



Final conference
2019-01-22
UIC Paris

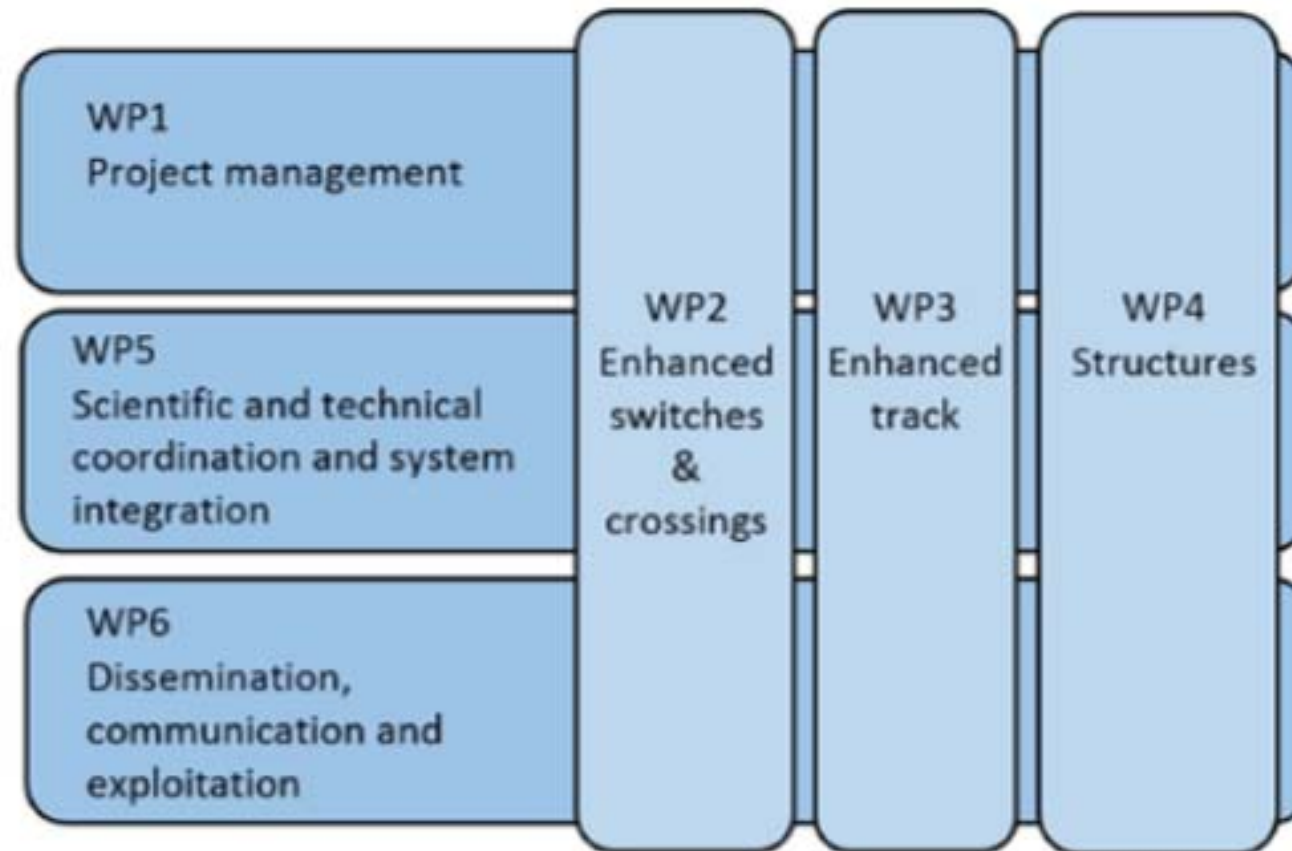
GA H2020 - 730841



Background

- Project period 2016-09-01 to 2019-02-28?
- Complementary open call project S-Code
- 25 partners + universities
- More than 200 people involved
- 9 research reports (Deliverables)
- More than 25 scientific (peer reviewed) papers

Project Structure





WP 2 – Enhanced switches and crossings



The overall objective of WP2 is to build upon the engineering side of IN2TRACK's whole-system evaluation of existing European S&C (Switches & Crossings) systems from INNOTRACK, Capacity4Rail and In2Rail to improve both RAMS (Reliability and Maintainability System) performance and LCC (Life Cycle Cost) enhancements for maintenance approaches and to serve IN2SMART Specific objectives include:

- Analysis of S&C failure modes, root causes and cost drivers based on existing studies;
- Development of an enhanced S&C whole system behaviour models for better understanding and design optimisation. The whole system modelling approach will integrate mechanical, electrical, software and control components to deliver required improved capabilities and performance;
- Development of improved components and technologies to optimise S&C sub-systems (e.g. Points Operating Equipment) for RAMS performance whilst reducing whole system LCC.
- Development of new sustainable materials and repair, maintenance technologies, and methods to minimise deterioration and failures allowing for extended asset life, reduced maintenance intervention and lower LCC;
- Enhanced wheel-rail interaction and related decreases in deterioration through improved S&C designs;
- Enhanced inspection, monitoring and measurement through intelligent use of embedded and integrated sensors for self-diagnostics and remote condition monitoring to quantify asset condition, deterioration and performance as a whole;
- Use of whole system design and an enhanced sensor system to enable intelligent switch control, for self-adjustment, to maintain optimised performance and safety limits;
- Enhanced S&C control for self-maintenance and improved RAMS performance.

WP3 – Enhanced track

The research in WP3 aims to significantly improve the performance of the track structure. This relates to costs (in a life-cycle sense), robustness (in a RAMS-sense) and performance (e.g. load carrying capacity).

To this end, innovative solutions in the form of methods (e.g. whole system technical evaluation framework), products, processes (e.g. track status assessment evaluation for maintenance planning purposes and maintenance execution) and procedures (e.g. establishment of technical requirements) will be the focus of the research.



WP4 -Structures

The objective of WP4 is to:

- develop faster and more accurate methods for inspection and assessment of tunnels and bridges including improved repeatability, reproducibility, quality and effectiveness.
- develop new repair, strengthening and upgrading techniques which result in reduced traffic disruption and fast installation with short track access time
- set the base for future development of noise and vibration damping methods for structures





Many thanks for your kind attention
Sam Berggren