (January – May 2013);

- Investigating German, Italian, Portuguese, Dutch, French, Danish, Belgium and UK pathology sources and databases, and the organisation and business models behind these databases (April-May 2013);

- Team meetings with the WP2 project partners were held on the 12th of February 2013 at Arcadis' office in Amsterdam, and on the 2nd of May 2013 at BBRI's office in Brussels, in order to discuss the specifications of the pathology database.

2.2. Specifications for the EU pathology database

2.2.1 How can building pathology help insurers in their risk assessment?

The purpose of the EU pathology database for eco-technologies is clear, it's main objective being to help insurers in their risk assessment of innovative construction technologies, especially eco-technologies.

But how can the science and knowledge of building pathology help insurers in this process of risk assessment of building processes, actors and products?

The relationship between risk analysis and pathology has been worked out in Appendix 1. It can be summarized as follows:

- Building pathology is the systematic treatment of building defects, their causes, their consequences and their remedies. Diagnosis, which is the basic part of the building pathology discipline, is aimed at getting insight in the decay process suffered by the building components: the evolution from a performance to a non-performance condition, identifying the defects/ failures, their causes and effects/consequences.

- Building pathology information may help the insurer in his risk assessment in two ways:

  - *Qualitatively*, by improving the technical knowledge of the insurer on a particular products/ technologies. The insurer may use this technical knowledge for formulating strategies for conditions for the acceptance of these products/technologies for insurance coverage.

- *Quantitatively*, by providing statistical information on the frequency/probability of occurrence and the losses, that the insurer may use to do the pricing of a cover and propose guarantees (risk = chance x effect!).

2.2.2. Functionalities of the database

The required functionalities of the database, from the viewpoint of insurers, have been outlined already in the 2nd Progress Report, and can be summarized as follows:

- For innovative construction products, like eco-technologies, there is a lack of statistical data and claim history available. A quantitative risk assessment is thereby difficult for these technologies. Since there is not enough pathology feedback to be able to extract a statistical law regarding its failure, risk evaluation of innovation has to be made upon specific technical inherent risk assessment. The analyst will have to focus on a predictive failure analysis based on his knowledge of the technology, through a qualitative approach. But also for those products/technologies where an extensive claim history exists, insurers are not interested in contributing to a pure statistical database, reporting numbers of claims, since it touches their confidential internal pricing.

- Besides, the technical classification of claims for eco-technologies (or for other innovative products or technologies) by the insurer is a problem: it has to be done by experienced staff that can classify the claims, but it is unlikely that most insurers have this expertise or the computational systems to differentiate 'eco-technological' claims from other claims.

- If insurers are not willing or able to provide statistical information on claims, who else can provide it? There are only a few public organisations who collect pathology information in a systematic way, like AQC (France) and the Danish Building Defects Fund (Denmark). But the number of pathology cases for innovative products like eco-technologies collected by these organisations has been very limited up till now.

- Reviewing these problems with the delivery and collection of quantitative pathology data for eco-technologies, preliminary discussions with insurers indicate that they seem to be content with a database that provides pure qualitative technical information on failures/defects of eco-technologies. They can use this information for improving their internal technical knowledge on particular products/technologies, and for formulating strategies for conditions for the acceptance of these products/technologies for insurance coverage.

  That means: a database with only qualitative technical data, and no information on the number of contracts underwritten, and no statistical data disclosure.

- Such a 'qualitative' database could be filled with pathology information from various sources: not only individual pathology cases collected by (semi-) public organisations like AQC or Danish Building Defects Fund, but also information at an aggregated level in the form of Defect Information Sheets, Prevention brochures, papers etc., provided by numerous organisations. Such data, as well as the information from the 10 case studies could be used for the pilot database, to be developed within Elios 2.

- Furthermore, the discussions with insurers also indicate that they would be interested in another form of exchange of information, namely the creation of an 'eco-technologies Warning procedure' (Procedure d'alerte) for some specific eco-technologies. The idea is to be able to gather and communicate the existing information 'rapidly', for a short list of eco-technologies that are commonly used and that have shown some issues during their life-cycle, according to the literature review or to what is known from the building practice. The description of a defect or failure can be very simple.

- Finally, insurers would be interested in a simple directory of quality signs for eco-technologies.

Thus, it becomes clear that the insurance industry would be interested to have a tool with the following functionalities:

1. A database with pathology records, that provides qualitative technical information on the pathology of eco-technologies (without any statistical data disclosure of claims).
2. A 'Warning procedure' (or hazard notification procedure), where interlocutors in each country can report issues/defects.
3. An overview of quality signs for eco-technologies (as an extract from the quality signs directory to be developed within WP1).

The tool to be developed should at least have these three functionalities. We will call this tool: Eco-technologies Quality European Observatory (EQEO).

2.2.3. Framework for the operation of a pathology database *after Elios 2*

How could a pathology database in practice be made operational?

Individual organisations in the building sector (like building owners, building control bureaus, insurance companies, contractors etc.) can design their own database in a way that is efficient for their own needs.

But pathology information may well be of interest to all building participants, like: regulations and code makers, designers, contractors, implementers of quality assurance systems, insurance companies, planners, 'educators', etc.

In that case, the output of building pathology is generally disseminated in forms like publications, seminars, defect information sheets, data bases, etc., and publically (or against a fee) available.

In order for a more general and broader use of databases, granting access to any interested organisation of person on a European scale, some conditions ought to be fulfilled in order for it to be successful as an information centre:

- It requires a systematic feedback and processing from experiences and pathology knowledge. This leads to the necessity of collecting, recording and evaluating data, to cost/benefit analysis and to providing information to the users. Such output may comprise: technical information on the defects/failures, the causes, characteristics of the degradation process, losses or costs involved and appropriate remedial and/or preventive measures. The basis of such a system is formed by a database.

- A sound business model or financing system must form the basis;

- Reporting and registration must be based on a clear view of the use that will be made of the processed information (or in other words: 'input' and 'output' conditions must be clearly related); this condition is emphasized to avoid costly activities only for the sake of collecting data;

- The quality of the pathology data (input and output) should be secured. Before pathology data can be used by insurers (or other interest groups in the building sector), they must be sure that that data is relevant and not accidental. That means that the data must be evaluated and processed by technical experts to select only the relevant data. The relevancy of the data depends on a number of factors, such as:

  - importance of the defects/failures (health and safety, significance of the technical and economic damage);

  - indication of the occurrences of the defects/failures;

  - likelihood of the defects/failures continuing to occur in future;

  - indication that the defects/failures have a European significance, that means that the defects/failures (might) occur in several EU-countries.

