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# Forum 2

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## WP2: Building Pathology - Progress

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Date: 13 June 2012

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## 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'

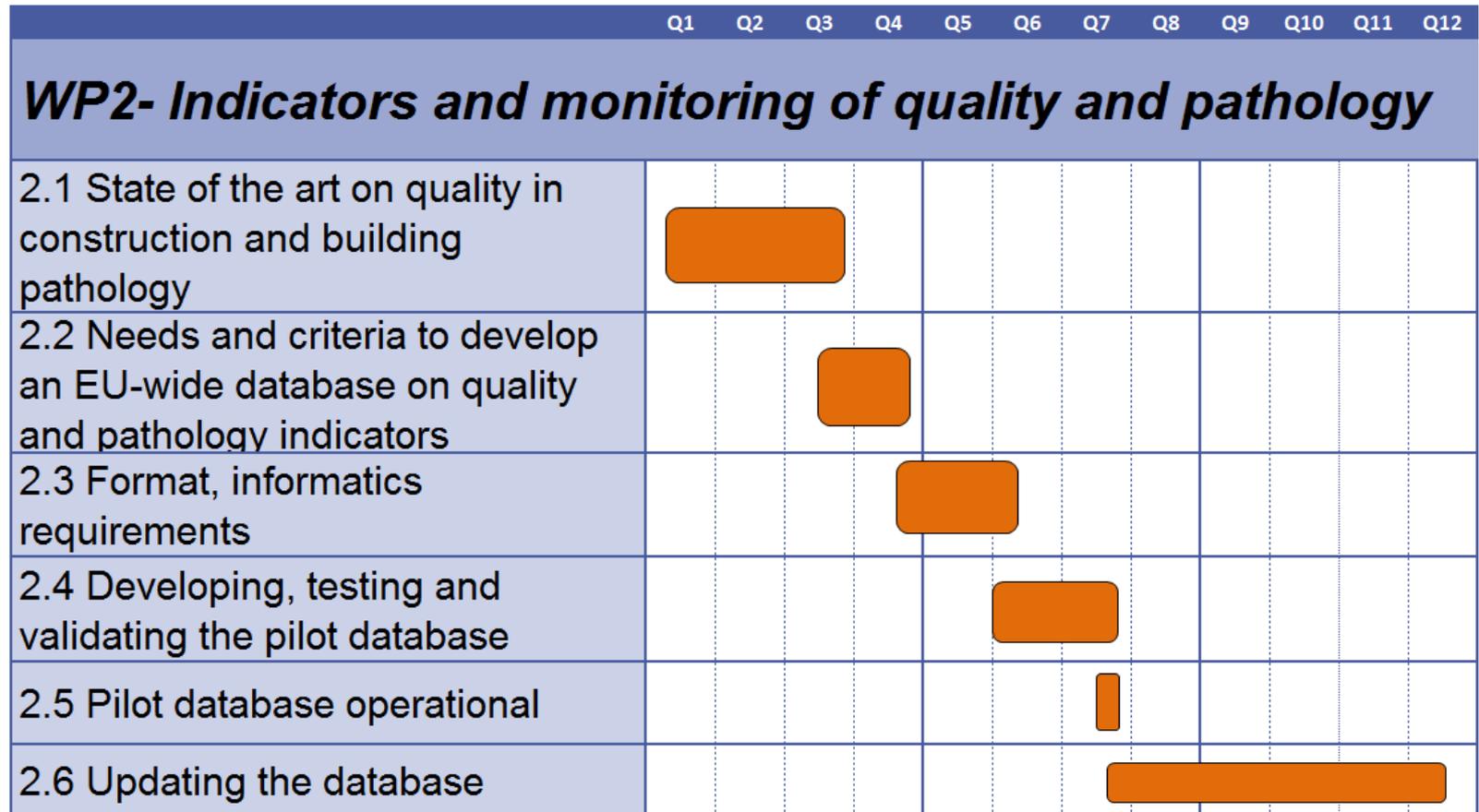
*Building Pathology* : the study and diagnosis of defects and damages of a building

- 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?