



Newsletter

September 2017

Introduction & Background

The first newsletter of the Shift2Rail project ATTRACKTIVE marks the beginning of a new European challenge: the shift from road to rail, in order to contribute to a Single European Railway Area (SERA). In this document you will find useful information on the aims of the project, its current status, our partner's information, and a technical description of what has to be done.

Shift2Rail is the first European rail initiative to seek both focused Research and Innovation (R&I) and market-driven solutions, by accelerating the integration of new and advanced technologies into innovative rail product solutions. Shift2Rail promotes the competitiveness of the European rail industry and will meet the demanding EU transport needs of the future. R&I carried out under this Horizon 2020 initiative will develop the necessary technology to complete the Single European Railway Area.

One of the main objectives of Shift2Rail is making rail a more attractive form of travel. For this reason, one of the five Innovation Programmes conceived by Shift2Rail (IP4 – "IT Solutions for Attractive Railway Services") focuses on increasing the attractiveness of rail transport by developing a novel, integrated solution for the travellers. This aim is aligned with the challenge of the European Commission's White Paper for Transport 2011: "By 2020, establish the framework for a European multimodal transport information, management and payment system" of the Shift2Rail project.

The Lighthouse project IT2Rail - "Information Technologies for Shift2Rail" is a first step towards the long term IP4. This aims to provide a new seamless travel experience by giving access to a complete multimodal travel system which connects the first and last mile of long distance journeys. Its ideas will then be continued and further developed to a higher level of technological readiness in the Shift2Rail IP4 project.



