

COORDINATOR:



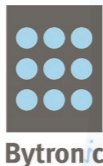
TECHNICAL LEADER:



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PARTNERS:



USER INTEREST GROUPS

The project is focussed on Urban Transport and will host User Interest Groups of Mainline Railway Infrastructure Managers and Urban Operators not directly involved in the project. For more information, refer to www.pmnidea.eu.



PM'n'IDEA



Predictive Maintenance employing
Non-intrusive Inspection & Data Analysis



The project has two drivers:

- To contribute towards the realisation of a 24 x 7 railway by minimising the disruption caused by activities such as inspection, remedial and reactive maintenance, and track renewal.
- The introduction of novel sensor and inspection technologies which focus more on the monitoring of degradation through the measurement of deviation from identified benchmark data known as a “signature tune”.

Both of these drivers promote the use of urban transport, and tramways in particular, which contributes to lowering congestion and the impact on the environment.

The project will deliver new component designs and maintenance processes that are aimed at improving the integrity of urban rail transport networks through the deployment of intelligent design and sensor technologies into cost effective products and targeted non-intrusive monitoring processes. In particular, the monitoring systems will combine objective automatic visual inspection with examination of internal integrity and the assessment of system and component degradation from a defined datum. It will also bridge the current gap in standards for the definition and assessment of the structural integrity of grooved rail.

The innovative developments are directed towards increasing the effective availability of the track infrastructure, increasing the life of new or renovated assets, reducing the cost of maintenance by timely intervention based on objective measurement of degradation and thereby providing a high quality reliable service to the end user.



Project Scope

- Application of image acquisition and analysis techniques for as much of the track system and its environment currently inspected by manual means.
- Development of an inspection system for the assessment of internal integrity of street running grooved rail sections.
- Development of methodologies to measure the deviation of track quality from identified “signature tune” of the segments.
- Establishing the criteria for assessing the structural integrity of grooved rail sections embedded in street running sections of tramway networks.
- Development of techniques for the automatic assessment of the degradation and integrity of track sub-components.

The overall concept of the project is to facilitate the achievement of an efficient urban transport system by generating solutions to some of the currently identified barriers that form the “Project Imperatives”. These have been established through close consultation with operators, maintainers and suppliers and will be added to through the discussions with User Interest Groups established for both Tramway Operators and Mainline Railway Infrastructure Managers.

Project Overview

PM ‘n’ IDEA – Predictive Maintenance employing Non-intrusive Inspection & Data Analysis – is a jointly funded research project focused on the development of novel inspection and sensor technologies for rail track infrastructure. It is a three year project of around 5 million euros which commenced in June 2009.