The framework for such a general (broadly used) database has been given by the CIB Committee W086 in their State-of-the-art-report of 1993, in the following scheme:

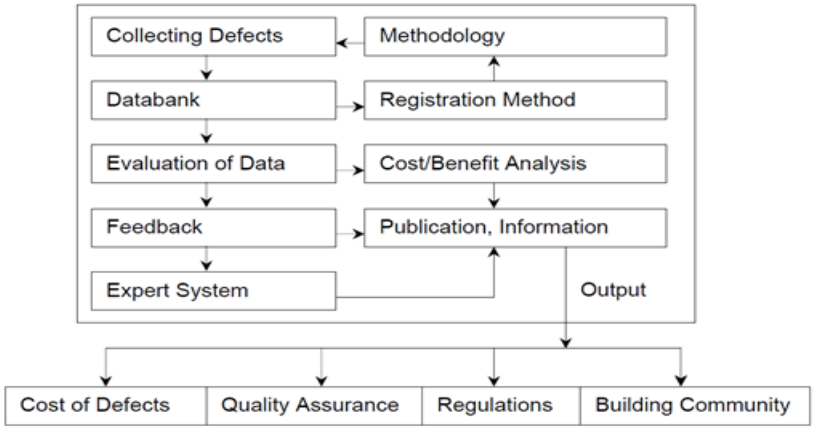


***Figure 1*: The method of application of experiences from building pathology and using expert knowledge in a database (from CIB report 1993)**

The system illustrated may be divided into two important parts:

- The top part (collecting data, database, registration method, methodology) is aimed at continuously improving information gathering;

- The bottom part (evaluation of data, feedback, expert system) is aimed at:

  - evaluation of data and establishing whether data is useful;
  - establishing a technical expert analysis;
  - publication of information and making it available

There are examples of existing databases at national level that comprise some of the functionalities described above. See also Appendix 2.

Work package 2 realizes that in order for the above to function *after the Elios 2 project*, there is need for a database, but also for procedures and a business model that would allow for collecting objective data (based on site inspections, or from other sources), expert evaluation of gathered data and dissemination of information.

Such a business model has not been established. Existing models are being studied by WP2 to see whether these would allow a similar exercise at European level.

An organisation such as ENBRI (European Network of Building Research Institutes), could play a role in this, and work in collaboration with national institutes like AQC (France) and the Danish Building Defects Fund (Denmark).

At the moment, at least some of the ENBRI members collect and/or evaluate pathology information. However, as far as we know, there is no ENBRI structure that permits studying pathology cases at a European level.

ENBRI seems to be an organization that comprises sufficient technical competence and presence throughout Europe to evaluate and contribute to disseminate information collected in the database referred to above, i.e. to set up and maintain a permanent (virtual or real) European working group that studies information in the database, selects data that has a European relevance and that is technically and economically significant and at least supports the dissemination of the information.

2.2.4. Framework for a 'Warning procedure'

2.2.4.1 Existing warning procedures

For cases where there is a clear and immediate risk for health and safety, there already exist warning procedures, like RAPEX (on a European level), or national agencies exchanging information on hazardous products, like pharmaceutical or life-science products, or even on construction products (see the example of hazardous Dutch PV-panels in the frame hereunder).

RAPEX

RAPEX (http://ec.europa.eu/consumers/safety/rapex/index_en.htm) is the EU rapid alert system that facilitates the rapid exchange of information between Member States and the Commission on measures taken to prevent or restrict the marketing or use of products posing a serious risk to the health and safety of consumers with the exception of food, pharmaceutical and medical devices, which are covered by other mechanisms. Since 1 January 2010, as regards goods subject to EU harmonisation regulation, the system also facilitates the rapid exchange of information on products posing a serious risk to the health and safety of professional users and on those posing a serious risk to other public interests protected via the relevant EU legislation (e.g. environment and security). Both measures ordered by national authorities and measures taken voluntarily by producers and distributors are reported by RAPEX.

Netherlands Food and Consumer Product Safety Authority (NVWA) warns for flammable solar panels

Newsflash of 19/2/2013[1]: "The Netherlands Food and Consumer Product Safety Authority (NVWA) warns against certain types of solar panels of the brand Scheuten (model Multisol). In these solar panels there is a faulty electrical connection that is flammable. These solar panels have caused in other European countries at least 15 roof fires. In the Netherlands, approximately 15,000 of this type panels are placed. These solar panels have a fire hazard, but have, so far as known, not caused fire.
The solar panels are dangerous because a cable in the junction box behind the solar panel makes a poor contact with the PCB. This may cause sparks and can make the housing of the terminal box damage, melt and smolder. Then sparks can skip to the roof and cause fire. This risk increases as the sun gets stronger and as the solar panels age. The NVWA gives this security warning, because the trustee of the bankrupt and responsible business fails to do this. To warn the public also an advertisement will appear in three national newspapers.
People, who have dangerous solar panels on their roof, are advised to switch off the panels safely."

The disadvantage of these kinds of systems (for insurers) is that the system does not alert for issues not related to health and safety, i.e. situations where significant costs may be incurred. Insurers have another (or at least a broader) scope of view. They are of course mostly interested in risks where (potential) physical damage is involved, leading to claims.

2.2.4.2 Possible role of notified bodies and market surveillance authorities in a warning procedure?

A disadvantage of existing warning systems like RAPEX or those of the national Food and Consumer Product Safety Authorities is that they are sometimes getting too late to the consumers.

Obviously the hazardous products are designed and constructed in such a way that it poses a potential threat to consumers due to poor design. Thus, a warning procedure should (also) be addressing the risk assessment and testing protocols to take place *before* the product is launched at all to the market.

[1] www.vwa.nl/actueel/nieuws/nieuwsbericht/2030101/nvwa-waarschuwt-voor-brandgevaarlijke-zonnepanelen

This is ideally the role of the CE marking, and it has been suggested from time to time that the framework of CE marking could support the insurer's aims.

But this confirms the misunderstandings that surround the framework for the CE marking of construction products.

The aim of directive 89/106/EEC and Regulation305/2011 is primarily to ensure that a common technical language is being used by manufacturers and authorities to regulate the placing in the market of construction products.

Notified bodies contribute to the reliability of the system by issuing test reports and certificates, but notified bodies are not required, on systematic basis, to report defects to authorities and certainly not to other concerned parties.

Moreover, if notified bodies are involved, their involvement is limited to testing some characteristics or to only certify factory production control, to only certify one or more regulated characteristics and it will remain the responsibility of manufacturers to declare performances.

The suggestion that notified bodies should assume responsibility for ensuring that only 'safe' products may be placed on the market has been made before, but the legal framework clearly defines the notified bodies' role.

Market surveillance authorities have the responsibility of ensuring an equivalent and consistent enforcement of the regulation, i.e. they will be primarily concerned with the correspondence of the product on the market with the information accompanying the CE marking, rather than verifying whether CE marked products are likely to cause effects.

