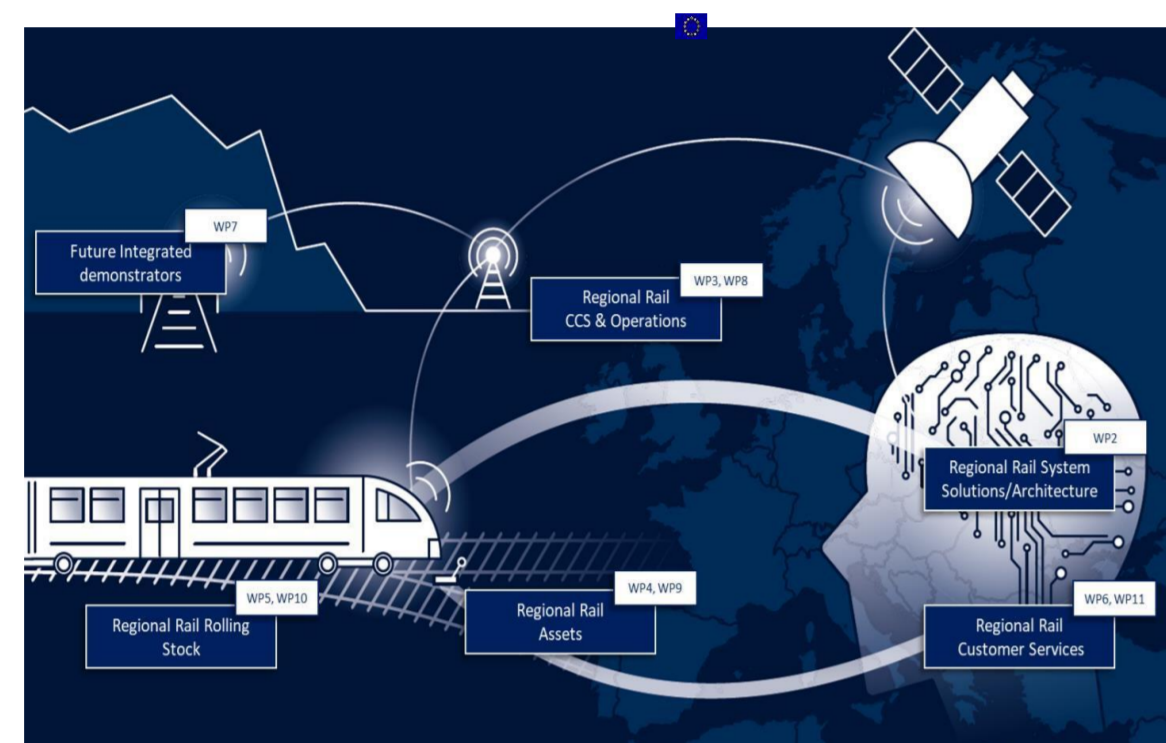


INTRODUCTION

Regional railway (**lower usage lines or secondary network**) plays a crucial role not only in serving Europe's region.

Many regional lines were given up in the past - due to high costs. Thus, these railway lines **need to:**

- be revitalized or even rebuilt to make them **economically, socially, and environmentally sustainable.**
- Contribute to **reduce CO2 emissions** of the EU transports.



AIM

The FP6 - FutuRe aims at making **regional rail cost efficient**, while **meeting safety standards** and **improving reliability, availability and capacity** of the railway system (infrastructure, rolling stock and services).

Two groups of lines called **Group 1 and Group 2** have been defined:

Group 1 Regional Lines (G1 Lines) are lines or network of lines that are connected with the mainline railway system.

Group 2 Regional Lines (G2 Lines) are lines or network of lines that are not functionally/operationally connected to mainline network (ERJU MAPW).

METHOD

FP6 project is organized in **Work Packages** addressing specific R&D themes in the regional railway domain:

- WP 1:** Project Coordination
- WP 2:** Regional Rail System Solutions/Architecture
- WP 3+8:** Regional Rail CCS & Operations for G1 Req & Spec + Demo
- WP 4+9:** Regional Rail Assets Requirement & Specifications + Demo
- WP 5+10:** Regional Rail Rolling Stock and G2 Req & Spec + Demo
- WP 6+11:** Regional Rail Services Req & Spec + Demo
- WP 7:** Regional Rail Integrated Demonstrators Preparatory Work
- WP 12:** Project Communication and Dissemination

The three pillar of FP6 methodology to pursue the concept next generation Railway Regional Lines are :

- 1) Develop a **technical specification**
- 2) Detailed **development and prototype**
- 3) Development of regional lines prototypes/concepts, **demonstrations and validation** of developments

