



# Cluster "LIFETIME"

Cluster "LIFETIME" consists of five EU Growth programme projects, with objective to integrate the knowledge of partners of these projects for advancing the work and results of all projects, and to produce an integrated and generic "European Guide for Lifetime Design and Management of Civil Infrastructures and Buildings"

## Project: CONLIFE



### Coordinator:

Universität Essen, IBPM, Germany. Prof. Dr. Max J. Setzer, mj.setzer@uni-essen.de

## Life-time prediction of high-performance concrete with respect to durability

**Major Objective:** Development of deterioration models and life-time design concepts for high-performance concrete (HPC) under different environmental conditions and exposure classes

**Work program:** Investigation of all relevant HPC properties with identification of damage mechanisms, service-life estimation and final definition of hints (Fig.1)

### Results:

- Understanding and avoidance of damages of HPC due to practical conditions
- Know-how about optimal composition of HPC mix designs with regard to rheological aspects and damage protection
- Adjustment of existing test methods to the behaviour of HPC
- Estimation of a service-life of HPC constructions under various climates
- Achievement of a fundamental database and an unified European level

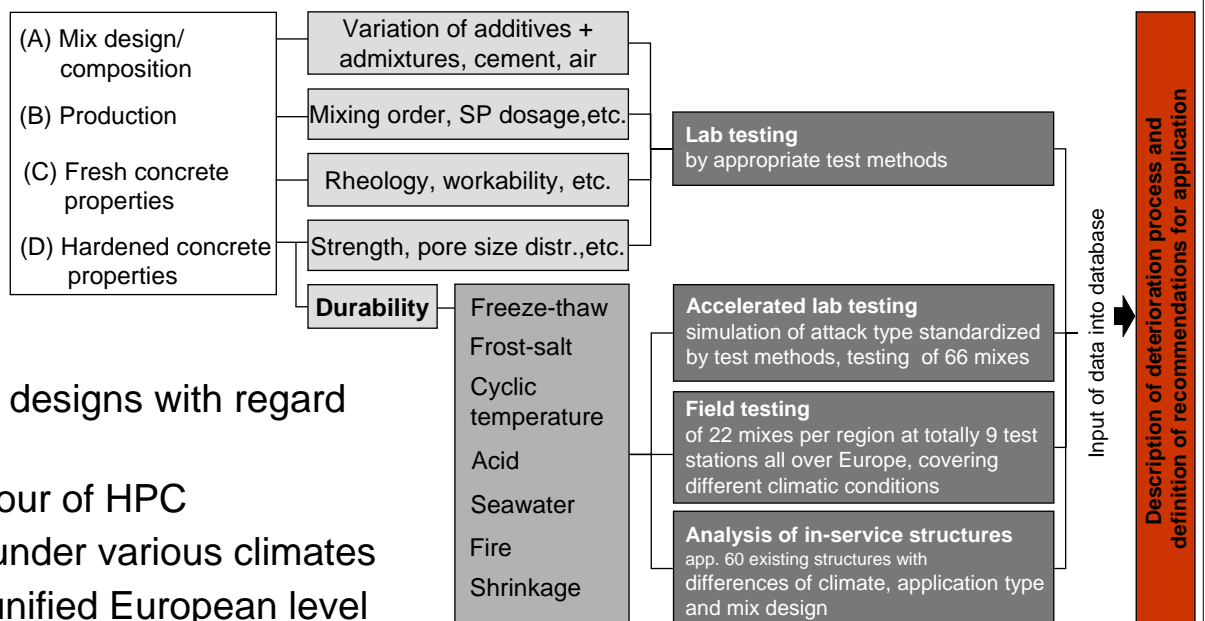


Fig.1: Summary of work program

**Main output:** Manual with recommendations and hints regarding HPC application and service-life estimation, including acceptance criteria and production rules<sup>(2)</sup> (Fig.2)