2.2.4.3 Warning procedure for insurance purposes

Contrary to the RAPEX system referred to above, the warning procedure that insurers are interested in, should report on chances on an accident, a defect or a failure, and the detrimental effects thereof (in financial terms), i.e. on risks:

- Failure description
- Occurrences thereof
- Consequences

Given the reluctance of the insurance industry to make statistical data available, the number of occurrences is not going to be introduced.

How relevant is such data if the number of occurrences is not part of the system that generates warnings?

To prevent every new pathology case from being considered a risk, it requires an expert opinion to determine whether a case is to be considered sufficiently important, taking into consideration that the alert is intended for pan European use.

Responsibility for issuing such an alert should in our view therefore be given to an expert committee that brings together technical knowledge about construction products, pathology and available competence among construction actors for all EU member states.

If the intention is to have an alert system, we think it should in any case introduce the possibility of collecting data allowing to filter out 'priority' cases, i.e.

1. Cases where there is a clear and immediate risk for health and safety;
2. Cases where there is a clear and immediate risk for severe economic damages (one such case may lead to significant direct or indirect damages);
3. Cases where there is no clear and immediate risk for health and safety and/or severe economic damages (you need a lot of such cases to arrive at cases where health and safety are impaired or at a significant economic damage)

This 'filtering' would reflect the perception of the data provider, which does not necessarily mean that the experts evaluating the data would agree, but such information would allow the experts to take notice of priority cases first.

2.2.5. Organisation of the pilot database *during Elios 2*

The set-up and organisation of a possible future EQEO of course very much depends on the outcome of the pilot database tool that we have to develop within Elios 2.

For this pilot version we propose the following organisation structure.

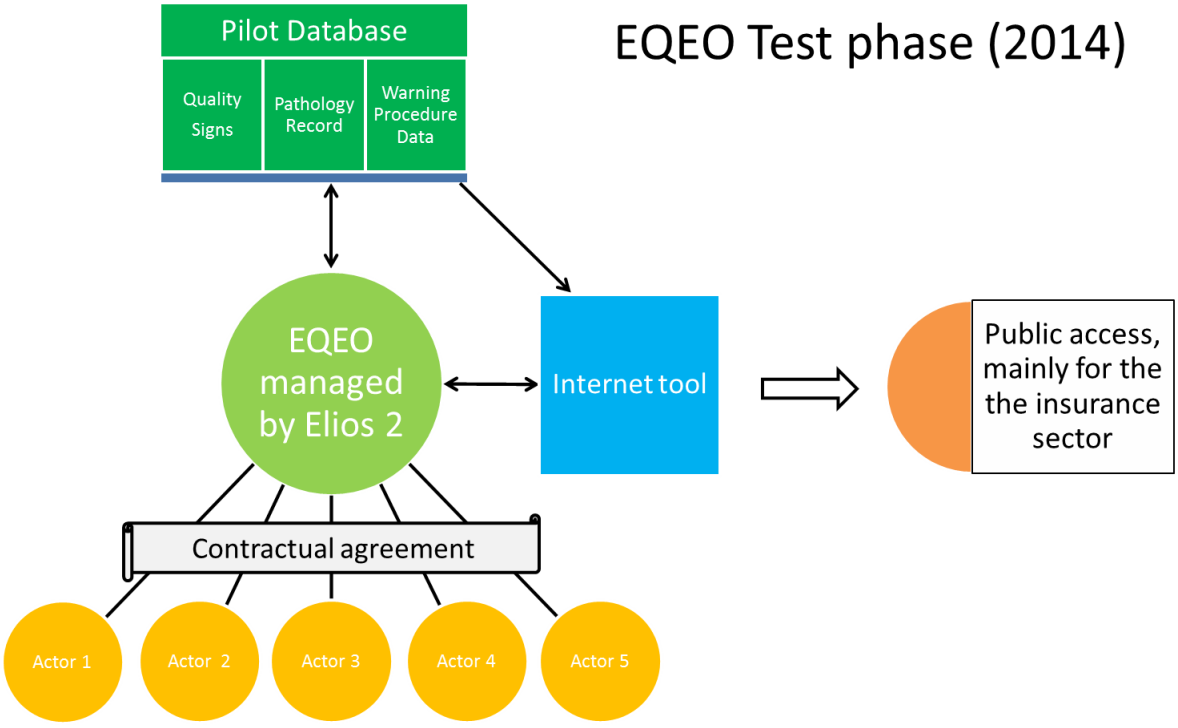


Figure 2: Proposed organisation structure of the EQEO test phase (2013-2014).

The database would be composed of three parts, corresponding to three functionalities of the EQEO system, as described in par. 2.2.1 :

1. Pathology Records (assessment a posteriori): recording of the known/existing claims or information on defects/failures (and their causes and consequences);
2. Warning procedure data: early warnings on defective products/technologies/systems or claims under examination;
3. Quality Signs (assessment a priori): an extract from the quality signs directory (WP1).

From our point of view, the role of EQEO is not to develop its own analysis of the different risks, but rather to gather, select and manage existing data.

Our objective is to organize an exchange and a dissemination of data essentially held at a national level by national actors, or known from public reports, Defects Information sheets and other papers. Of course, also the results from the questionnaire survey for the 10 eco-technologies (executed in 2012) will be exploited for populating the database.

In order to be efficient, the scope of this pilot database has to be limited. We have to focus our attention on some selected eco-technologies (10 being the absolute maximum).

For the national actors, we have identified Agence Qualité de Construction (France) and the Danish Building Defects Fund as potential interested parties to be involved during the test phase. For the collaboration with these partners a draft contractual agreement will be prepared, to demonstrate what the partners can expect.

2.2.6. Specifications for the Pilot database

The specifications for the pilot database and the internet device are elaborated further in Appendix 3.

3. Next steps

The following months, the following activities are planned:

- Continuation of the data collection by means of the questionnaire, especially in France and Belgium.
- Consultation of the CIB W086 working group on building pathology during the CIB World Congress in Brisbane, May 2013, and consultation of ENBRI, to know their view on the collection and dissemination of pathology data at a European level.
- Describe and evaluate the characteristics and functionalities of existing data sources and databases on building pathology, their business models and organisation.
- Further exploring the information needs by insurers for the EQEO, in collaboration with WP3.
- Defining the informatics requirements for the development of the database (on the basis of the specifications given in Appendix 3).

CHAPTER III – WORK PACKAGE 3

1. Work Programme

1.1 Expectations and objectives

As a reminder, the overall aim of work package 3 (WP3) is to analyse the conditions for a greater mutual recognition of the construction insurance regimes and to identify the criteria and modalities for the development of insurance schemes that could support cross border services and the cover of building sustainability performances.

