

EXPECTED RESULTS

Considerable progress has been made in the harmonisation of design standards across the EU through the development and implementation of the Eurocodes. However, no harmonised practices and methodologies exist for the maintenance of structures and in many cases the infrastructure management does not include reliable assessment methods to enable more efficient use of resources in the structures maintenance. While many research programmes and projects have been carried out on mechanism of deterioration and more recently on modelling of the degradation processes, on methods for the assessment of structures and inspection methods for the diagnosis of structural condition and the consequences of deterioration, these have not been implemented in a consistent way across the EU states.

Currently, harmonised European Standards (EN standards) have been developed for repair methods of concrete structures (EN 1504 series). For steel structures no harmonised methods exist for repair although standards were developed for the protection of steel (EN 12944 series). Because of this lack of consistency, the DURATINET project will focus on the preparation of harmonised guidelines for the management of infrastructure assets. These guidelines will be based on reliable methods for the evaluation of structures condition and improved repair strategies leading to enhanced durability. They will incorporate a more efficient use of resources maintenance and repair thus promoting sustainability, energy efficiency and cost-effectiveness. In the preparation of these guidelines, attention will be given to existing European standards to ensure consistency and compatibility.

The project results will not only provide answers to specific practical questions in the field of infrastructure management but will also address the significant challenges related to the impact of maintenance activities on the environment and the sustainability of construction. The project consortium places great importance on improving the transfer of knowledge between academics and industry and reducing the gap that frequently exists between new developments and its practical application.

It is also important to seek more active cooperation on new and innovative research fields namely on green and smart structural materials and new repair nanomaterials.

To meet these challenges and opportunities, it is important that links are made and maintained between the project and the various stakeholders, including infrastructure owners and administrations, maintenance managers, materials producers: these links will be made not only within the partners directly involved in DURATINET but will extended to other European and World regions.

The results expected for **DURATINET project** are as follows:

- Guidance manual for the maintenance and repair of concrete and steel structures. This will include methodologies for optimising the maintenance of road, rail and maritime infrastructure, durability requirements for structural materials to avoid the risk of failure and



maximise service life, reliable inspection methods for the diagnosis of damage and strategies for repair.

- Technical reports on new repair materials and systems and examples of application.
- State-of-the-art reports on green concretes, more environmentally compatible protection coatings, monitoring systems, etc.
- Database DB-DURATI with performance data for repair materials useful for modelling service life.
- Atlantic Area Cluster “Green and Smart Materials” to promote cooperation in the research of these new structural materials, the dissemination of the progress and the promotion of their application in civil engineering structures to improve the sustainability of construction.
- Website DURATINET to facilitate the transfer of knowledge on the maintenance of concrete and steel in transport infrastructure from the project to the different stakeholders involved in the project themes.

All the project deliverables will have web versions available for download from the “publications” page of the DURATINET website. The database and activities relating to the Atlantic Area Cluster “Green and Smart Materials” will also be available online from the project website and are open for participation by any party involved in this or other relevant themes.

The DURATINET consortium attaches considerable importance to the dissemination and exploitation of the project results and will devise and implement a comprehensive strategy to achieve this goal. Particular attention will be given to the means by which the results will be implemented by national and regional authorities for the management of roads, railways and waterway infrastructure.

Dissemination will be achieved through:

- Cooperation with a stakeholder group consisting of potential end-users not only from the Atlantic Area but also from other European and World regions
- Organisation of trans-national workshops to present progress, activities discussion of achievements with end-users
- Preparation of technical reports and papers for conferences
- Publication of project newsletters describing the main project activities and achievements: this will be available on the project website, circulated by e-mail and in hard-copy
- Articles in national technical journals and press release news
- Organisation of an International Conference at the end of the project

Deliverables /Milestones

MILESTONES	DELIVERABLES	EVENTS
Project launch meeting - Feb 09	<ul style="list-style-type: none"> • Newsletter 01 	1 st Trans-national workshop - Lisbon
Semester 1	<ul style="list-style-type: none"> • Newsletter 02 • Project website 	2 nd Trans-national workshop - Belfast, UK
Semester 2	<ul style="list-style-type: none"> • Newsletter 03 • DB-DURATI • Technical reports 	3 rd Trans-national workshop - Bordeaux, FR
Semester 3	<ul style="list-style-type: none"> • Newsletter 04 • Guidelines Manual (Vol I,II,III) (short version online) • Technical reports 	4 th Trans-national workshop - Dublin, IR
Semester 4	<ul style="list-style-type: none"> • Newsletter 05 • Technical reports 	5 th Trans-national workshop - Vigo, SP
Semester 5	<ul style="list-style-type: none"> • Newsletter 06 • Guidelines Manual (Vol I,II,III) (print version) • Technical reports 	6 th Trans-national workshop - Nantes, FR Course on inspection and repair Practical demonstration on repair
Semester 6 (half semester)	<ul style="list-style-type: none"> • Newsletter 07 • Technical reports 	7 th Trans-national workshop – La Rochelle, FR
Project closure	<ul style="list-style-type: none"> • Final project report 	International conference DURATINET+ Green Smart Materials Cluster (GSM Cluster) - PT