

Public Summary of Confidential deliverable *D 2.1 Coral Tree set up*

What is MERLIN?

MERLIN is a collaborative project funded under the European Commission's 7th Framework Programme on Research and Development. MERLIN started on 1st October 2012 and will last 36 months.

MERLIN's main aim and purpose is to investigate and demonstrate the viability of an integrated management system to achieve a more sustainable and optimised energy usage in European electric mainline railway systems.

What are the issues at stake?

Energy management is a key issue for railway systems and this situation will continue to be prominent for the foreseeable future. Multiple operational scenarios add complexity to the development of suitable and appropriate energy management solutions. Moreover, existing assessment tools lack an integrated approach, and tend to omit the variation in emission levels, energy usage and associated costs resulting from differing traffic peaks. Given that the railway system is a complex and interconnected system, a single supplier, operator or infrastructure manager (as large as they may be) cannot

tackle the energy management issue for the entire network alone. Hence, only through a collaborative approach such as **MERLIN** can effective solutions for this issue be developed. Appropriately, the **MERLIN** consortium brings together the key rail stakeholders from across Europe.

What are MERLIN's main achievements?

- Proposals for technical recommendations (UIC/UNIFE TecRec) on Specification and verification of energy and power consumptions of railway systems and on Energy and power related information protocols at operational level;
- Future business models & recommendations (smart energy management, cost saving);
- Optimised solutions for current and future business models;
- Reference architecture and interfaces related to a strategic support tool and operational energy management tool which supports real time suggestions to network actors.

Public summary:

WARNING: *This document is a synthesis of a confidential document. Access to the full content of the deliverable is restricted to the members of the MERLIN consortium and to the European Commission's services.*

Deliverable D2.1 "Coral Tree set up" aims at describing the procedure undertaken to set up the Coral Tree tool.

Coral Tree is a web-based tool which is accessible by a common internet browser, having the main objective to describe and to define the overall System Architecture and allowing to maintain the traceability between sources (requirements) and each level of system breakdown structure.

The deliverable describes the generalities of Coral Tree, and of its configuration to meet the needs of the MERLIN project. The tool has been customised in order to describe the Railway Energy Management System (REM-S) architecture developed in MERLIN. Coral Tree has been populated with the requirements identified for the REM-S, in order to ensure traceability and consistency of the architecture description and relevant specifications.

The Coral Tree tool has been then made available and accessible online during the project duration for the development and consistency check of the REM-S architecture.

More information

To know more on the MERLIN project, please visit <http://www.merlin-rail.eu>.