1.2 Deliverables and milestones

According to the WP3's work plan, the third six month period of the project includes two deliverables:

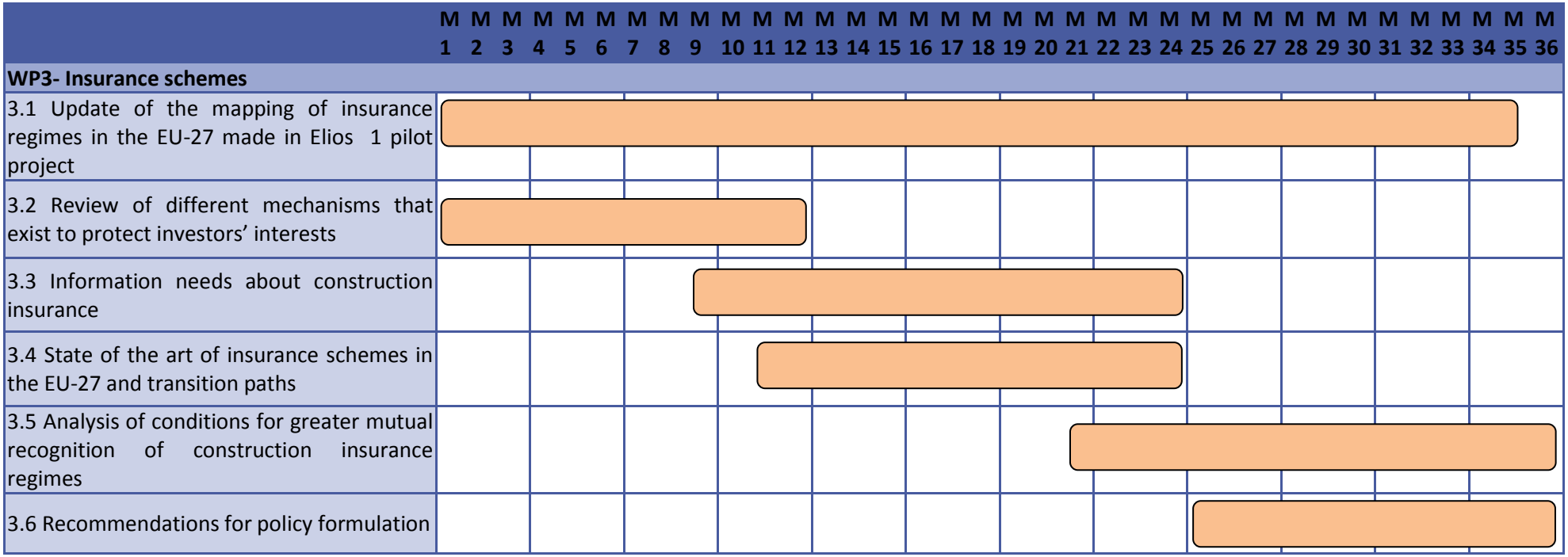
- D3.1: Update of the mapping of insurance regimes in the EU-27 made in the Elios 1 pilot project
- D3.2: Review of the different mechanisms that exist to protect investors' interests

Regarding the goal of the project, it seems much more valuable for the study to issue the final update of the mapping at the end of the project. For this reason, the mapping is updated and issued over the different progress reports up to its final version.

Another modification concerns the displacement of the paragraph entitled "Links with single points of contact" into deliverable D3.1 from its original foreseen location in deliverable D3.2.

Considering the link between the access to insurance information with existing mapping it seemed more appropriate to include it in the first deliverable.

Below, an updated version of the time schedule for WP3 is provided. The deliverables marked in orange are in progress.



Colour coding		
	Green	Finished
	Orange	In progress
	Grey	A future deliverable

The table below gives an overview of the degree of completion of each deliverable for WP3 as of June 2013.

Deliverable	Degree of completion
D3.1 Update of the mapping of insurance regimes in the EU-27 made in Elios 1 pilot project	Progress: 70 %
D3.2 Review of different mechanisms that exist to protect investors' interests	Progress: 70 %
D3.3 Information needs about construction insurance	Progress: 70 %
D3.4 State of the art of insurance schemes in the EU-27 and transition paths	Progress: 70 %
D3.5 Analysis of conditions for greater mutual recognition of construction insurance regimes	Progress: 60 %
D3.6 Recommendations for policy formulation	Progress: 70 %

2. Work carried out so far

As WP3's different objectives and subdivision into deliverables are closely inter-related, we decided to present each deliverable development as the work progresses, even for the last deliverable on recommendations, rather than wait for each study to be completely finished.

This is especially true for the first deliverable, the update of the mapping, which should give the state of the art in insurance at the end of the project.

2.1 Introduction

Information is gathered through three different channels:

a) Insurance Europe

After the first presentation of the Elios 2 project made to the federations the 19 September 2012, we presented our questionnaire during the general assembly meeting of Insurance Europe to the insurance federations representatives, the 8 March 2013.

It was later sent by Insurance Europe to all the federations with their own national regime description (made in Elios 1) to check if it still reflects reality and also to retrieve additional information, notably on market volumes or insurance requirements.

First answers were gathered but the process is not complete and should continue during the forthcoming months.

Apart from the questionnaire, general answers about existing national "points of single contact" were given during the general assembly (see D3.1.6).

b) Allianz

As a subcontractor, Allianz's main task is to update the mapping gathering information from its own internal network of branches on local markets.

The information to collect includes the update of Elios 1 information but also to extend it to more insurance market realities.

In order to do so, the definitive version of the questionnaire was sent to Allianz European branches.

With a good return rate of 14 filled questionnaires out of 17 sent, the first conclusions could be drawn for this third progress report in the deliverable 3.1 - Update of the mapping of insurance regimes (set out in the Annex).

c) Hannover Re

As leader of WP3 Hannover Re is in charge of retrieving information from insurance companies through two channels:

- A first update of the existing Elios 1 mapping was made in the previous progress report, using our internal network of construction reinsurance underwriters. This channel is currently also used to disseminate the questionnaire, notably to Scandinavian insurers.

- For western countries with important construction insurance markets, meetings are held directly with major national companies. For the moment the following meetings have been carried out:

  - **For France:**

Allianz (general insurer)	Continuous
FFSA (French insurance federation)	June 2012
CAPEB (SMES federation)	August 2012
MMA (general insurer)	May 2012
MAF (architects federation)	July 2012

  - **For Spain:**

ASEFA (construction insurance leader)	September 2012
AXA Spain	September 2012
Allianz Spain	September 2012

  - **For United Kingdom:**

NHBC (construction insurance leader)	February 2013
Allianz UK	February 2013

The objective of these meetings with the insurers is to deal with the insurance mapping made within WP3. However they must also address the questions of quality signs and pathology.

For a more precise scope of those meetings see in appendix an extract from of a typical meeting preparation e-mail.

More specifically regarding the energy performance guarantees, we participated in January in a conference organized by the FFB[2], and also visited in February the Green Office Meudon, the first major French positive energy building, developed by Bouygues Immobilier[3].

