



In2Rail

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Dissemination and Exploitation activities

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Executive Summary

This document provides a description of the In2Rail dissemination and communication activities carried out during the whole duration of the project. The aim of this report is to provide a detailed description of the dissemination strategy and how this was implemented during the 36 months of project implementation, including the materials and strategies that have been used to facilitate the wide-spread of information and knowledge of the results created by the project. The dissemination of In2Rail is essential throughout the project's life and need to be carried out with the cooperation of all Work Packages.

The dissemination activities include:

- **Project Identity:** in order to facilitate the dissemination and promotion of In2Rail, a number of tools such as templates for presentation and a brochure presenting the project following the Shift2Rail design rules were created;
- **Public website:** a dedicated In2Rail website has been developed in order to present the general information on structure, goals and news about the In2Rail project such as public events and dissemination material as well as all public deliverables;
- **Two Projects Newsletters:** In2Rail's information on project developments and most attractive results and news were included in two newsletters dedicated to In2Rail. Newsletters were harmonised with the newsletters published by Shift2Rail. The Newsletters were then printed and distributed via the networks offered by the consortium partners, In2Rail Advisory Groups and the Shift2Rail Joint Undertaking. Two newsletters were prepared and distributed in M18 and M36;
- **Organisation and execution of In2Rail project Kick-Off Meeting:** Shift2Rail Joint Undertaking members were invited in order to inform them about the scope and objectives of the project and discuss the cooperation between In2Rail and Shift2Rail;
- **Participation in a number of ad-hoc European and International conferences and congresses:** In2Rail was presented during high-level events such as TRA2016, Innotrans 2016, WCRR 2016 and conferences organised by national technology platforms and editors of major technical journals;
- **Publications on specialized magazines and scientific papers:** publication of articles on In2Rail results, best practices and papers in industry journals, such as: Railway Gazette, Global Railway Review as well as in scientific magazines;
- **Organisation and execution of Mid-Term conference:** a mid-term event organised by UNIFE took place in November 2016 in conjunction with the other three lighthouse projects and all relevant target groups were invited. The mid-term conference had two main goals: Technical and scientific collaboration, and dissemination and awareness for stakeholders not directly involved in In2Rail activities.

- **Organisation and execution of Final conference:** more than 70 participants attended the Final Conference organised on the 19th of April 2018 in Vienna. The event was the occasion to present the final results of In2Rail covering all three the sub-projects. The Final Conference was then followed by a joint Shift2Rail Lighthouse Projects event where the Coordinators of the four lighthouse projects shortly illustrated their main achievements and links with Shift2Rail;
- **In2Rail Video:** refer to D13.6.

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Abbreviations and acronyms

| Abbreviation / Acronyms | Description |
|-------------------------|--------------------------|
| S2R | Shift2Rail |
| JU | Joint Undertaking |
| WP | Work Package |
| TD | Technical Demonstrator |
| ERA | European Railway Agency |
| IP | Innovation Programme |
| TRA | Transport Research Arena |

1. Background

The present document constitutes Deliverable D13.5 “Dissemination and Exploitation activities” in the framework of the Project titled “Innovative Intelligent Rail” (Project Acronym: In2Rail; Grant Agreement No 635900).

This document provides a description of the In2Rail dissemination and communication activities carried out during the whole duration of the project. The aim of this report is to provide a detailed description of the dissemination strategy and how this was implemented during the 36 months of project implementation, including the materials and strategies that have been used to facilitate the wide-spread of information and knowledge of the results created by the project. The dissemination of In2Rail is essential throughout the project’s life and need to be carried out with the cooperation of all Work Packages.

First, materials and strategies for communicating and disseminating In2Rail to railway stakeholders, the scientific community and the general public are presented. Those include: the creation of a project identity; the creation of a website; the production of two newsletters; the creation of a project brochure; the organization of dissemination events; the participation to conferences; and the publication of results in relevant journals. Moreover, this report describes how expert groups will interact with the technical Work Packages and how the results have been disseminated to the Shift2Rail public-private partnership. Finally, a calendar of events is presented.

