

Shift2Rail promoters involved in the preparatory phase (continued)



Overview of Shift2Rail and its preparatory phase

INCREASED CAPACITY, CONSOLIDATED RELIABILITY FOR EFFICIENT AND SUSTAINABLE RAIL TRANSPORT AND A COMPETITIVE EUROPEAN RAIL INDUSTRY



www.shift2rail.org

Shift2Rail promoters involved in the preparatory phase



A word cloud of terms related to the Shift2Rail project. The words are arranged in a circular pattern around a central point. The words include: Affordable, Increase Capacity, European Jobs, Setting Standards, Comprehensive, Market up-take, Sustainable Leadership, Collaboration, Reliable, Achieving Transport White Paper Goals, Commitment, Critical Mass, Efficiency, Return on Investment, Focused, Pre-competitive Research, Step Change, Technology, Innovation, De-carbonise European Transport, EU Research Supply Chain, System Demonstrations, Level 3, Competitiveness, Dependable, Integrated, Implementation, and Innovation.

Shift2Rail: the Joint Undertaking to Build the Railway System of Tomorrow

“ The innovative technologies and solutions to be developed, demonstrated and validated by Shift2Rail are expected to boost the EU rail sector’s competitiveness vis-à-vis other modes of transport and foreign competition, as well as to create jobs and increase exports. ”

Council of the European Union press release for the Shift2Rail Joint Undertaking regulation, 16 June 2014

Shift2Rail is the first European initiative to deliver focused Research & Innovation (R&I) and market-driven solutions by accelerating the integration of new and advanced technologies into innovative rail product solutions, meeting key objectives of the EU 2020 Strategy and the EU Transport policy.

Shift2Rail is an unprecedented joint effort of all the stakeholders of the European rail sector to invest together in research and innovation in order to :

- 1. Reinforce the attractiveness of rail transport toward passengers and business; and therefore achieve the ambitious objectives set:
 - by the European Commission in the 2011 White Paper on Transport – including the completion of the Single European Railway Area (SERA)
 - by the whole rail sector in the ERRAC RailRoute2050
- 2. Increase the competitiveness of the European rail industry in a world of ever fiercer competition with Asian companies
- 3. Create and preserve high-quality jobs in Europe

FOR THIS PURPOSE, SHIFT2RAIL WILL FOCUS ON 3 MAJOR CHALLENGES :

LIFE CYCLE COST REDUCTION

Reflecting the need to reduce rail ticket/shipment costs for users and public subsidies for the tax payer.

CAPACITY

Enhancing the capacity of the European rail system in order to cope with increased passenger and freight demand.

RELIABILITY / PUNCTUALITY OF RAIL SERVICES

Increasing reliability of next generation products and solutions to attract passengers and businesses to use rail transport.

AND ON ALL SEGMENTS OF THE RAIL MARKET



HIGH SPEED/MAINLINE PASSANGER RAIL



REGIONAL PASSANGER RAIL



URBAN/SUBURBAN PASSANGER RAIL



RAIL FREIGHT

The multiannual budget of Shift2Rail will be jointly funded by the private sector and the European Union. The estimated budget of the S2R JU will be at least €920 million (for the period 2014-2020) – €470 million by the private sector and €450 million from the European Union.

Why launch such a large-scale EU research initiative?

The companies supporting Shift2Rail during the preparatory phase determined that maintaining the status quo for rail research in Europe was not an option. Global leadership of the market can only be maintained if a critical mass of committed EU industry joins forces to develop innovative, high-capacity, and high-quality products. Capitalising on the previous success of the rail sector in EU-funded collaborative research projects since the mid-1990s, Shift2Rail will help meet the ambitious targets of EU transport and climate change policy. Shift2Rail is the natural evolution of EU industrial research cooperation in Horizon 2020.

Fully aware of both the need to act to make rail transport more innovative – and to complete the SERA – and of the readiness of the rail sector to engage in such an undertaking, the European Commission announced its legislative proposal of December 2013 to establish the Shift2Rail Joint Undertaking and the Council of the European Union adopted it in June 2016 with a favorable opinion of both the European Parliament and the European Economic and Social Committee.

What will Shift2Rail concretely deliver?

Thanks to the four-year investigation period by the European rail industry and the wider rail community, a long-term strategic Master Plan will be built around key research clusters segmented in five Innovation Programmes (IPs).

As already mentioned in the Council regulation establishing the Shift2Rail Joint Undertaking, these five Innovation Programmes address:



IP1 - COST-EFFICIENT AND RELIABLE TRAINS, INCLUDING HIGH CAPACITY TRAINS AND HIGH SPEED TRAINS

Comprehensive and systematic re-evaluation of the structure and on-board systems in order to boost capacity, efficiency, and sustainability of all types of passenger rolling stock.



IP2 – ADVANCED TRAFFIC MANAGEMENT & CONTROL SYSTEMS

Building on existing ERTMS/ETCS specifications, interoperability across the EU network – including urban rail networks (CBTC) – is increased and research is dedicated to keeping ERTMS technology ahead of the competition.



IP3 – COST-EFFICIENT AND RELIABLE HIGH CAPACITY INFRASTRUCTURE

Offers a comprehensive and systematic approach to improving the durability, capacity and efficiency of track and energy systems to cope with increased train traffic and speeds.



IP4 – IT SOLUTIONS FOR ATTRACTIVE RAILWAY SERVICES

Fosters inter-modal passenger transit across Europe with an attractive and efficient conventional as well as urban rail network, and smart connections to road and aviation networks.