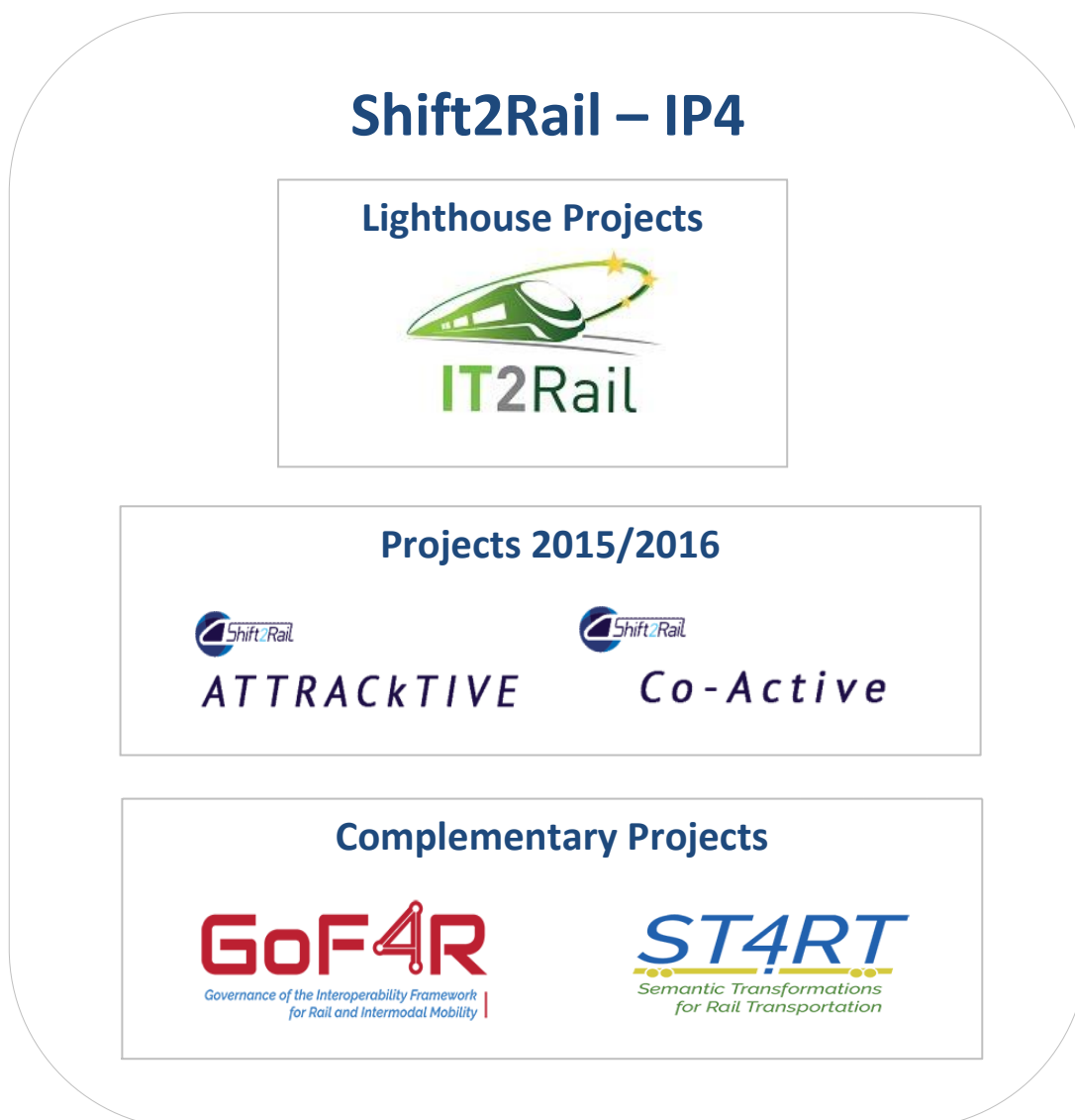
IP4



Horizon 2020
European Union Funding
for Research & Innovation

ATTRACKTIVE Introduction

Among the Shift2Rail-IP4 projects that give continuity to IT2RAIL, we would like to focus on the ATTRACKTIVE project, which means “Advanced Travel Companion and Tracking Services”. The figure below depicts the relation among the IP4 projects.



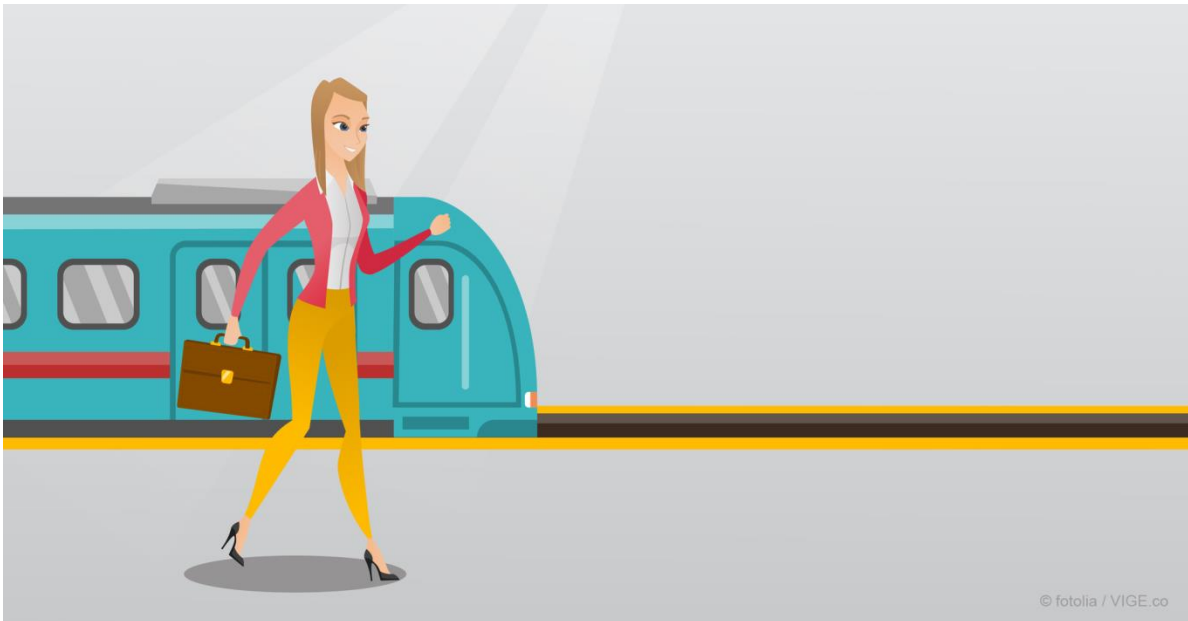
ATTRACKTIVE is a European project, in which the European partners HaCon, Diginext, Thales, Ansaldo, Indra, and Network Rail participate. Its overall objective is to provide new concepts, tools, and systems to improve the attractiveness of rail transport by offering more intuitive and engaging door to door travel experiences to customers. They will be shielded from the complexity and heterogeneity of services for intermodal journeys with lots of different modes ordered by different agencies. Additionally, they are also tracked on all parts of their journey with proposals for alternative itineraries when disruptions occur.

