



## Smart Maintenance, Analysis and Remediation of Transport Infrastructure

### Deliverable 5.3 SMART RAIL Workshop



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# Project Information

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Project Coordinator:

Dr. Kenneth Gavin (kenneth.gavin@ucd.ie)

School of Civil, Structural and Environmental Engineering

University College Dublin

Newstead Building

Belfield,

Dublin 4

Ireland



## Document information

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Authors: The SMARTRAIL Consortium

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# 1 Background

In June 2010 the EC launched the 2011 competition for FP7 funding which included the following item - SST.2011.5.2-6. "Cost-effective improvement of rail transport infrastructure". The proposed scope of work encompassed the following:

1. Application of new technologies to extend the life of elderly infrastructure.
2. Rail transport infrastructure, improve existing degradation and structural models to develop realistic life cycle cost and safety models that demonstrate safe service life and can be used to plan improvement programmes.
3. Investigate new construction methods and logistics for transport that minimize the time and cost required for the replacement of obsolete infrastructure.
4. Investigate the use and cost effectiveness (planning, replacement programmes etc) from application of advanced monitoring techniques to complement or replace existing examination techniques for elderly rail infrastructure.
5. Develop a tool that works with existing widely utilized asset management tools to assess whole life environmental and economic impact from track and infrastructure maintenance and renewal.

Two projects, MAINLINE (focussing principally on metallic bridges and switches and crossings) and SMART Rail (focussing principally on the application of probabilistic analyses tools to civil engineering infrastructure including earthworks, tracks and structures), successfully submitted in response to this call commenced work in autumn 2011. These projects intend to work closely together to maximise their outputs. As part of this agreement a joint dissemination event was held at the TRA 2012 conference in Athens.

Presentations during the special session were made by a small number of key individuals from each project. These described the background to each proposal, where the projects' aims agree and differ, the planned methods of co-operation between both projects and the expected final results. In addition, the results of the initial data gathering will be presented, with the intention of stimulating discussion amongst TRA participants about the work plans and details of any additional data that should be considered.

## 2 Workshop Description

The special session was held on Tuesday 24<sup>th</sup> April at between 18.05 and 19.20. The schedule of speakers at the session included 2 representatives from each project (see Table 1) and the session was moderated by Professor Wolfgang Steinicke from EURNEX.

**Table 1 Session Speakers**

Time	Speaker	
18.05	Professor Wolfgang Steinicke	Introduction to the session
18.10	Dr. Ken Gavin, University College Dublin	Introduction to the SMART Rail project
18.25	Professor Eugene O'Brien, RODIS	Recent research on loading and assessment of bridges
18.40	Dr. Björn N.P. Paulsson	Introduction to the MAINLINE project
19.05	Dr. Brian Bell, Network Rail	The use of composite materials in repair and replacement of rail bridges
	Professor Wolfgang Steinicke	Q&A Session

### 3 Workshop Attendance

The Workshop was attended by over 30 people and a discussion took place in the aftermath of the technical discussions. This discussion considered both technical aspects of the project and considered how best to ensure dissemination and exploitation of the results of the SMART RAIL, MAINLINE and other EU projects. Based on the success of the TRA event the SMART RAIL and MAINLINE groups felt that future collaboration for dissemination events would be worthwhile.



Figure 1 SMART RAIL presentation at TRA Athens 2012