The dissemination of the project’s research activities and results are fundamental components of the In2Rail project. The dissemination objectives of this project are:

- to ensure that the outputs of the project are delivered in a form which makes them immediately available for use by the IP2, IP3 and Cross-Cutting activities within Shift2Rail;
- to ensure that all important actors in the European railway sector are informed about In2Rail;
- to facilitate acceptance of the project outcomes by the standards and regulatory bodies as well as by the main actors of the EU rail sector;
- to disseminate, engage and promote the project and its research activities to relevant audiences.

2. Introduction

In2Rail is a thirty-six-month project, funded by the Horizon 2020 programme of the European Commission. In2Rail goal is to set the foundations for a resilient, consistent, cost-efficient, high capacity European network by delivering important building blocks that unlock the innovation potential that exists in Shift2Rail: innovative technologies have been explored and resulting concepts embedded in a systems framework where infrastructure, information management, maintenance techniques, energy, and engineering were integrated, optimised, shared and exploited. The project expects innovations in three different subsystems such as Smart Infrastructures, Intelligent Mobility Management (I2M) and Rail Power Supply/Energy Management – each of which has a dedicated number of WPs.

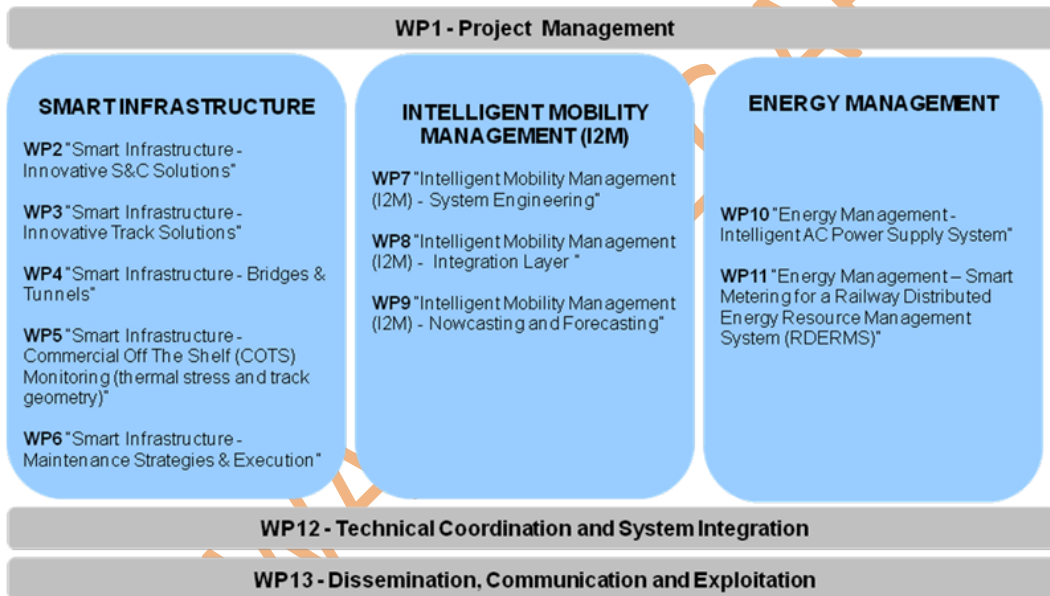


Figure 2.1: Project Organisation

The research carried out in In2Rail has set up the foundations for many of the technologies that will be continued within Shift2Rail's Innovation Programme 2 'Advanced Traffic Management and Control Systems', Innovation Programme 3 'Cost-Efficient and Reliable High-Capacity Infrastructure' as well as to Shift2Rail's "Cross-cutting activities".

Given the importance of this project for the success of Shift2Rail, the widespread and targeted dissemination of project outputs was vital to the acceptance and implementation of the achievements developed. The implementation of solutions aims at generating business for industries (SME and large) and at contributing to the R&D activities of Shift2Rail.

