

MAINLINE - Maintenance, renewal and improvement of rail transport infrastructure to reduce economic and environmental impacts

Demand for rail transportation across Europe is predicted to continue growing. Much of this growth will have to be accommodated on existing lines that contain old infrastructure. This demand will increase both the rate of deterioration of these elderly assets and the need for shorter line closures for maintenance or renewal interventions. However, interventions on elderly infrastructure will also need to take account of the need for lower economic and environmental impacts. This means that new interventions will need to be developed. In addition tools need to be developed to inform decision makers about the economic and environmental consequences of different intervention options being considered.



Project objective

MAINLINE proposes to address these issues through a series of linked work packages that will target at least €300m per year savings across Europe with a reduced environmental footprint in terms of embodied carbon and other environmental benefits. MAINLINE aims to maintain, renew and improve rail transport infrastructure to reduce environmental and economic impact.

The project will:

- Apply new technologies to extend the life of elderly infrastructure
- Improve degradation and structural models to develop more realistic life cycle cost and safety models
- Investigate new construction methods for the replacement of obsolete infrastructure
- Investigate monitoring techniques to complement or replace existing examination techniques
- Develop management tools to assess whole life environmental and economic impact

The development of a tool to assist railway administrations to balance these various considerations is the principal objective of the MAINLINE project. The project will develop methods and tools that will contribute to a more cost-efficient and effective improvement of European railway infrastructure, including assets such as cuttings, bridges, tunnels, track and retaining walls, based on whole life considerations.

The consortium includes leading railways, contractors, consultants and researchers from across Europe. Partners also bring experience on approaches used in other industry sectors which have relevance to the rail sector. Project benefits will come from keeping existing infrastructure safely in service through the application of technologies and interventions based on life cycle considerations. Although MAINLINE will focus on certain asset types, the management tools developed will be applicable across a broader asset base.

For further information, please visit the project website at www.mainline-project.eu.

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