Shift2Rail Challenges

Key requirements on the Solution

The Shift2Rail solution must enable a seamless travel across Europe, within a single system.

- The system must provide the travellers with a one-stop shop, providing access to all transportation offers for a selected origin-destination journey, under the form of a single co-modal offer.
- The system must allow seamless transportation in air, rail, coach, and other modes of public as well as private transport.
- The system must provide the travellers with versatile, easy-to-use solutions (Smartcard, App on smartphone, barcode, ...) to record and display their ticketing information and to access the transport services.
- The system should allow the travellers to track their journeys and be informed of disruptions in real time during the journey.
- The system should suggest alternative itineraries to the travellers, and automatically re-accommodate when disruptions occur.



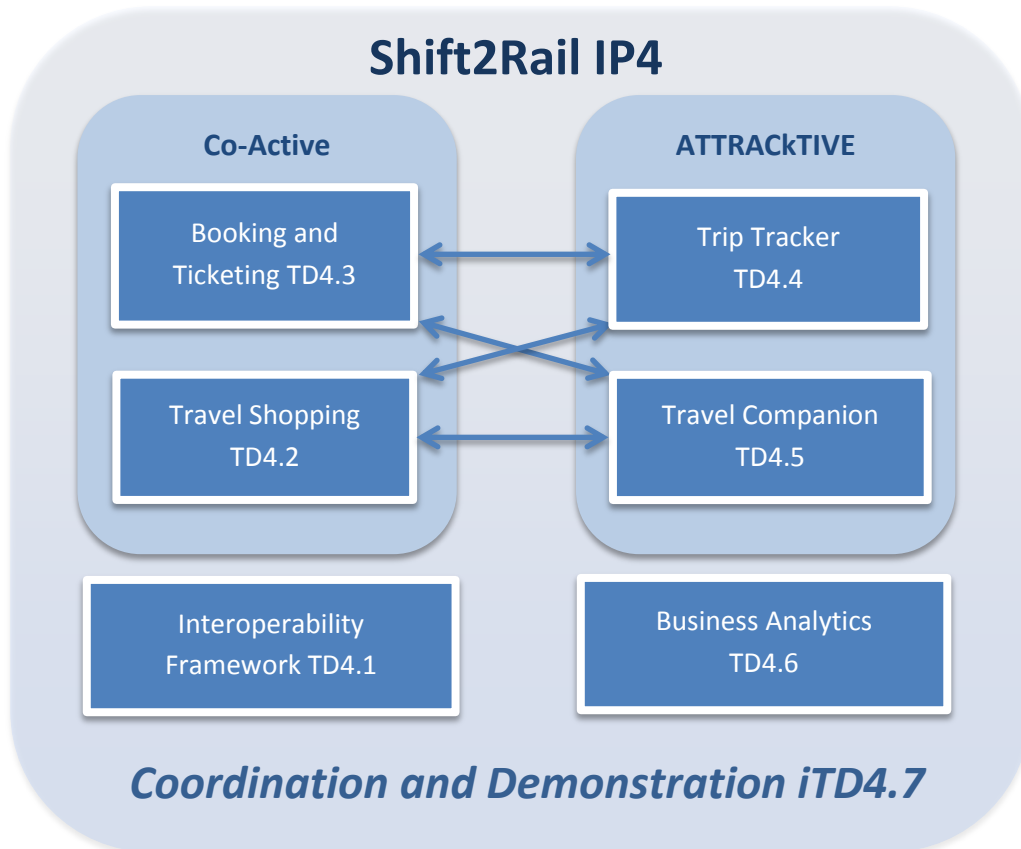
Key features

- Seamless multimodal travel solutions
- Higher attractiveness by providing Location Based Experience
- Flexible tracking solution by segmenting the trip
- Predicted disruptions of a journey

Shift2Rail Concepts and Developments

Solution Description IP4

The Shift2Rail IP4 solution is structured on several Technology Demonstrators (TDs), as depicted in the following schema.



- **TD4.1 - Interoperability Framework** which aims at allowing more efficient inter-connection between heterogeneous systems.
- **TD4.2 - Travel Shopping** which aims at supporting use in a single market place, as a “one-stop shop”, all retail operations are currently spread over a big number of distribution channels.
- **TD4.3 - Booking & Ticketing** which aims at unifying how the rights to travel (entitlements) are specified and used across all transport modes.
- **TD4.4 - Trip Tracker** which aims to assist the travellers by notifying them of foreseen difficulties, whilst also offering them re-arrangement solutions.
- **TD4.5 - Travel Companion** which aims at simplifying the user experience and also limits the complexity of the information.
- **TD4.6 - Business Analytics** which aims to provide a common business intelligence foundation to generate and monitor data from the IP4 ecosystem.
- **iTD4.7 - Overall IP4 Coordination and Demonstration** which aims at ensuring an overall engineering coordination and also aims to promote collaborative approaches across all IP4 participants.

