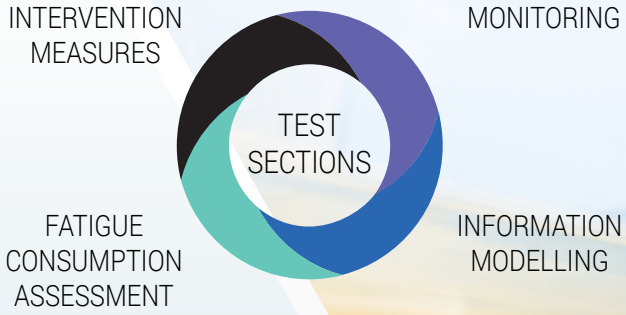
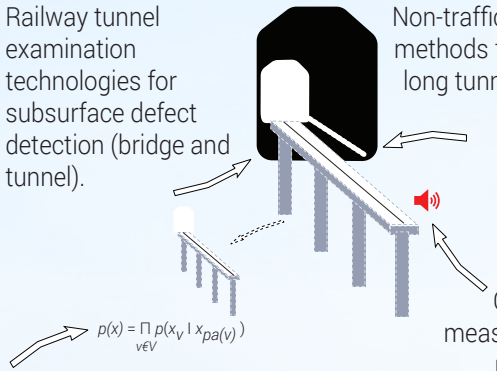
## WORK STREAM 1

Monitoring and upgrading solutions addressed to bridges and tunnels.




Railway tunnel examination technologies for subsurface defect detection (bridge and tunnel).

Non-traffic-disturbing methods for cleaning long tunnel drainage pipes.



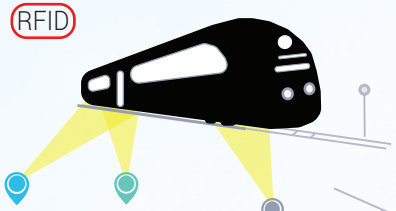
$p(x) = \prod_{v \in V} p(x_v \mid x_{pa(v)})$

Bridge and tunnel information modelling systems (BIM), Algorithms for bridge information model module.

Contactless measurement of noise, noise dampers for bridge.

Study, design and development of "Read/Write RFID tags" for trains.

Automatic features measurement configuration tools and processes.




Models that quantify the impact of a given measured defect on the infrastructure.

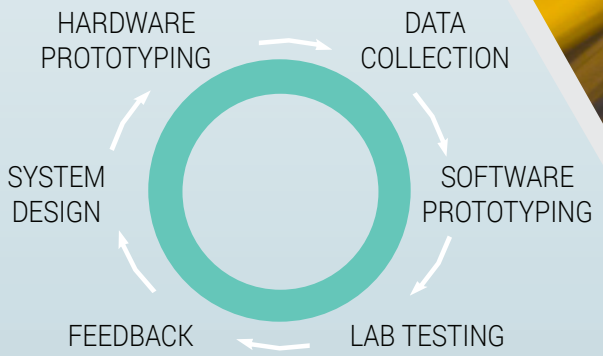
Development of an underframe image monitoring system and a "stereo images" systems for measurements of defects on rolling stock.

Data from fail-safe systems: Collection solutions (HD and SW) designed to achieve seamless safety approval.

System/Sensor to measure the transversal position of the wheel in relation to the rail.

## WORK STREAM 2

Monitoring solutions for trains and track geometry & data collection from fail-safe systems.




**30% DECREASE ON TRACK DISTURBANCE**
**15% DECREASE ON NOISE LEVELS**
**50% INCREASE IN RELIABILITY AND PUNCTUALITY**
**20% OF THE COST OF TRACK INSPECTIONS**

A 30 months Shift2Rail project which will contribute to the modal shift to rail by exploring, adapting and testing cutting-edge technologies for railway asset monitoring and maintenance.

Assets4Rail shares the Shift2Rail view of having an ageing European railway infrastructure that needs to cope with the expected increased traffic in the future. To achieve this, we need an improvement in technology and a cost-effective maintenance and intervention system for infrastructure inspection and monitoring.

**www.assets4rail.eu**
**www.twitter.com/assets4rail**
**www.linkedin.com/showcase/assets4rail/**

European Commission
Horizon 2020
European Union funding for Research & Innovation
Shift2Rail

# MAIN OBJECTIVE

To achieve cost efficient and reliable infrastructure by developing a set of cutting-edge asset-specific measuring and monitoring devices that will not only collect and deliver the status data of the railway system (tunnel/ bridges/ track geometry/ safety systems/ rolling stock) but also process and analyse the information in Building Information Models with integrated algorithms to generate relevant maintenance infrastructure-related information to support asset management decisions.

**Measuring, monitoring and data handling for railway assets, bridges, tunnels, tracks and safety systems**

duration **30** months

**Call H2020-S2RJU-OC-2018**
**Topic S2R-OC-IP3-01-2018**

**19** partners

countries **10**

**www.assets4rail.eu**
**www.twitter.com/assets4rail**
**www.linkedin.com/showcase/assets4rail/**

social media

More information

www.assets4rail.eu

This project has received funding from the Shift2Rail Joint Undertaking under the European Union's Horizon 2020 research and innovation programme under grant agreement no. 826250 (Assets4Rail). The content of this document reflects only the author's view – the Joint Undertaking is not responsible for any use that may be made of the information it contains. The users use the information at their sole risk and liability.

ASSETS4RAIL

# MEASURING MONITORING DATA HANDLING

for railway assets; bridges, tunnels, tracks and safety systems

European Commission | Horizon 2020 European Union funding for Research & Innovation | Shift2Rail