POTHOLE
Durable Pothole Repairs

a research project of the
cross-border funded joint research programme
"ENR2011 DESIGN – Rapid and durable Maintenance Method and Techniques"

1) Introduction

"ENR2011 DESIGN – Rapid and durable Maintenance Method and Techniques" is a trans-national joint research programme that was initiated by "ERA-NET ROAD II – Coordination and Implementation of Road Research in Europe" (ENR2), a Coordination Action in the 7th Framework Programme of the EC. The funding partners of this cross-border funded Joint Research Programme are the National Road Administrations (NRA) of Belgium, Germany, Denmark, Finland, France, Netherlands, Norway, Sweden, Slovenia and United Kingdom.

2) Project Facts

Duration:	01/10/2011 – 30/09/2013
Budget:	EUR 315.000
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3) Project Description

The main objective of the project POTHOLE is to address the need of road agencies for durable construction and maintenance methods for the repair of damage which occur after hard winters due to repeated frost-thaw cycles. All European countries are faced with the problem of potholes and how to repair them. Many approaches just deal with repair methods which are durable only on a short-term base and therefore are not cost-effective.
Regarding the imense economic loss due to the damage, the repair of potholes with materials that are only good on a short-term base and, most importantly, the increasing numbers of crashes, injuries and deaths caused by potholes requires an improvement in the methods and techniques. In this context it is not just important to improve the methods and

techniques, but also provide the road agencies with some kind of tool which gives them the relevant information and helps them to make sound decisions.
In this project, normal together with new approaches which target the medium- or long-term repair of potholes will be studied. In a catalogue tests, evaluation methods and experiences according to existing European Standards will be listed to give road agencies an overview of the possibilities for the repair of potholes. Furthermore, the testing of techniques and the use of materials from already existing trial sites will be used to determine laboratory testing which can or should be used to be able for the correct testing of materials for this purpose.
The gained knowledge, including the European experiences, will be used to develop guidelines for road agencies to enhance their maintenance needs, allowing them to select a repair technique and/ or material with a durability corresponding to the estimated lifetime of the existing pavement. The great advantage of this approach is the corporation of seven countries which ensures that many views and experiences throughout Europe are considered. This also means a great help for the implementation of the results at the end of the project as all partners can use their national contacts within the national road agencies and provide them with the developed guidelines on a direct basis.

4) Expected Results

Techniques and Guidelines for stakeholders benefits

The project provides great trans-national benefits for all European countries, not just the involved ones. Based on wide-ranged European knowledge, different catalogues according durable techniques and materials for the repair of potholes as well as guidelines for the repair will be developed. This will help European road agencies to ensure durable and sustainable maintenance for their road network and therefore offer also financial advantages in a long term view. These aims will be achieved through an extensive literature review, selection of testing methods and also techniques, testing and evaluation in the laboratroy and in situ, workshops and feedbacks from experts across Europe.
Furthermore this approach offers benefits for other stakeholders involved as constructions firms and even road users by giving the road authorities decision tools for their maintenance strategies.

Standardized Measures

Even before the last three harsh winters which have dramatically increased the number of potholes (in some countries, an increase of about 70% new potholes have been observed), road authorities have been facing major problems in coping with the numbers and sizes of potholes on European roads. It is therefore becoming very urgent to find a lasting solution by proposing new repair methods and materials. POTHOLE will be a great step towards a common and sustainable European way to face the problems of potholes. Therefore consistent standards are offered for all stakeholders on the European road network (local and national) according to the durability of road maintenance methods. Existing European differences and gaps between the used measures and tools are reduced and with the new suggested measures and tools trans-national standards are provided.