In2Rail established a detailed and clear strategy to reach the wide public and raise awareness of its main results. This report illustrates how this strategy was successfully implemented.

2.1. Shift2Rail

The In2Rail communication and dissemination strategy has been designed to provide the most extensive coverage, meeting the limitation of the scale of the project and ensuring an efficient and co-ordinated take-up by the Joint Undertaking with their future R&D activities. The activities are also designed to ensure a solid communication of the project with actors outside of the Shift2Rail JU. The approach consists of three elements:

1. interaction with the Shift2Rail JU of the In2Rail results;
2. public dissemination, outside of the JU but very much aligned with the Shift2Rail dissemination objectives and strategy; and
3. focus on Users/reference/advisory groups and possible contribution to standards and regulation.

The first task focused on the link with and dissemination of appropriate results to the future Shift2Rail Research and Development activities. For this purpose, a detailed description of the input delivered by Shift2Rail for the success of its projects will be provided in D13.4 “Exploitation of In2Rail results by Shift2Rail”.

The 2nd element focused on the wide dissemination of project results through several tools: events, publications, the public website etc. This element will be the main focus of this document.

The 3rd element was also very much developed as a number of Advisory Groups was created and run during the whole duration of the project. In particular, one Advisory Group was created in the Energy area.

3. External communication

External communication was of key importance for maximizing In2Rail's impact and for disseminating the project results. Communication of the project research activities involved reaching relevant railway stakeholders, the scientific community and creating awareness among the general public. This has been achieved through creating a project identity and a public website, attending to conferences and relevant events and publishing articles in relevant journals.

3.1. Project Identity

A project identity has been set at the beginning of the project and it includes templates for presentations and reports, a project brochure as well as the In2Rail logo. The project identity considerably helped dissemination activities and ensured a consistent communication of the project concept, objectives and results. The brochure has been distributed at project workshops and conferences, where project partners have participated.