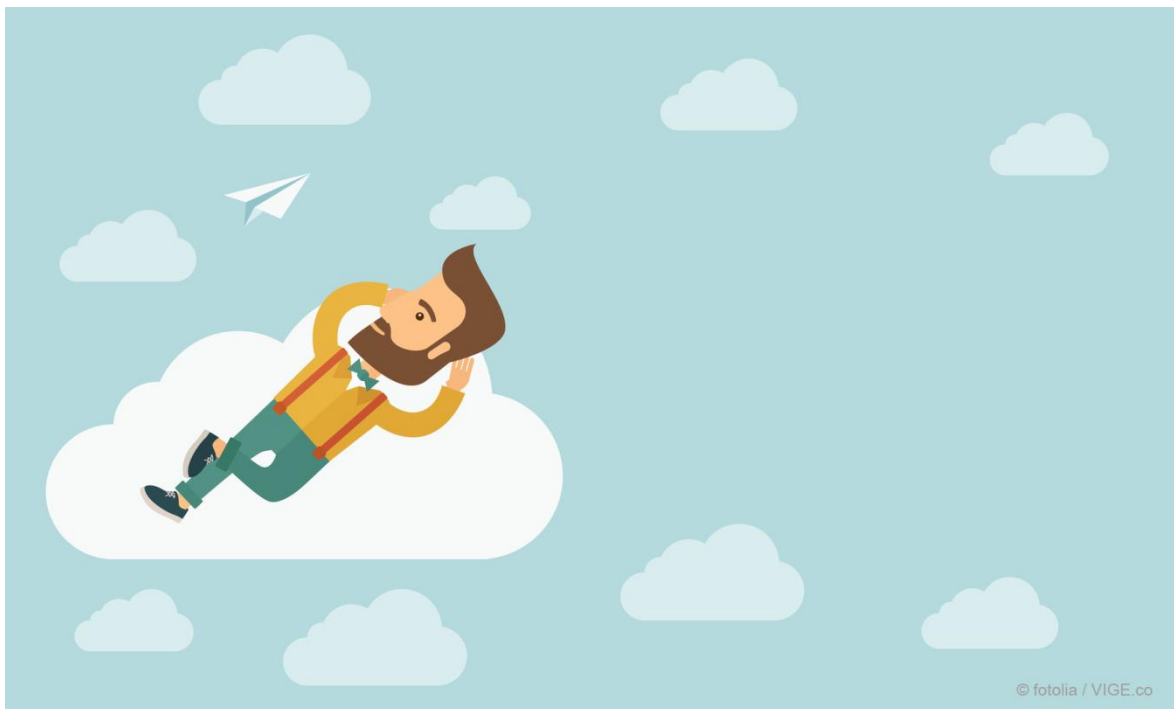
ATTRACKTIVE Challenges

Objectives of ATTRACKTIVE Project

- Disruption handling, navigation and user centric ubiquitous applications as well as the required tooling and modular design of the system to foster adoption, and to enable the incorporation of future refinements, concepts and ideas.
- Offering more intuitive, seamless, stress-free, and engaging experiences to travellers, so that the journey shall become more attractive for them.

Specific challenges of ATTRACKTIVE

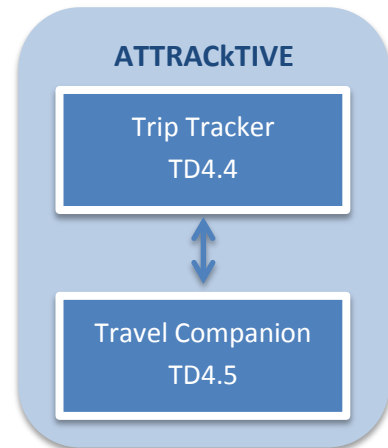
- It is necessary to develop systems that enable user friendly re-accommodation and that enhance traveller experiences for a new generation of intuitive and seamless travel services.
- Services must offer real-time and easily accessible information and assistance to travellers, and must adapt to the passengers' preferences, profiles, abilities, and behaviour. It must also adapt to constantly evolving transport situations, and traffic.



ATTRACKTIVE Concepts and Developments

Generally, ATTRACKTIVE will guide, support, inform, and even entertain users throughout their entire itinerary, adapting to unforeseeable interruptions and events in order to propose alternative routes, from before the journey begins, to the last mile. A real door-to-door travel solution including all modes of transport will be developed along with new forms of traveller experiences aiming to transform the travel itself into an “ATTRACKTIVE” part of the journey.

In particular, this project implements two major components of Shift2Rail-IP4, Trip Tracker (TD4.4) and Travel Companion (TD4.5), which aim to deliver seamless door-to-door travel support that encompasses both public and private transportation portions of a journey.



The ‘Trip-tracker’ (TD4.4) work package aims to specify, design and implement the Trip Tracker functions, enabling:

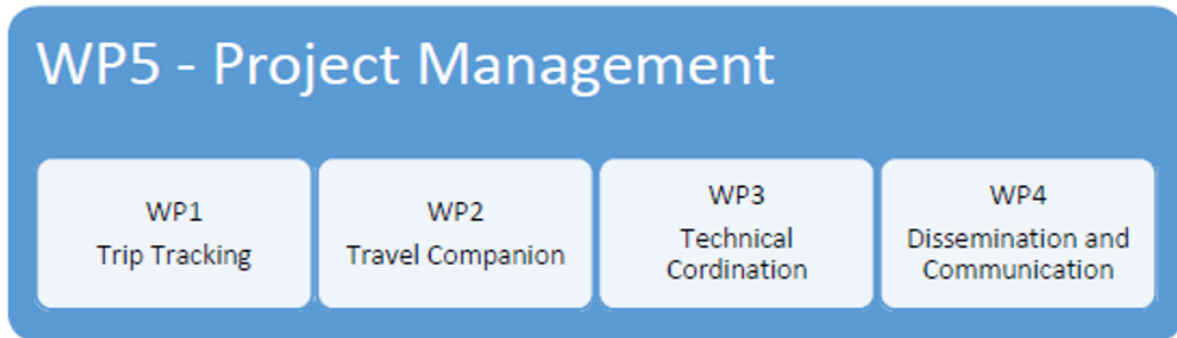
- Collecting planned and real time data for all modes including personal transport which is essential for all following up calculations and assistance.
- Prognosticating, and predicting travel situations to find solutions for possible interruptions in advance.
- Generating events that can be displayed on smart devices that will form the base for subsequent processing.
- Analysing personal transport events and events which impact the itinerary of the traveller.
- Orchestrating and distributing tracking services.
- Providing alternatives if necessary.

