WP2 - Introduction

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WP2 - Summary

• **Work package number:** WP2

• **Work package title:** Tailored track infrastructure, design and maintenance

• **Lead beneficiary:** 12 – SZ (SŽ-Infrastruktura d.o.o.)

• **Partners (10):** SZ, USFD, UIC, ADS-ELECTRONIC RESEARCH SRL, AFER, TU Delft, IFSTTAR, TCDD, INTADER, RCCF

• **Start month:** 1

• **End month:** 33
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T2.1 Geospatial comparison of rail infrastructure cost and maintenance drivers for high and low density lines

- Lead partner: ADS
- Partners: USFD, SZ, AFER, TCDD, UIC, RCCF

General Objectives:

- Application of Geographic Information System (GIS) mapping to the failure data to reveal correlations and underlying drivers of cost and maintenance which have not been previously visible
T2.2 Overview

T2.2 Practices and track technology tailored to particular lines

• Lead partner: ADS
• Partners: USFD, SZ, AFER, INTADER, UIC, RCCF

General Objectives:

• Identifying the best practices for installation, operation and maintenance of lines in the NeTIRail-INFRA case study categories:
  • busy passenger
  • low density rural/secondary line
  • freight dominated route
T2.3 Overview

T2.3.2 Application of lean and automotive industry techniques to railway S&C

• Lead partner: IFSTTAR
• Partners: SZ, RCCF, TCDD, AFER, USFD, UIC, INTADER

General Objectives:

• **Apply lean and automotive industry techniques to railway S&C**, to produce a step change in railway switch and crossing (S&C) life and costs
• Analyse and **optimize the maintenance process**, in particular **installation/replacement of S&C**
T2.3 Innovation

Innovation → LEAN

Lean improvement of S&C design, replacement and maintenance.
T2.4 Overview

T2.4.2 Traffic dependent tailoring of plain line to preventing corrugation

• Lead partner: TUD
• Partners: USFD, SZ, AFER, INTADER, TCDD

General Objectives:

• Extend the life of plain line through better understanding of how corrugations (rail surface irregularity and waviness) can be prevented
• To test various forms of pads and clips in the testing ring track for evaluation of the line corrugation
T2.4 Innovation

Innovation → CORRUGATION

To control short pitch corrugation by the choice of railpad and fastening system.

Train direction

About 20 waves

600 mm (one sleeper span)
T2.5 Overview

T2.5.2 Tailoring lubrication to duty and climate

• Lead partner: INTADER
• Partners: USFD, UIC, SZ

General Objectives:

• Research and test the rail-wheel lubrication and appropriateness for different lines/traffic density of operations and weather conditions

• Identify which lubrication works best in different climate areas (some lab tests, some manufacturers data)
T2.5 Innovation

Innovation → LUBRICATION

Optimal lubrication techniques for different density of rail lines and weather conditions.
T2.6 Overview

T2.6.2 Predictive and cost effective transition zone design

• Lead partner: USFD
• Partners: SZ, INTADER

General Objectives:

• Develop a novel track vertical stiffness transition zone design; changes in vertical stiffness occur when the track moves on and off bridges and other structures or locations
• Transition zone modelling; look for modification stiffness without changing sleeper spacing but instead focus on dimension and mass
T2.6 Innovation

Innovation → TRANSITION ZONES

Cost effective transition zone design based on varying the slippers mass.
THANK YOU for your attention!

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