



Forum 2

WP2: Building Pathology - Progress

Date: 13 June 2012

WP2 addresses the following requirements of the call for tender

“Development of an EU-wide knowledge base on quality indicators in construction and building pathology”

Objectives:

- To develop indicators and a mechanism to monitor the evolution of quality in construction and pathology related to construction design and techniques and the integration of eco-technologies;
- To make this information available in a pilot database.

'Building pathology'

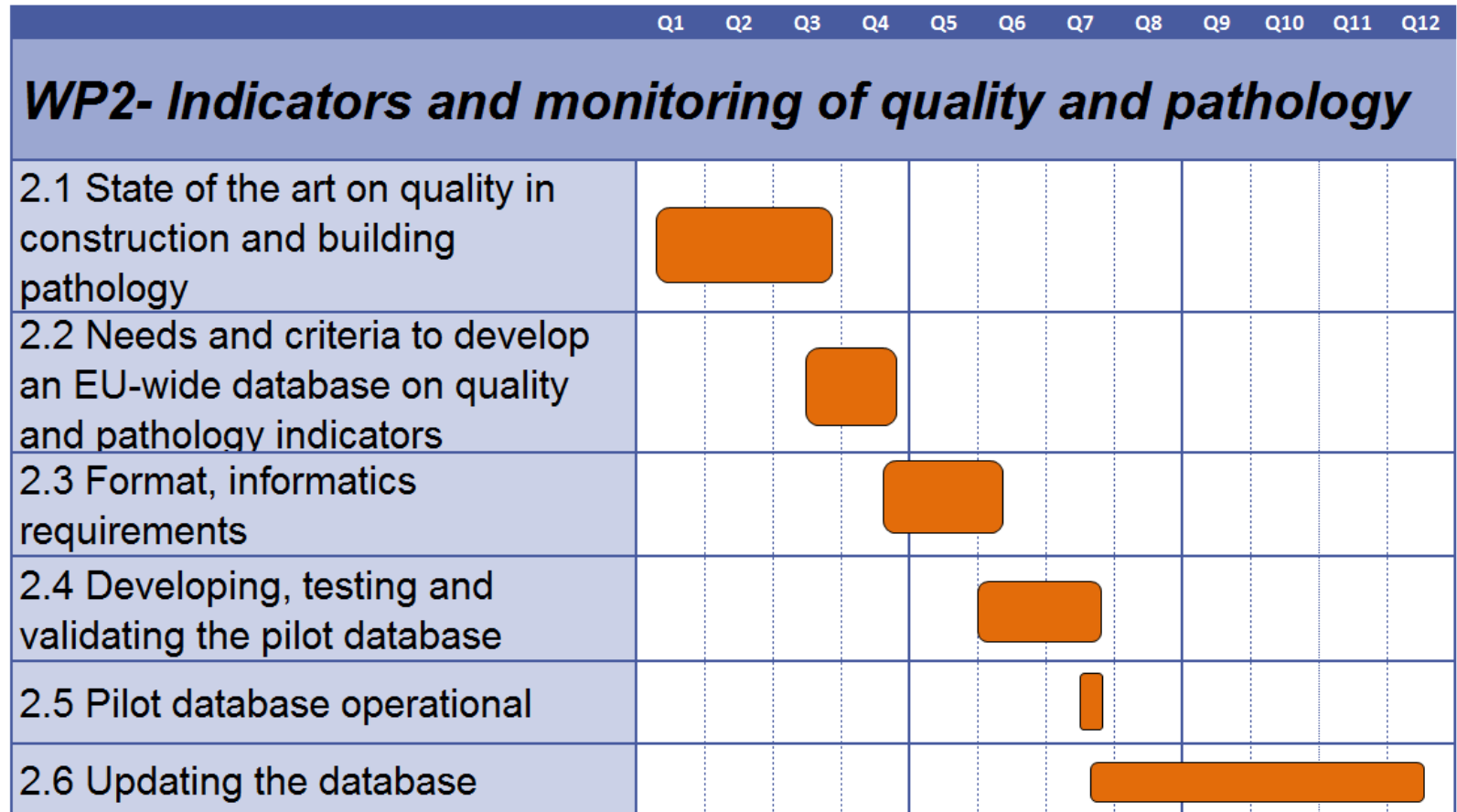
Building Pathology : the study and diagnosis of defects and damages of a building

- Provides a detailed knowledge of how buildings are constructed, used, occupied and maintained, and the various mechanisms by which their structural, material and environmental conditions can be affected.

Program of work

1. State of the art on quality in construction and building pathology
 - Kick-off meeting WP2 partners
 - Definition of 'building pathology';
 - Review of existing research work and data sources;
 - Selection and analysis of 10 eco-technologies;
 - Developing a questionnaire;
 - Collection of information on availability of data sources;
 - Assessment of the value of the existing research work, data sources
2. Needs and criteria to develop an EU database on quality and pathology indicators
 - Analysis of the needs and the criteria of insurers;
 - Program of requirements for the pilot database
3. Setting up a format for the database, validation, data requirements
4. Development, testing and validation of pilot database

Planning



'Building pathology'

Eco-technologies are defined as: *technologies which (are supposed to) contribute to the environmental performance of buildings (and whose use is less environmentally harmful than relevant alternatives).*

10 selected case studies

Energy production:

1. Photovoltaic panels (PV's)
2. Ground source heat pumps

Energy conservation:

3. Double skin curtain walls / façade
4. Mechanical ventilation with heat recovery (MVHR)
5. Vacuum-insulated panels (VIPs)
6. Bio-material-based insulation, e.g. straw, hemp, sheep's wool
7. Paper-based insulation, e.g. Warm cell

Water:

8. Rainwater harvesting, including catchment basins & grey water re-cycling
9. Green or brown roofs

Minimize pollution:

10. Low VOC (Volatile Organic Compound) materials, e.g. paints, kits & glue

Questionnaire

The questionnaire is specifically aimed at the following questions:

- To what extent are data on building pathology, especially with regard to eco-technologies, available in Europe; which organisations have databases on defects, damages and their causes?
- Are these data publically available, and/or the are organisations willing to share these data in a European database?

Each case study will describe:

- Introduction to the technology;
- Available types of technologies;
- The market;
- Some figures on the diffusion in the European market;
- Application of the technologies;
- Characteristics of the industry;
- Construction/installation process, players in the market, actors involved in the design, the production, the delivery, the technical control, the certification, the installation in the building and the operation/maintenance of the technology;
- Organisational and quality aspects (skills, quality marks, professional qualifications);
- Regulatory aspects, technical regulation;
- Strengths, weaknesses, opportunities, threats of the technology;
- Building pathology, defects, what can go wrong during the design phase, the installation phase and the use phase?