The ‘Travel Companion’ (TD4.5) work package aims to specify, design and implement the modular Travel Companion platform, enabling:

- Creating and editing novel forms of Location Based Experiences for travellers cost-effectively.
- Door-to-door experiencing of the created experiences.
- Indoor/outdoor positioning of travellers.
- Navigation assistance, especially at interchanges.
- Homogenized interface shielding the travellers from the complexity and heterogeneity of intermodal services.

ATTRACKTIVE Project structure (1)

The Work Packages (WPs) of ATTRACKTIVE Project are presented as the figure showed below.



WP1: Trip Tracking

The Trip Tracking (TT) work package deals with the specification, design and implementation of the system in charge of collecting travel information from multiple sources, to detect and handle transport events, to analyse the impact of disruptions for all modes and to provide alternatives if necessary. In this sense, so called partial Trip Trackers will be treated by a Tracking Orchestrator to inform and propose the users individual solutions for their current situation.

- The Tracking Orchestrator is responsible for tracking a whole journey. It disassembles a journey into several parts, looks for appropriate partial Trip Trackers and instructs them to track these parts of the journey.
- Several partial Trip Trackers may coexist, processing events and providing the Orchestrator with impacts that will affect the journey for which the tracking was requested, accounting travellers' preferences.

WP2: Travel Companion

The Travel Companion (TC) work package aims to specify, design, and implement the required techniques and tools to design novel forms of travel experiences. This includes an advanced Personal Application running on iOS and Android devices as well as allocated cloud based services to store private user specific information. The system will be able to handle Point of Interests, provide navigation assistance and hide complex operations to deal with different modes of transport.

- The Personal Application is the client which a traveller can use to access the whole ecosystem. In this way, he is able to access all services through a homogenized user interface, allowing him to leverage all the capabilities of the system. Furthermore, Location Based Experiences are integrated to present entertainment, provide Point of Interests or any other information that might enrich the journey. In addition Indoor/Outdoor Navigation will be presented to guide the traveller all along his journey.
- The online counterpart Cloud Wallet serves as the secured repository for the users' personal information. Storing this information in the Cloud prevents the user not only to re-enter information multiple times but as well enables him to use different devices. Cloud Wallet also acts as a bridge between the Personal Application and all of the external services, allowing travellers to receive information affecting their journey and providing them with ubiquitous access to travel rights in electronic wallets.

ATTRACKTIVE Project structure (2)

WP3: Technical Coordination

The Technical Coordination work package will assure coordination amongst the activities of the partners within ATTRACKTIVE and as well coordinate with the other TDs inside the IP4 program in general (in particular with IT2Rail, with Co-Active (CO-Modal Journey Re-Accommodation on Associated Travel Services), with ST4RT (Semantic Transformations for Rail Transportation) and with GoF4R (Governance of the Interoperability Framework for Rail and Intermodal Mobility)). It will also be in charge of integrating and testing WP1 and WP2 technical results and organising evaluation sessions with end-users to collect feedback and new requirements for the next releases.