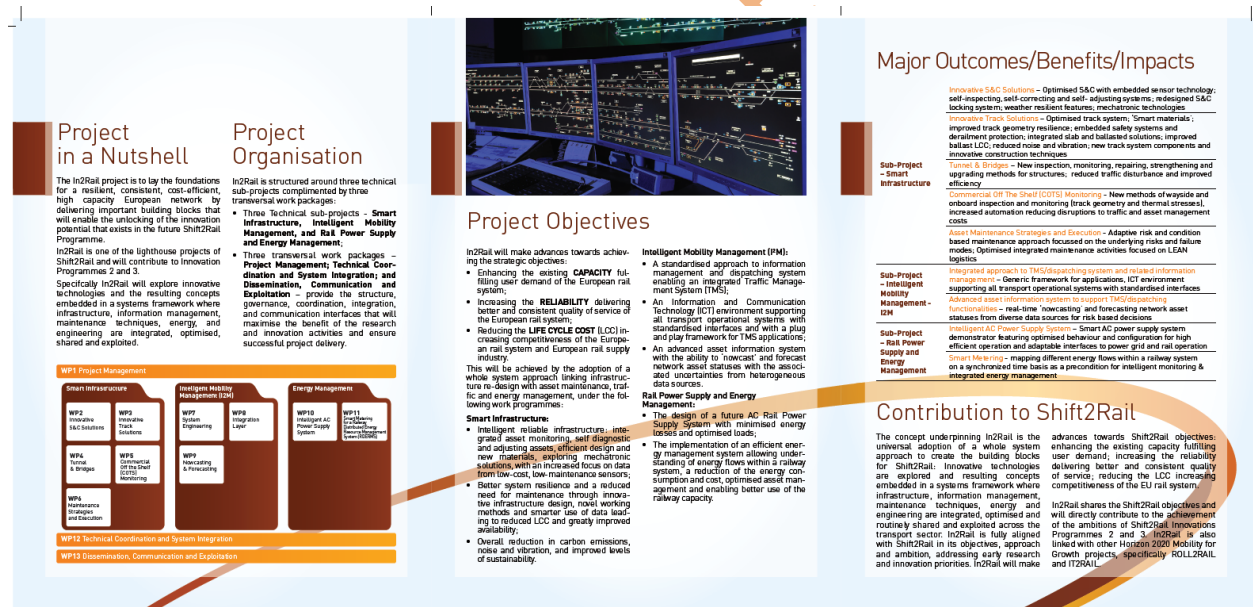


Figure 3.1: In2Rail Brochure

3.2. Website

A dedicated website was set up at the beginning of the project. The website (www.in2rail.eu) was open and it was divided in two parts: the public portal and the private portal.

The public portal displays the key project information, partners, Deliverables, news/events and links to the partners' institutions. All the public deliverables have been published on the website and are available for download.

The webpage also lists all related projects including links to them. The webpage also offers links to the Shift2Rail website as well as to the websites of other projects such as IT2Rail and In2Rail.

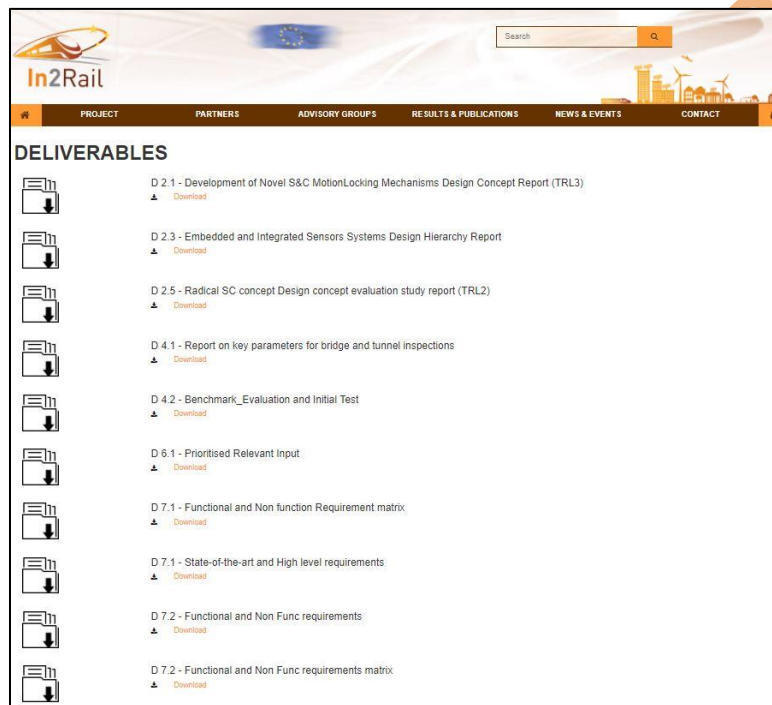


Figure 3.2: Extract from In2Rail Website

3.3. Newsletter

The project has produced two newsletters in M18 and M36 which provided up-to-date information on the status and achievements of the project.

The first newsletter was released in conjunction with the Mid-term event which took place in November 2016 in Brussels.

The second newsletter was produced in time to be distributed during the Final Conference taking place on the 19th of April 2018 during TRA2018 in Vienna. A copy was included in each delegate's bag and distributed at the beginning of the event.



Figure 3.3: Front page of 1st In2Rail Newsletter

3.4. Events

The In2Rail consortium has organised two major project events: a Mid-term Conference in November 2016 and a Final Conference in April 2018.

3.4.1. In2Rail Mid-term Conference

In2Rail organized a joint Mid-term event together with the other three lighthouse projects IT2Rail, Roll2Rail and SmartRail. After a common high-level morning session, more than 100 participants attended the In2Rail afternoon part where the main results in the first half of the project were presented. The main objectives of the event were:

- to enable other stakeholders not being directly involved in the project to be briefed on intermediate results at important project milestones;
- to validate the proposed results by consensus of all stakeholders concerned;
- to check the potential for the implementation of the proposed solutions;
- to provide guidance for further work and for the completion of deliverables.