Concerning a more general regulation framework we contacted and obtained answers from:

- European Insurance and Occupational Pensions Authority (EIOPA)
- European Commission - DG Market

Work carried out by other subcontractors, include:

a) APAVE

In order to deepen their understanding of the way the Technical Inspection Control operates throughout the European countries, and plot the similarities and differences between them, APAVE drew up a Questionnaire (attached in annex).

Even though the rate of return is not satisfactory at the moment, some preliminary results can be drawn out.

b) SBI

To further pinpoint the characteristics of national regimes of construction and insurance and develop the analysis in terms of providing a sound foundation for the policy recommendations the following work was undertaken:

- Overview of construction regimes and business systems and theories on transition paths.
- Three to four qualitative case studies representing archetypical (construction) regimes will be conducted as a part of the horizontal analysis. The analysis will be based on the following countries: France, UK, Denmark and the Czech Republic. Thus the number of case studies of insurance regimes and transition paths will be limited to one example representing each of the distinct construction regimes identified.
- A work plan and proposal for the execution of the vertical analysis. This will highlight the methodological approach as well as data sources applied.
- Drafting of preliminary conclusions form the study for discussion and verification in the project group.

[2] http://www.construction21.eu/france/articles/fr/la-couverture-du-defaut-de-performance-energetique--la-ffsa-affine-sa-position.html
[3] http://www.smartgrids-cre.fr/index.php?p=smarthome-bouygues

2.2 Preliminary Observations

The following text is intended to draw up a sketch of the different deliverables that can be found in the appendix.

2.2.1 Update of the mapping of insurance regimes

Based on the information gathered during the Elios 1 pilot project mapping, this study will first update the information about the current different regimes in force in the EU-27.

In the second phase, we will extend this pure update of the legal framework made in Elios 1 to market considerations with the help of a questionnaire (preliminary version presented in appendix).

Topics covered by this deliverable are:

- Selected construction insurance schemes
- Energy performance guarantees
- Mapping of insurance regimes results
- Overview of the different situations
- Construction Insurance Market
- Links with single points of contact

2.2.2 Financial mechanisms for protection of investors' interest

Based on the first results of our exchanges with insurers, this task involves the following processes to be carried out in parallel with the mapping update:

a) Identification of the different existing financial instruments aimed in the protection of construction works, notably other than insurance. This covers a wide range of public and private steering instruments such as insurance schemes, regulation, subsidy schemes, etc.

b) We will outline the specific hurdles existing in the insurance of construction innovation and how the industry has handled innovation in the past by means of a case study. This technology could be "structural sealant glazing" (SSG) now widely used in curtain walls.

Covered topics are:

- Energy performance guarantees
- Concept of conventional vs. real performance
- Measuring the energy performance
- Existing Financial Energy Performance Guarantees
- Specific hurdles to insure innovation
- An example of historical assessment of innovation by insurance

2.2.3 Information needs about construction insurance

This third study will present the construction insurance underwriting process in general, highlighting its specific information needs. Notably, it will try to clarify the risk assessment principles and the role of the Technical Inspection Service in this process.

Developed topics are:

- "Sustainable development" works
- Construction Insurance Underwriting Process
- Risk assessment principles
    - Risk notion
    - Stakeholders
    - Technical Inspection Service role
    - Risk assessment methodology
    - Risk assessment criteria
    - Definition of relevant technical criteria

2.2.4 State of the art insurances schemes and transition paths

Applying a socio-technical approach, this study tries to describe and compare on different levels the different existing national organizational schemes in the construction industry. It should notably overview the different roles of insurance inside the global quality chain in the construction industry.

2.2.5 Conditions for greater mutual recognition of construction insurances regimes

This task will constitute an analysis of the conditions for a greater mutual recognition of construction insurance regimes, and the development of a set of guidelines for a policy formulation.

More specifically, the deliverable should cover:

- Impacts of national strategies on construction insurance
- General financial protection requirements and regulatory framework influence
- Conditions for handling incompatibility of national insurance regimes

2.2.6 Recommendations for policy formulation

This analysis will provide recommendations for policy formulation stimulating good practices and insurance solutions.

Developed recommendations concern:

- Failure forecast
- Quality signs
- Construction techniques and normative framework
- Legal and insurance requirements
- Insurance covers
- Technical Inspection services

- Energy performance guarantees
- Promotion of other guarantees

3. Next steps

The shortcoming foreseen actions for the different members of WP3's team are:

a) Insurance Europe

Depending on the rate of return of completed questionnaires by the insurers across Europe, Insurance Europe may have to do some follow-up by the federations.

b) Allianz

Allianz should continue to gather answers to the questionnaire coming from the different channels, update the corresponding mapping, and further develop its assessment of construction insurance situations across Europe (deliverable 3.1).

c) Hannover Re

- In order to retrieve information all over EU, the validated questionnaire will be sent to the local insurers in order to extend the description made for each country.

  Beyond simple identification of the contacts made for the call of tender, the difficulty lies in the identification of the right person within the companies with specific knowledge on construction insurance.

- At the moment the following meetings are foreseen:

  - **For France:**

    SMABTP (construction insurance specialist) — to be planned
    AXA CS (general insurer for large accounts) — to be planned

  - **For Germany:**

    VHV (construction insurance leader) — planned summer 2013
    HDI Gerling (general insurer) — planned summer 2013
    EIFER (Institute For Energy Research) — to be planned

  - **For the United Kingdom:** AVIVA (general insurer) — planned 2013

  - **For Italy:** GENERALI (construction insurance leader) — to be planned

  - **For Scandinavia (by Stockholm office):** — planned 2013

Considering their global activity, the following reinsurers will also be contacted:

- Munich Re (one of the leaders in Engineering covers) planned summer 2013
- SCOR (one of the leaders in IDI covers) planned summer 2013

Regarding the financial protection mechanisms other than insurance, we identified Energy Performance as being the only guarantee that can really benefit from such a system.

As Germany is a country with less post completion guarantees than other Western Europe countries, it is also the biggest user of financial protection.

After first contact with the German construction insurance leaders we should meet them during 2013 in order to retrieve information on that matter.

d) APAVE

APAVE will further explain how technical control helps to improve the quality of construction.

The analysis should also stress the contribution of the Controller of the relevance of the evaluation and risk control processes it takes part in.

More specifically, the following items will be examined:

- The countries where risk assessment by a technical inspection service is mandatory or voluntary and is linked to the insurance schemes;
- The prime requirements of the construction work which come within the technical Inspection scope and are guaranteed by the insurer;
- The types of construction works concerned;
- The missions of the technical Controller;
- Which quality signs are used by the technical Inspection service

e) SBI

The following work will be done:

- Improvement of the analysis towards insurance schemes.
- Deepening of the vertical analysis in connection with the policy convergence discussion.

f) NHBC

In order to extend the WP3.2.6's "example of historical assessment of innovation by insurance", which deals with Structural Sealant Glazing (SSG) technology, NHBC will recover information on Great Britain's experience.