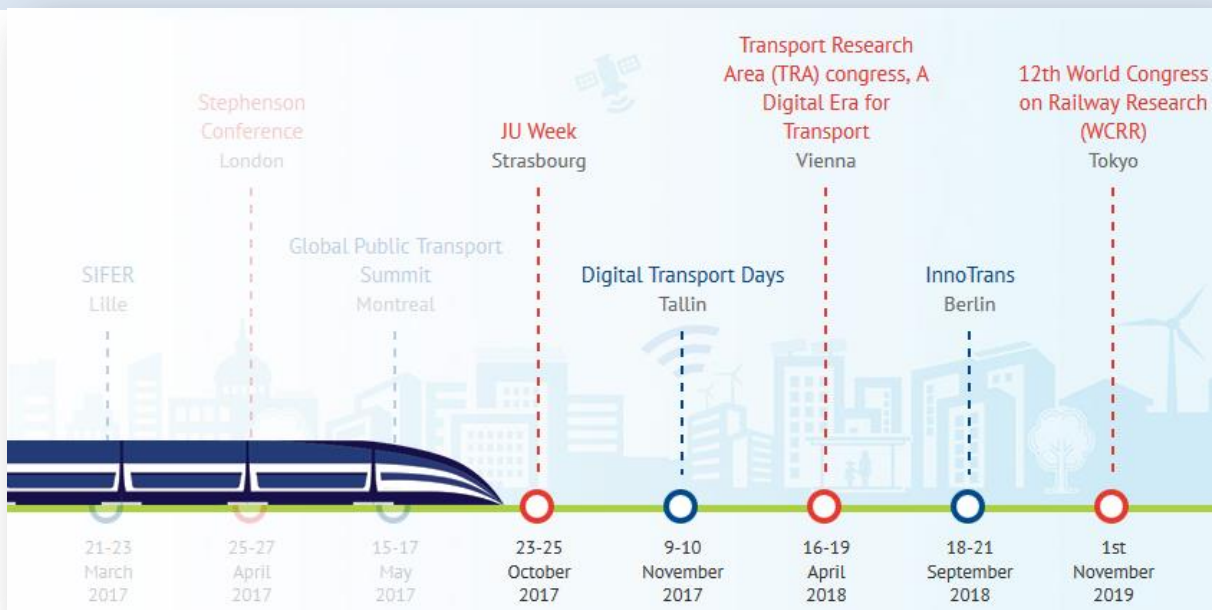
WP4: Dissemination and Communication

The Dissemination and Communication work package will put in place communication tools and channels to guarantee seamless exchange between partners and ensure that the outcomes of the project will be produced on time and to high quality standards. Moreover, public events will also be organized and conducted to share the acquired experience and know-know of partners.

WP5: Project Management

The Project Management work package will guarantee the efficient coordination of the project work package and tasks, ensuring not only effective consortium management, but also overall administrative and financial management of the project.

Past and upcoming events



Shift2Rail has been a part of the following conferences:

- SIFER, Lille, 21-23 March 2017
- Stephenson Conference, London, 25-27 April 2017
- Global Public Transport Summit, Montreal, 15-17 May, 2017

As of today, some events which Shift2Rail will be present at are:

- JU Week, Strasbourg, 23-25 October 2017
- Digital Transport Days, Tallin, 9-10 November 2017
- Transport Research AREA (TRA) congress, A Digital Era for Transport, Vienna, 16-19 April, 2018
- InnoTrans, Berlin – 18-21 September 2018
- 12th World Congress on Railway Research (WCRR), Tokyo, 1st November 2019

There are also more events during the year, where partners are working together and moving things forward. For example:

- European mobility week, 16-22 September 2017
- Connecting Europe Conference, 21-22 September 2017
- To be continued...

Facts and Figures

Total budget

€5
millions

6
partners

Duration

28
months



ATTRACKTIVE

Coordinator



Partners



<https://shift2rail.org/projects/attracktive/>