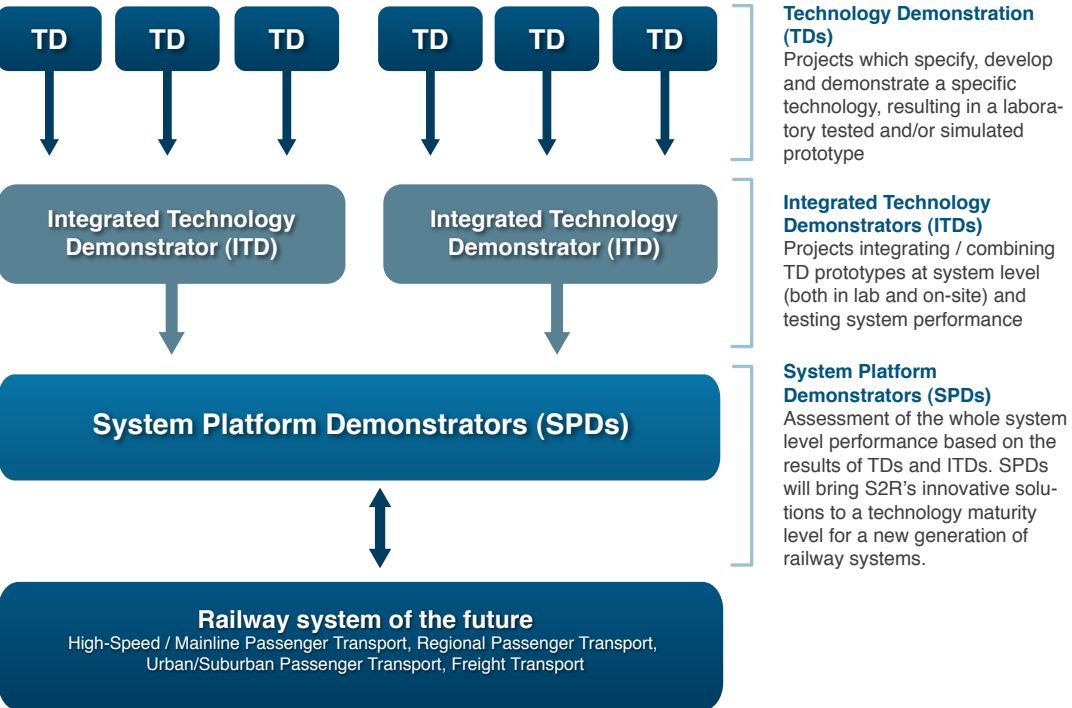


IP5 – TECHNOLOGIES FOR SUSTAINABLE & ATTRACTIVE EUROPEAN FREIGHT

Door-to-door transport time, security, and traceability, thereby demonstrating a real business case for smart interoperable rail freight that offers reliable, competitive, sustainable, flexible transport services that are efficiently interfaced with other modes.

For each Innovation Programme, so-called Technology Demonstrators – each addressing specific topics – have been defined. They will integrate innovative technologies and develop prototypes to generate future competitive sub-systems, and will be assessed with Key Performance Indicators. This research activity will take into account functional and operational specifications as well as the interfaces among the various subsystems.

The resulting Shift2Rail innovations will be validated, tested, and simulated in a rail environment to demonstrate the expected benefits at system level. Four of these ‘System Platform Demonstrations’ will be developed on high speed/mainline, urban/suburban, regional, and freight train platforms.



Who has already participated in the initiative’s preparatory phase?

25 major rail stakeholders are currently signatories of the Shift2Rail Memorandum of Understanding of the preparatory phase – with UNIFE as coordinator – thereby committing themselves to a long-term investment in the future of European rail research.

More than **60 additional companies** – be they industrial partners, railway undertakings, urban operators or infrastructure managers – have also joined the initiative and have been bringing their expertise in the framework of the technical preparatory phase.

Last but not least, **more than 45 Universities and Research centres** have also been actively participating in this preparatory phase. Their participation is extremely important since a significant part of the Shift2Rail budget (at least 30%) will be managed through open calls for proposal, encouraging the participation of SMEs and research organisations that will have the opportunity to collaborate with the participating companies that are best placed to facilitate the take-up of results.



Shift2Rail: a major opportunity for future participants

As foreseen in the Council regulation establishing the Shift2Rail Joint Undertaking, Shift2Rail will offer many ways for interested stakeholders to participate in future R&D activities. In addition to the list of the JU Founding Members already identified by the European Commission¹, a large number of industrial partners, SMEs, operators, infrastructure managers, universities and research centres will have the opportunity to engage in the R&D activities, be it as Associated Members – individually or within a consortium –as partners in the framework of the future regular open calls for shorter-term projects (which will be launched by the Joint Undertaking) or as subcontractors.



2014: last steps towards fulfilment

After the adoption by the Council of the European Union of the Regulation establishing the Shift2Rail Joint Undertaking, the Joint Undertaking entered into force on July 7th. The European Commission is now in charge of its establishment and the initial operations have now started with the Governing Board composed by the JU Founding Members. With the active support of the promoting organisations, the Shift2Rail Joint Undertaking could reach the operational capacity to implement its own budget and launch its R&D activities as soon as 2015.

For more information and updates on Shift2Rail, visit the website www.shift2rail.org

¹ Alstom, Ansaldo STS, Bombardier, CAF, Network Rail, Siemens, Thales and Trafikverket