The following questions must be addressed:

- How did NHBC "include" this innovative technology into its guarantees? Was any specific "certification" or control regarding the products / the installation system / the constructors or any quality sign specifically created to qualify the risk when it appeared?

- Or was it excluded for a sufficient amount of time in order to get some feedback on the failures?
- What was the extent of the guarantee: only mechanical / structural solidity or was water-tightness included?

CHAPTER IV – WORK PACKAGE 4

1. Work Programme

1.1 Expectations and objectives

The overall aim of WP4 is to provide policy consultation for the European Commission on the goal of the project and to disseminate the results of the project. More specifically, this work package has the two following objectives:

- To assist the Commission services in the setting up and functioning of a forum composed of the representatives from the construction and the (re)insurance sector, Member States and Commission services to ensure guidance of the pilot project and a dialogue with stakeholders.

- To disseminate the results of the pilot project to practitioners, representatives of the construction and (re)insurance sectors, the research community and policy makers in the European Union.

1.2 Milestones and deliverables

According to the overall work plan, the third six month period of the project includes Milestone 4 Forum Meeting 3 (month 13) for WP4 along with three deliverables.

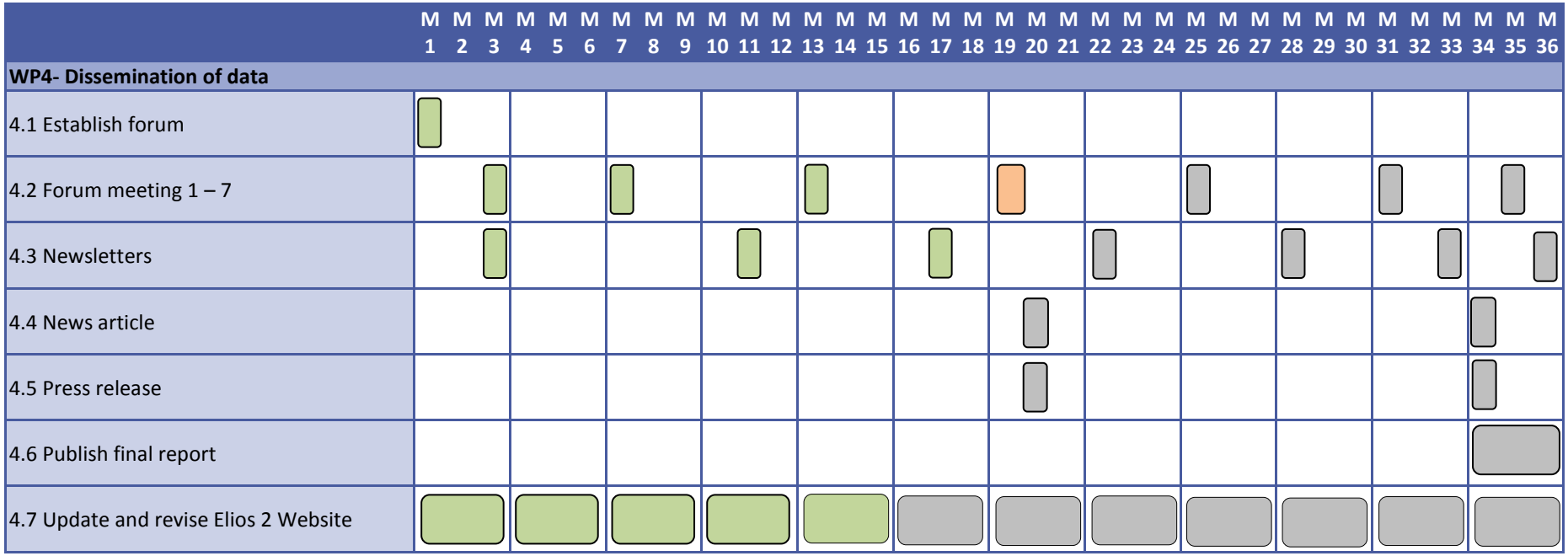
The deliverables of the third six month period include (see figure below):

- ✓ D4.4: Forum meeting 3
- ✓ D4.11: Newsletter 3
- ✓ D4.22: Update and revise the Elios 2website.

Please note that the remaining deliverables related to the newsletters have been postponed by around three months in agreement with the European Commission representatives.

The rationale is to have more frequent communication with the Forum members. Instead of having both a Forum meeting and a newsletter every six months, the idea is to communicate every three months alternating between Forum meetings and newsletters. The preparation of the third newsletter has been slightly delayed, because the project team awaited final approval of the second progress report.

Below, an updated version of the time schedule is provided. The deliverables marked in green have successfully been delivered.



Colour coding		
	Green	Finished
	Orange	In progress
	Grey	A future deliverable

The table below gives an overview of the degree of completion of each deliverable for WP4 as of June 2013.

Deliverable	Degree of completion
D4.1 Establish Forum	Completed
D4.2 Forum Meeting 1	Completed
D4.3 Forum Meeting 2	Completed
D4.4 Forum Meeting 3	Completed
D4.5 Forum Meeting 4	Ahead of schedule, 75 % complete
D4.6 Forum Meeting 5	n.a.
D4.7 Forum Meeting 6	n.a.
D4.8 Forum Meeting 7	n.a.
D4.9 Newsletter 1	Completed
D4.10 Newsletter 2	Completed
D4.11 Newsletter 3	Completed
D4.12 Newsletter 4	n.a.
D4.13 Newsletter 5	n.a.
D4.14 Newsletter 6	n.a.
D4.15 Newsletter 7	n.a.
D4.16 Newsletter 8	Cancelled as agreed at first progress report
D4.17 News article 1	n.a.
D4.18 News article 2	n.a.
D4.19 Press release 1	n.a.
D4.20 Press release 2	n.a.
D4.21 Publish final report	n.a.
D4.22 Update and revise ELIOS website	50 % complete of total

Note: n.a. = not yet applicable.

2. Work carried out so far

2.1 Forum meetings (Deliverables D4.4)

A bit ahead of schedule, the Forum has already had its third meeting during the second six months of the project period (deliverable D4.4). The third Forum meeting (deliverable D4.4) was held on the 24th of January 2013.

The work in this six month period has included drafting the minutes from the third Forum meeting and preparing invitations and working documents for the fourth Forum meeting.

The meeting themes for all seven Forum meetings are shown in the table below. The dates of meetings 2, 4 and 6 have been slightly rescheduled from July to June to accommodate for summer vacations in July.