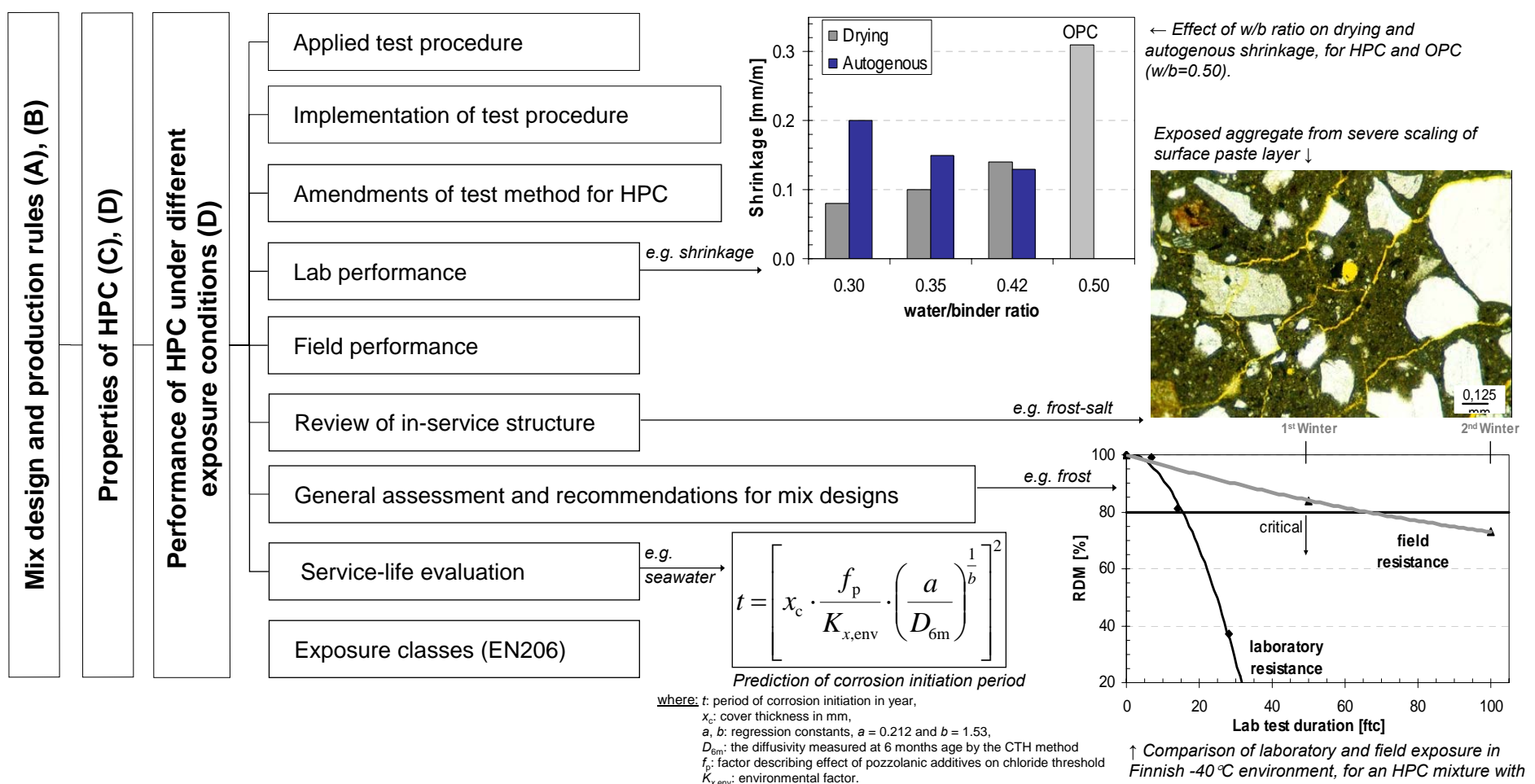


Fig.2: Overview of manual structure, divided into the above sub-chapters for each of the investigated exposure type - example of results<sup>(1),(2),(3)</sup>

**Publications:** (1) M.J. Setzer, S. Palecki: Proceedings of international conference on durability of HPC and final workshop of CONLIFE, 23-24 September 2004, Essen, Germany, ISBN 3 931 681 807  
 (2) CONLIFE Manual with recommendations for application of HPC & database as CD-rom, published and distributed by MC Bauchemie, September 2004  
 (3) CONLIFE web page: <http://fasae.ibpmw.uni-essen.de/euproject>, deliverable reports 1-10

### Cluster "LIFETIME" coordinating organisations:

- VTT Technical Research Centre of Finland, FI (coordinator of the cluster: Prof. Dr. Asko Sarja, asko.sarja@vtt.fi)
- Taylor Woodrow Construction Ltd, UK
- CSTB Centre Scientifique et Technique du Bâtiment, FR
- Imperial College of Science, Technology and Medicine, UK
- Universität Essen, DE



### Cluster "LIFETIME" projects:

- LIFECON (Coordinator VTT, Finland)
- EUROLIFECYCLE (Coordinator Taylor Woodrow, United Kingdom)
- INVESTIMMO (Coordinator CSTB, France)
- LICYMIN (Coordinator ICSTM, United Kingdom)
- CONLIFE (Coordinator Universität Essen, Germany)