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Pavement Performance and Remediation Requirements following Climate Change

a research project of the
cross-border funded joint research programme
“ENR SRO3 - Road Owners Getting to Grips with Climate Change”

1) Introduction

“Road Owners Getting to Grips with Climate Change” is a trans-national joint research programme that was initiated by “ERA-NET ROAD – Coordination and Implementation of Road Research in Europe” (ENR), a Coordination Action in the 6th Framework Programme of the EC. The funding partners of this cross-border funded Joint Research Programme are the National Road Administrations (NRA) of Austria, Denmark, Finland, Germany, Ireland, Netherlands, Norway, Poland, Sweden and United Kingdom.

2) Short Description

The proposed project will :

- study the likely differences in moisture (water) condition in the pavements of roads in Europe, from the Alps and northwards, as a consequence of climate change;
- estimate the likely consequences for pavement and subgrade material behaviour and for whole pavement needs in terms of :
 - reformulation of material composition,
 - new and modified drainage practice,
 - modification to maintenance practice and rehabilitation;
- perform this study for a range of representative pavement types (asphaltic, unsealed, intercity, county, low-volume) and representative climatic zones (temperate maritime, temperate Mediterranean, continental warm summer, continental sub-arctic);
- assess uncertainties to permit risk / vulnerability to be evaluated;
- define options for responding to the changes, identifying key selection criteria;
- perform exemplar cost-benefit analyses to allow road owners to determine best options for their own situations;
- formulate findings into a wide range of formats (published, brochure, web, educational, email) and disseminate them accordingly.
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The project will be performed by a combination of literature review, laboratory evaluation of materials, computational studies of pavement structural and hydrological performance and by the development of recommendations suitable for implementation by national road owners into their specifications and design guides. An advisory panel drawn from a selection of national road authorities will be assembled to advise on goals and progress and to critically examine the outputs to permit their improvement.

4) Project Facts

Duration: 15/09/2008 – 15/03/2010

Budget: EUR 258.100,-

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