N°	Date	Themes for debate
1	March 2012	Strategy and detailed work plan
2	June 2012	Directory on the directory on quality/conformity marks (draft version)
3	January 2013	Database for indicators on quality and pathology (draft version)
4	June 2013	Analysis of insurance schemes (draft version)
5	January 2014	Cross-cutting debate on directory on marks, indicators and schemes
6	June 2014	Preliminary conclusions
7	November 2014	Final report and recommendations

The third Forum meeting was a full-day meeting held on Thursday the 24th of January 2013. The forum meeting focused on the database for indicators on quality and pathology. The purpose of Forum Meeting 3 was:

- To report on the review of existing research work and data sources on indicators for pathology (WP2).
- To discuss selected themes on building pathology of Work Package 2.
- To report on progress of the other work packages.

The agenda of the third forum meeting was:

- Introduction and welcome – by the European Commission;
- Review of existing data sources and results of questionnaire on the availability of data for building pathology – by Henk Vermande, ARCADIS
- Results of case studies for pathology of 10 selected eco-technologies – by Graham Perrior, NHBC
- Discussion of three selected WP2 themes – moderated by Henk Vermande, ARCADIS:
- Progress report on WP1 Quality signs – by Jean-Luc Salagnac, CSTB
- Progress report on WP3 Insurance schemes – by Thomas Dunand, Hannover Re
- Progress report on WP4 Forum and dissemination – by Kim Haugbølle, SBi/Aalborg University
- Summary – by the European Commission

The discussion of selected WP2 themes focused on the following:

- **Theme 1)** The role of building pathology (and quality signs) for risk assessment by insurers during the underwriting process of innovative building products – by Henk Vermande (supported by Thomas Dunand, Hannover Re)

- **Theme 2)** Analysis of the needs and criteria from insurers for the format (structure) of the EU-wide database on pathology indicators of eco-technologies – Henk Vermande, ARCADIS

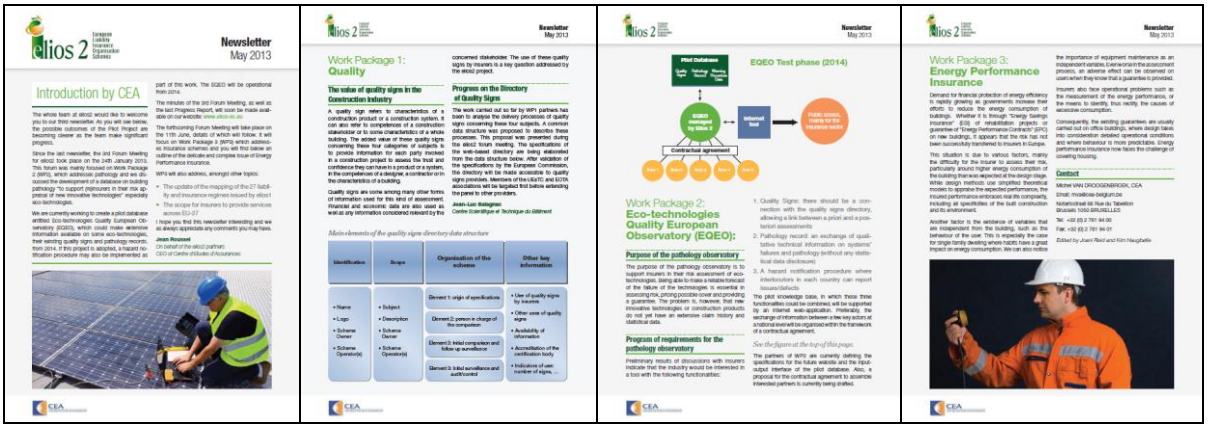
- **Theme 3)** Conditions and modalities to gather, exploit and disseminate relevant data and information to all parties concerned as well as the maintenance and the exploitation of the database after the termination of the pilot project

The outcomes and conclusions obtained from the debate on themes have been included in the respective work package.

2.2 Newsletter (Deliverable D4.11)

The third task of WP4 is to prepare seven newsletters – one following each of the forum meetings. The third newsletter (deliverable D4.11) was prepared during the spring 2013 and issued in May 2013.

The newsletter is provided below.



The newsletter is designed not only to update interested parties on the progress of the project but also to give them an opportunity to become involved whenever they see fit.

2.3 Website (Deliverable D4.22)

Deliverable D4.22 is to update and revise the Elios 2 website. A revision of the website has been implemented, which includes a more focused main page with reference only to Elios2 and not Elios1 as well as using English as the main entrance language. Updates of relevant news have been added to the website.

3. Next steps

In the next six month period WP4 will focus on the sixth milestone of WP4, namely the execution of Forum Meeting 5 (month 25) in January 2014. At the fifth Forum Meeting, a cross-cutting debate on directory on marks, indicators and schemes will be staged.

The deliverables of the fifth six month period (month 19-24) include:

- D4.5: Forum meeting 4. The Forum meeting will be executed on the 11th of June 2013 and the minutes will count as the first deliverable of the next six month period.
- D4.6: Forum meeting 5. Although the Forum meeting is not due until month 25, the preparation of the meeting will be a central activity in the coming period. A draft of the agenda will be prepared in November 2013 for final approval by the European Commission by the end of November and for distribution to Forum members in the first half of December 2013.
- D4.12: Newsletter 4. The next newsletter will be prepared during September for publication in October.
- D4.17 News article 1. The first news for a construction/insurance professional or trade journal will be prepared.
- D4.19 Press release 1. The first press release from the project will be prepared.
- D4.22: Update and revise Elios 2 website. The Elios 2 website will be continuously updated during the coming six month period.

CHAPTER V – WORK PACKAGE 5

1. Work Programme

1.1 Expectations and objectives

The objective of WP 5 is to ensure coherence between the activities of the different Work Package teams and the associated bodies in order to achieve a timely delivery of defined tasks within the Work Packages.

1.2 Milestones and deliverables

WP5 has been divided into 5 tasks and 6 deliverables.

- Tasks:

Task 5.1: General administration of the project

Task 5.2: Coordination of work between the participants of Work Packages 1,2,3 and 4

Task 5.3: Animation and coordination of activities of the associated bodies

Task 5.4: Ensure an interactive communication with the Commission within the entire duration of the project

Task 5.5: Consolidating of the input of the Work Package teams 1,2,3 and 4 into research reports

- Deliverables:

According to the overall work plan, the second six month period of the project includes the following deliverables:

D5.1 : Efficient management and administration of the project (month 0-36)

D5.2: Coordination of Work packages to ensure a coherent progress of the research work (month 0-36)

D5.3: Animation and coordination of activities of associated bodies (month 0-36)

D5.4: Assistance to the Commission (month 0-36)

D5.5: Research reports (month 12)

D5.6: Exchanging with the Commission on the subject of reports submitted and ensure necessary amendments if required (months 12-13)

1.3 A remark about the financial protection requirements and the regulatory framework

As mentioned in the previous progress report, a new issue is to be addressed within the Work Programme.

During our meetings with several stakeholders, it has become apparent that the questions of the conditions, rules and information needed when an insurer acts in the framework of the Freedom to Provide Services, have to be addressed.