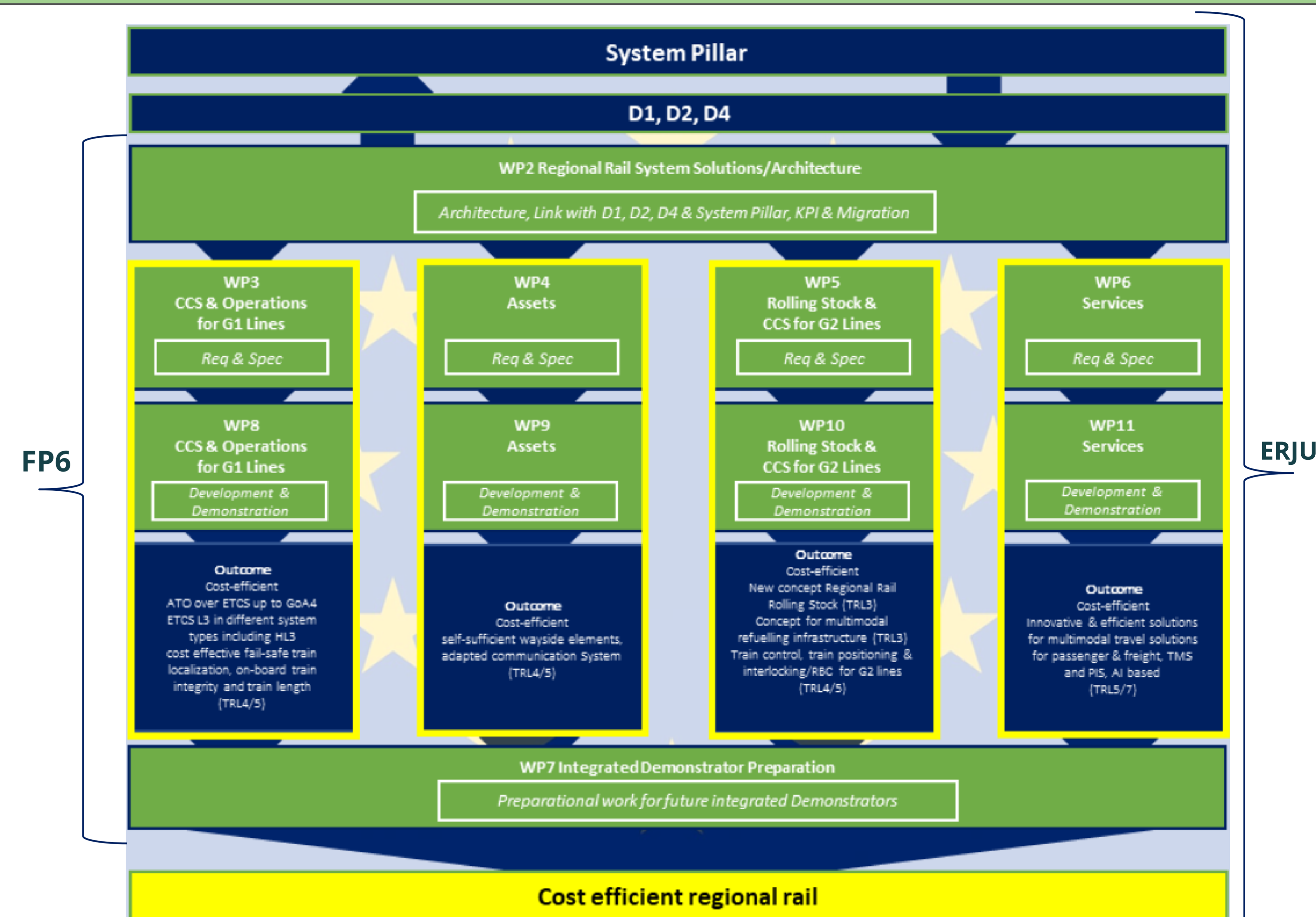
In order to ensure the active engagement of all target users and to gather feedback from the entire European community the project has set up an **"always open to new members" End-users Board** to bring together experts from specific users/operators of the regional lines across Europe.

EXPECTED RESULTS

The FP6 - Future project is considered to have a positive impact on **Regional railways competitiveness, sustainability and life cycle costs.**

Technical Objectives	
TO1	Regional Rail System Architecture
TO2	Regional Rail CCS & Operations for G1 Lines
TO3	Regional Rail Infrastructure Assets
TO4	New concept mode for Regional Rail Rolling Stock
TO5	Train Control for G2 Lines
TO6	Regional Rail Customer Services
TO7	Integrated Demo

Main Socio-Economic Objectives	
SEO1	Overall reduction of the Total Cost of Ownership (CAPEX and OPEX) of the CCS system → -25%
SEO2	Reduced the CAPEX of radio network → -15%
SEO3	Increased system availability due to reduced trackside asset → +10%
SEO4	Reliable cost-effective fail-safe on-board train integrity , train length detection and train positioning → +15%
SEO6	Optimized energy consumption → -10 %
SEO7	Optimized punctuality → +15%
SEO8	Reduced OPEX costs/km → -30%
SEO10	Reduced vehicle CAPEX & OPEX → -50%
SEO12	Improved energy efficiency of railway assets → +15%



CONCLUSIONS

Regional railways provide important **public services** for both people and goods in **Europe's regions**. They connect rural areas to major rail hubs, usually located on main passenger or freight routes.

To ensure **long-term viable operations**, associated costs must be reduced, and economic viability and competitiveness improved. The development of technological and **innovative solutions using ICT** make operation of regional rail more cost-effective.

Thus, the FP6 - Future project is considered to have a positive impact on **competitiveness, sustainability and life cycle costs.**

REFERENCES

- 1 **Council Regulation (EU) 2021/2085 (Single Base Act - SBA)** - 19 November 19th 2021
- 2 **Eu-Rail Master Plan** - February 17th 2022
- 3 **Europe's Rail Joint Undertaking Multi-Annual Work Programme** - March 1st 2022
- 4 **HORIZON-ER-JU-2022-01** - March 10th 2022

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