

PROJECT

MISTRAL

Communication Systems for Next-generation Railways

Funding: European (Horizon 2020)

Duration: Nov 2016 - Oct 2018

Status: Complete

Total project cost: €499,283

EU contribution: €499,283



Call for proposal: H2020-S2RJU-OC-2015-01-2

[CORDIS RCN : 205962](#)

Objectives:

MISTRAL will elaborate the Technical Specification of the future communication system for all railways in light of the migration from the current obsolete GSM-R. The new radio system will leverage the broadband capacity of IP-based wireless communication to enhance signalling but also to make possible innovative services for both users and train automation/control. To achieve the objective, MISTRAL will generate firstly a portfolio of foreseeable future communication scenarios. Then, a Techno-Economic Proposition consistent with future scenarios will be defined, including a portfolio of innovative services ushered-in by new technologies and compliant with new users requirements as well as with safety, security and QoS requirements. Such Techno-Economic proposition will be subject to a Business Viability Analysis - meant to gauge and optimize the total-cost-of-ownership of the new communication system - and to a Technical Viability Analysis that will investigate the compliance with the new requirements. Subsequently, the results of such Business and Technical Viability Analysis will be used as basis to refine and finalize the Validated Techno-Economic proposition, which will thus rely on an optimized life-cycle cost and on a sound portfolio of innovative services. The Validated Techno-Economic proposition will be the main output of MISTRAL, i.e. the 'Technical Specification' scope of the topic. Its design and validation will be supported by an External Stakeholder Committee, involving selected key players in the Railway domain, external to the MISTRAL Consortium. In addition, MISTRAL will disseminate project findings to relevant stakeholders and communities and will ensure the sustainability and impact of the new specified communication system, In terms of far-reaching impact, MISTRAL will lay the foundations for the next-generation train-to-wayside communication systems, paving the way for a more competitive, attractive and sustainable European railway ecosystem.

Parent Programmes:

[H2020-EU.3.4. - Horizon 2020: Smart, Green and Integrated Transport Shift2Rail - Shift2Rail](#)

Institute type: Public institution

Institute name: European Commission

Funding type: Public (EU)

Partners:

SIRTI - SOCIETA PER AZIONI - Italy

TECHNISCHE UNIVERSITAET DRESDEN - Germany

ARDANUY INGENIERIA SA - Spain

Organisation:

ISTITUTO SUPERIORE MARIO BOELLA SULLE TECNOLOGIE DELL'INFORMAZIONE E DELLE TELECOMUNICAZIONI ASSOCIAZIONE

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Contact country: Italy

Technologies:

Infrastructure management
Railway technological infrastructure

Development phase: Research/Invention

STRIA Roadmaps: Network and traffic management systems

Transport mode: Rail transport

Transport sectors: Passenger transport, Freight transport

Transport policies: Other specified

Geo-spatial type: Other