CONTACT

fp3iam4rail@adif.es

This project has received funding from the European Union's Horizon Europe research and innovation programme under Grant Agreement No 101101966.

FP3 iam4Rail

HOLISTIC AND INTEGRATED ASSET MANAGEMENT FOR EUROPE'S RAIL SYSTEM

PARTNERS

COORDINATOR

adif

OTHER PARTNERS

ALSTOM, mermec, AZD, CAF, ceit, DB, DLR, cemosa, COMSA CORPORACIÓN, enyse, Tekniker, Faiveley Transport, Ferrovie dello Stato Italiane, HITACHI Inspire the Next, indra, Talgo, Jernbane-direktoratet, KNORR-BREMSE, ÖBB TRAIN TECH, PKP, ProRail, SIEMENS, SNCF, Strukton Rail, THALES, TRAFIKVERKET, voestalpine

OBJECTIVES

The FP3 – IAM4RAIL aims to provide innovative technical requirements, methods, solutions, and services – including technical requirements and standards for future developments – based on the latest cutting-edge technologies to minimise asset lifecycle costs and extend service life while meeting safety requirements and improving the reliability, availability, and capacity of the railroad system. Both infrastructure and rolling stock are addressed.

The FP3-IAM4RAIL project focuses on seven different integrated demonstrators for rail assets which are key for research and innovation in the rail sector. Integrating asset condition information obtained via advanced monitoring with decision-making tools and into the traffic management system. The project will combine available information with artificial intelligence and digital twins are covered as key topics through a European cross-border, interoperable and holistic integrated approach. Other topics such as interventions using technologies as robotics or additive manufacturing are seen as relevant for improving asset management in the rail sector.

FP3-IAM4RAIL, with 93 partners, aims to reinforce the next generation of Intelligent and Integrated Rail Asset Management providing and demonstrating innovative solutions covering fixed and rolling stock assets, minimising the life cycle costs of assets and extend their lifetime, while meeting safety requirements and improving the reliability, availability and maintainability of the rail system.

KEY MESSAGES

1. **A European Intelligent & Integrated Asset Management.**
2. **Reduce costs while increasing reliability.**
3. **Sustainable** production of resilient assets with new techniques.
4. **Automation.** Increase level and technology for automation and robots in construction and maintenance.
5. **Readiness.** Innovative solutions but close to the real world: aiming at High TRL levels (6-7) to pave the way forward to deployment in the short term.

FP3 – IAM4RAIL paves the way for a Holistic and Integrated Asset Management composed of a green, digital and safe set of solutions aiming to provide a common European approach for the rail sector, while significantly reducing the residual CO2 footprint of the rail sector

7 DEMONSTRATORS

1. Integration between the Intelligent Asset Management System (IAMS) and the Traffic Management System (TMS) across railway assets.
2. Asset Management & Rolling Stock, developing new monitoring and inspection systems leading to decisions and planning of interventions.
3. Long Term Asset Management, developing decision support applications for asset management and Life Cycle Cost (LCC) optimization.
4. Asset Management & Infrastructure, developing new monitoring and inspection systems able to integrate Big Data from on field and on-board systems, sharing info across the supply chain and TMS.
5. Asset Management & Digital Twins to support the design, maintenance, upgrade, and renewal of railway assets.
6. Design & Manufacturing, showcasing the eco-friendly design, production and reparation of resilient assets including Additive Manufacturing (AM).
7. Robotics & Interventions showcasing high-tech automated solutions for construction and execution of interventions supported by robotics and wearables.