Figure 3.4: Extracts from In2Rail Mid-term Conference

The conference was opened by Network Rail with a welcome speech made by Prof. Andy Doherty who welcomed all the participants and stressed the importance of In2Rail as it sets the foundations for a resilient, consistent, cost-efficient, high capacity European network by delivering important building blocks that unlock the innovation potential that exists in Shift2Rail (S2R). The innovative technologies addressed by In2Rail will be explored and resulting concepts will be embedded in a systems framework where infrastructure, information management,

maintenance techniques, energy, and engineering are integrated, optimised, shared and exploited.

First achievements include the state of the art across various European partners, the development of a common approach to innovation value analysis (for both In2Rail & Shift2Rail), building upon European project outputs at Technology Readiness Level 3 (TRL3) moving on the work in S2R to TRL 6. Moreover, first promising results are beginning to be seen from radical new concepts across the project e.g. radical switch design in Work-Package 2 (WP 2), potential 3D printing of track components and improvement of maintenance activities.

The Conference continued with presentations and discussions on the main achievements in the three Sub-projects, focused on Smart Infrastructure, Intelligent Mobility Management and Rail Power Supply/Energy Management.

Mr. Henk Samson (Strukton Rail), Dr. Ian Coleman and Mr. Ian Dean (Network Rail), Mr. Anders Carolin (Trafikverket) and Mr. Federico Papa (AnsaldoSTS) opened the technical session by presenting the main achievements so far in the Sub-project on Smart Maintenance by addressing a number of working areas including Switches and Crossings, Track, Bridges/Tunnels, Commercial Off the Shelf (COTS) Monitoring and Maintenance Strategies.

The conference continued with a second set of presentations focused on the Sub-project on Intelligent Mobility Management (I2M). Mr. Carlo Dambra (AnsaldoSTS), Stefan Wegele (Siemens) and Roland Kuhn (Bombardier Transportation) reported on the main outcomes in the areas of System Engineering, Integration Layer and Nowcasting/Forecasting.

Finally, Sub-project on Rail Power Supply and Energy Management was presented by Mr. Olivier Langlois (Alstom) and Tomas Greif, who presented the work done on Intelligent AC Power Supply System and Smart Metering for a Railway Distributed Energy Resource Management System (RDERMS).

The presentations were followed by a fruitful discussion with the participants, who showed great interest in the work carried out in the first half of the project.

3.4.2. In2Rail Final Conference

The In2Rail Final Conference took place on the 19th of April 2018 during TRA2018 in Vienna with the participation of more than 70 experts from all around Europe. The event was the occasion for Work Package Leaders to present the main results of the project and their important links to Shift2Rail. After a general introduction on the project, the event was split into three separate workshops, each one covering one of the three areas the project was built on (Smart Infra, I2M, Energy Management). At the end of the workshops, Andy Doherty officially closed the event with a presentations on the conclusions of the project and the way forward.

The event was followed by the Joint Shift2Rail lighthouse projects high-level session where Coordinators and Technical Leaders of the four lighthouse projects illustrated the main achievements and the links with Shift2Rail. After an introduction made by Keir Fitch, Deputy Head of Cabinet at DG MOVE, the four Coordinators/Technical Leaders presented the outcomes of the four projects: Ian Coleman (Network Rail) for In2Rail, Andrea Demadonna (UNIFE) for Roll2Rail, Marco Ferreira (Thales) for IT2Rail and Ming Chen (TNO) for Smart Rail and they were followed by a closing speech by Mr. Carlo Maria Borghini, Shift2Rail Executive Director, who highlighted the important role these four projects had in paving the way for the successful start of Shift2Rail projects.



