Shift2Rail JU
Driving innovation on railways

Paris 25 September 2019
“OPTIYARD final event”
Laura PIANI
S2R PROGRAMME, ABOUT €1BLN and A NEW APPROACH TO R&I IN RAILWAY

working together & driving innovation

S2R OBJECTIVES

+50%
INCREASE RELIABILITY & PUNCTUALITY BY 50%

x2
DOUBLE RAILWAY CAPACITY

HALVE LIFE-CYCLE COSTS OF RAILWAY TRANSPORTS

CONTRIBUTE TO REDUCTION OF NEGATIVE EXTERNALITIES, SUCH AS NOISE, VIBRATIONS, EMISSIONS & OTHER ENVIRONMENTAL IMPACTS

CONTRIBUTE TO THE ACHIEVEMENT OF THE SINGLE EUROPEAN RAILWAY AREA
AN OPEN and ACTIVE ORGANISATION

...opening up new Capabilities coming from emerging technologies or concepts!
An Innovation Programme in motion

Around 70 ongoing Projects

standardization roadmap

LP & first S2R Projects’ closing

Projects’ Reviews

MAAP Updates

CALL 2019

In September 17 Proposals (EUR 148.6 Mio) Selected for funding

S2R Catalogue of Solutions

Communication/Dissemination activities

AWP 2020

Demo Plans (involving possible vehicle authorizations)

R&I BEYOND 2020

S2R Europe 2030

+ infrastructure test facilities
S2R solutions derived from Technical Demonstrators

**IP1** Cost-efficient and Reliable Trains, including high-capacity trains and high speed trains

**IP2** Advanced Traffic Management and Control System

**IP3** Cost-efficient, Sustainable and Reliable High Capacity Infrastructure

**IP4** IT Solutions for Attractive Railways Services

**IP5** Technology for Sustainable and Attractive European Rail Freight

**WHO BENEFITS?**

CUSTOMERS
- FINAL USER
- OPERATOR
- INFRAMAN
- SUPPLIERS

CCA Cross Cutting Activities
**IP5 objectives:**

Improve the cost competitiveness and the reliability of freight services of the rail sector in order to meet the ambitious objective of almost doubling the use of rail freight compared to 2005. This will allow achieving the White Paper objective of a shift of 30% of road freight over 300 km to modes such as rail or waterborne transport by 2030 and more than 50% by 2050.

**Rail freight must be in a position to:**

- Offer service oriented profile (on time delivery, competitive prices, client needs) – attractive service to shippers
- Increase productivity (interoperability issues, cost effective solutions, technology transfer)

During 2018 IP5 has progressed well in the re-prioritization of its TDs that allows for a more focused and prioritized series of R&I activities with a clear target towards **digitalisation, automation** and **sustainability**.
IP5: Technologies for Sustainable & Attractive European Rail Freight

**IP5: Key innovations:**

**Fleet Digitalisation/Automation:** automatic coupling (flexible wagon composition), CBM (data handling, analytics and dashboards), ATO/DAS (testing of ATO developed in IP2).

**Digital Transport Management:** IT solutions electronic communication technologies to maximise punctuality and capacity.

**Freight wagon concepts:** Low-noise, lightweight, high speed & track friendly Freight Running Gear & Modular lightweight freight wagon design.

**Freight Propulsion systems:** New powerful EU freight locomotives with flexible and network independent operation capabilities, supporting increased train lengths up to 1500m and reducing massively energy consumption.
**TD 5.2 “Digital Transport Management”**

**Key challenge:** Improve the interaction between yards/terminals and the network reducing the lack of information and adding new decision tools that will increase punctuality and capacity.

**Where we are:**
- ✓ Real time yard and network management: specifications / architectural design of a web-based information system for supervision and management of marshalling yards
- ✓ Intelligent Video Gate for high speed wagon scan: scale demo

**Where we want to go:**
- ✓ Higher TRL for IVG
- ✓ Real time network management - Decision making platform for real-time time-tableing including information from the marshalling yards, terminals and the locos. Demonstrated through a simulation environment.

**TD 5.2 progress:** ARCC, SMART, OPTIYARD, FR8HUB, FR8RAIL II – further input from CFM call 2019.
Transforming Europe’s Rail System

The Commission published the public consultation for a potential European Partnership “Transforming Europe’s rail system” under Horizon Europe.

Feedback will be taken into account for further development and fine tuning of the initiative.


The deadline for replies is 6 November 2019.