

Public Summary of D2.4 MERLIN Business Models

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 D2.4 “MERLIN Business Models” describes the possible business models applicable in the MERLIN Railway Energy Management System (REM-S). The identification of the business models is part of the analysis of the behavioural architecture, aiming at identifying the role of the different stakeholders inside the MERLIN system.

The business model is a concept to explain how business is created. A business model describes the rationale of how an organization creates, delivers, and captures value in economic, social, cultural or other contexts; the process of business model construction is part of business strategy.

Starting from the analysis of business models used in the electricity market, the business models applicable to the MERLIN REM-S have been identified; the role of the actors involved in the business models have also been defined in this deliverable.

The interaction between electricity market and the railway industry (Infrastructure Manager and Railway Operator) has been taken into consideration. Among MERLIN project actors, Railway Operator and Infrastructure Manager are both end-users in the view of electricity market, as they consume electricity in most cases.

The new mapping model introduced in MERLIN is more complex than in the “conventional” situation, owing to the introduced new role, the REM-S. A new value, efficiency optimization, has been added to the overall mapping. In MERLIN project, this optimal efficiency is realized by the new MERLIN architecture.

The approach proposed from MERLIN is therefore bringing additional values in the railway domain, allowing an optimisation of energy, power and costs related the different actors involved in the whole system.

More information

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