Figure 3.5: Extracts from In2Rail Final Conference

3.5. Presentations & Publications

Project results have been published on several specialized magazines, scientific journals and in relevant national and international conferences and workshops. In2Rail has actively looked-out for high profile academic and industrial events that are within the domain of interest of the project. At the end of the project, In2Rail has been presented/published in the events and press (an exhaustive list will be included in the Final Report) listed in Table 3.2 and Table 3.2.

| Publications | Title | Authors |
|--|---|---|
| 12th International Workshop on Railway Noise (IWRN12) | Hybrid model for prediction of impact noise generated at railway crossings | P.T. Torstensson, G. Squicciarini, M. Krüger, J.C.O. Nielsen, D.J. Thompson |
| WCRR2016 | Asset Status Nowcasting and Forecasting in Integrated Railway Systems | Fumeo E., Anguita D., Galar D., Mazzino N., Milani C., Dambra C. |
| IEEE International Conference on Data Science and Advanced Analytics (DSAA) 2016 | Advanced Analytics for Delay Prediction Systems in Railway Networks by Including Exogenous Weather Data | Oneto L., Fumeo E., Clerico G., Anguita D., Canepa R., Papa F., Dambra C. and Mazzino N. |
| INNS Big Data Conference 2016 | Delay Prediction System for Large-Scale Railway Networks based on Big Data Analytics | Oneto L., Fumeo E., Clerico G., Anguita D., Canepa R., Papa F., Dambra C. And Mazzino N. |
| INTER-NOISE 2016 | An investigation of the influence of wheel/rail contact conditions on curve squeal | Alfi S., Baro S., Corradi S., Squicciarini G., Thompson D.J. and Asplund M. |
| Nordic Seminar on Railway Technology | Kinematic Principles in Switches & Crossings | Björn Pålsson |
| IABSE Congress Stockholm, 2016 | Innovative Intelligent Management of Railway Bridges - A European Horizon 2020 Project | Carolin A., Anderson R., Heissenberger R., Hermosilla Carrasco C., Schewe B., Nilimaa J., Blanksvärd T., Täljsten B., Cwirzen A. and Elfgrén L. |
| WCRR2016 | Power supply and the internet of things | Bianchi R. |

Table 3.1: In2Rail Targeted Publications

| Events | Title | Authors |
|---|--|--------------|
| InnoRail (network platform hosted by ProRail) | Presentation on In2Rail and Strukton involvement | Samson H. |
| NL Smart Maintenance Event | Presentation on In2Rail | Samson H. |
| BCN Rail Conference | Presentation on In2Rail | Alfageme M. |
| UNIFE General Assembly | Presentation on In2Rail | Demadonna A. |

Table 3.2: In2Rail Targeted Events

3.6. Advisory Groups

Advisory groups for some technical Work Packages were planned but only one has been finally established. The Energy Advisory Group was launched in order to involve a wider community of stakeholders in the project activities. This activity provided a two way of flow of information:

- on one side, stakeholders had the opportunity to contribute with some input for the improvement/finalisation of project's deliverables;
- on the other side, these meetings were a good opportunity for the project to carry out some targeted dissemination to stakeholders.

The target audience was composed by representatives of the following stakeholders:

- Alstom – In2Rail Partner;
- Rina-C/DAPP – In2Rail Partner;
- UNIFE – In2Rail Partner;
- Railenium – In2Rail Partner;
- IZT – In2Rail Partner;
- Infrabel;
- Banenor;
- ERA;
- EPRail;
- FFE.

One meeting took place on the 19th of September 2017. The meeting focused on a number of important topics aimed at closing the activities of WP11 with a focus on Smart Metering: what are the financial interest and technical objectives? Why is metering necessary? What are the main links with Energy procurement?

3.7. Interaction with Shift2Rail

A detailed analysis of the contribution of In2Rail towards the success of Shift2Rail was included in D10.4.

4. CONCLUSIONS

This report has provided an exhaustive list of all dissemination/communication activities carried out during the 36 months of project implementation. A large audience has been reached by In2Rail messages and the project has at the same time ensured proper dissemination towards the Shift2Rail Joint Undertaking to ensure a smooth and effective transfer of results into the Shift2Rail projects.

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