To discuss this matter, a preparatory meeting will be planned soon with Lukas Bortel of DG Internal Market and Services.

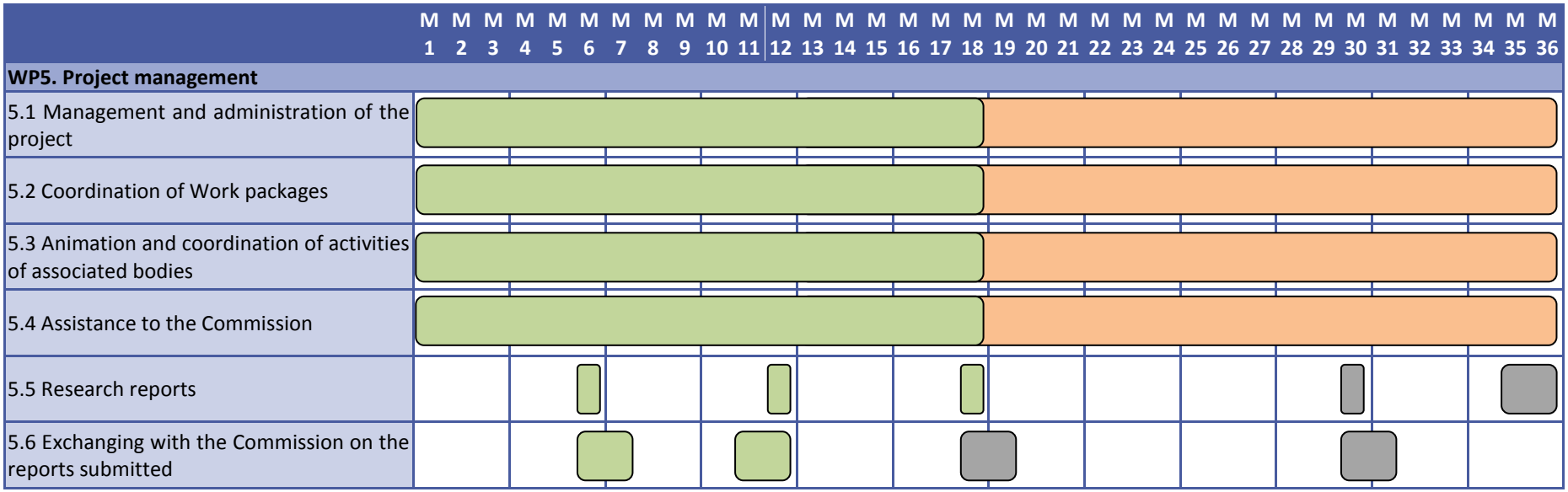
1.4 EQEO and the quality signs directory

The development of a pathology database for eco-technologies, which will be called EQEO (Eco-technologies Quality European Observatory), is one of the major tasks of WP2.

As a result of the close interaction between the different work packages, an objective of WP5, this database will contain a part dedicated to quality signs.

This part of the database will be set up in strong link with the directory of WP1. This link will make it possible to compare the ‘a priori’ and ‘a priori’ assessment of the concerned quality sign.

Below, an updated version of the time schedule for WP5 is provided. The deliverables marked in green have successfully been delivered.



Colour coding		
	Green	Finished
	Orange	In progress
	Grey	A future deliverable

The table below gives an overview of the degree of completion of each deliverable for WP4 as of June 2013.

Deliverable	Degree of completion
D5.1 Management and administration of the project	Progress: 50 %
D5.2 Coordination of Work packages	Progress: 50 %
D5.3 Animation and coordination of activities of associated bodies	Progress: 50 %
D5.4 Assistance to the Commission	Progress: 50 %
D5.5 Research reports	Progress: 50 %
D5.6 Exchanging with the Commission on the reports submitted	Progress: 50 %

2. Work carried out so far

In the Elios 1 study, the advisory and steering work was limited given the limited number of partners, whereas the Elios 2 study has needed a bigger input in terms of organization to ensure coherence between the different work packages.

To reach this objective and in order to encourage the exchange of information between the numerous partners, different meetings between the work packages have taken place:

17-07-2012 : meeting HANNOVER RE-MAF-CSTB
28-08-2012 : meeting CAPEB-HANNOVER-RE-CSTB
30-08-2012 : meeting ARCADIS, CSTB, BBRI, SBi, NHBC
19-09-2012: meeting Insurance Europe: CEA, CSTB, HANNOVER-RE, ARCADIS
23-10-2012 : meeting ARCADIS-HANNOVER RE – CSTB
12-02-2013 :meeting ARCADIS, CSTB, SBi, NHBC
20-03-2013 : meeting Insurance Europe : HANNOVER RE - CEA
02-05-2013 meeting ARCADIS-BBRI-CSTB

It can now be reported that the project is on track. For an overview of the work carried out so far by the different WPs, we refer to their contributions above.

Given that the WP5 deliverables span the entire duration of the project, excluding those related to the progress reports for which there is a deliverable every six months, it is not simple to give a status update at any given moment.

In general it can be said that over the past six months, the general administration of the project has been handled and the necessary initiatives taken in such a way that the work programme and the project agenda were respected.

The Commission receives regular updates on the progress of the project and attends the Elios project meetings (Steering Group Committee 8/04/2013 and Forum preparation meeting 17/05/2013).

The general public is informed of the progress made through the newsletter and the website which is being updated in collaboration with WP4.

Furthermore, a second meeting was held with Insurance Europe in Brussels (20/03/2013) following the meeting of September 2012. The Elios team was represented by the leaders of WP3 and WP5.

An overview of the work done so far has been given at this occasion and the questionnaire of WP3 was presented. This questionnaire was later sent by Insurance Europe to all the federations. The work of gathering the answers is under progress as mentioned above in the WP3 contribution.

The Scientific Committee is also receiving updates on the project as well as all the documents (progress reports, deliverables, etc) thereby enabling them to establish recommendations in terms of the work accomplished and in order to formulate their observations on the future orientation that the Elios 2 project should take.

A first meeting between the WP leaders and the scientific committee was scheduled to take place in May 2013 at CEA's office but had to be postponed for organisatory reasons. The meeting will be planned later this year. The Commission will obviously be invited to participate in this meeting.

At the moment, preparations are being carried out in collaboration with WP4 and the Commission for the next Forum Meeting held the 11th of June 2013. A preparation meeting was held the 17th of May 2013.

Finally, as pilot of the Elios project, WP5 is studying the possibility of recruiting new partners in order to reinforce the team, most particularly for the Pathology and quality signs database.

3. Next steps

Over the next six-month period, WP5 will continue to monitor the smooth running of the project. In particular, the focus will be on executing Forum Meeting 5, organizing a meeting for the Scientific Committee and drafting Progress Report 4.