



SAFER LEVEL CROSSING BY INTEGRATING AND
OPTIMIZING ROAD-RAIL INFRASTRUCTURE
MANAGEMENT AND DESIGN

SAFER-LC

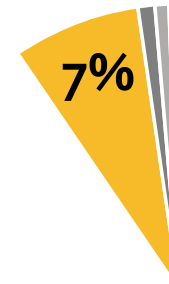
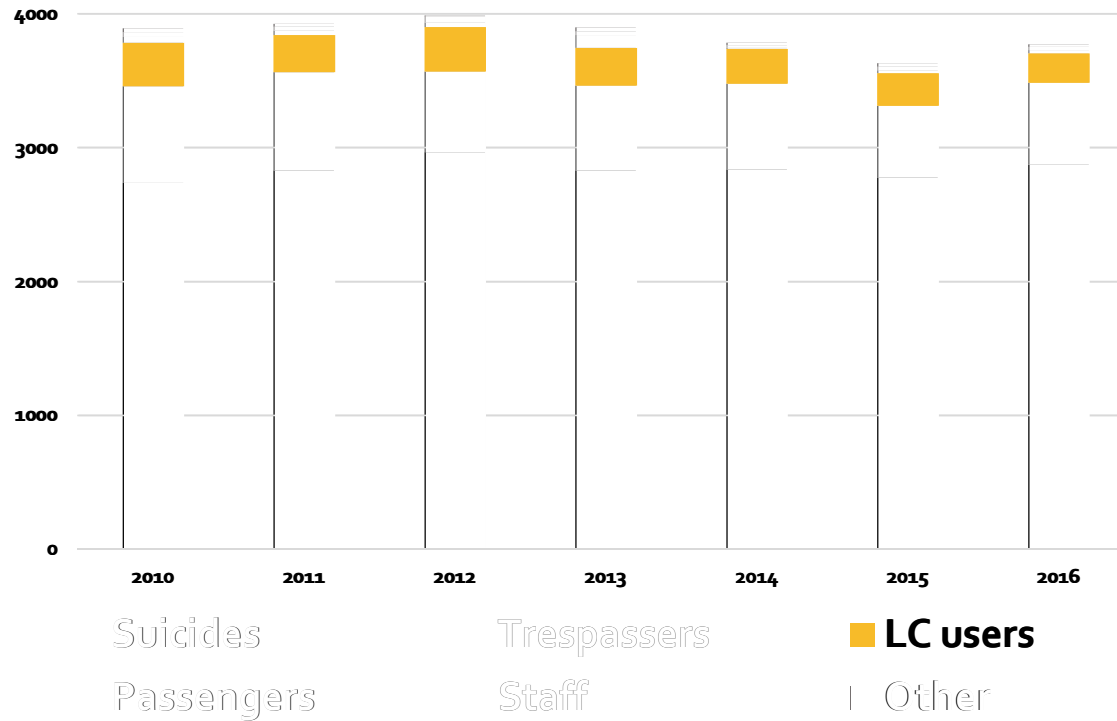
Overview

This project has received funding from the European Union's
Horizon 2020 research and innovation programme under
grant agreement No 723205



Background

Fatalities on rail premises 2010-2016



Objectives

- ▲ Improve safety and minimize risks at level crossings
 - developing innovative solutions and tools to detect as early as possible potentially dangerous situations leading to collisions at LCs and to prevent incidents

- ▲ Focus both on technical solutions and on human processes
 - to adapt infrastructure design to end-users
 - to enhance coordination and cooperation between road users/managers and rail transport managers

- ▲ Develop a toolbox which will integrate all the project results and solutions to help both rail and road managers to improve safety at level crossings



Key facts

▲ Framework : H2020 Call 2016-2017 Mobility for Growth

- Topic: MG-3.4-2016 : Transport infrastructure innovation to increase the transport system safety at modal and intermodal level (including nodes and interchanges)

▲ Duration: 3 years starting may 2017

▲ Budget: ~ 5 M€



Consortium

- ▲ Coordinator : UIC
- ▲ 17 partners
- ▲ 8 EU countries
- ▲ 2 associate countries



CONSORTIUM

COORDINATOR: 1-UIC - International Union of Railways

2-VTT - Technical Research Centre of Finland Ltd

3-NTNU - Norwegian University of Science and Technology

4-IFSTTAR - French institute of science and technology for transport, development and networks

5-FFE - Spanish Railways Foundation

6-CERTH-HIT - Centre for Research and Technology Hellas - Hellenic Institute of Transport

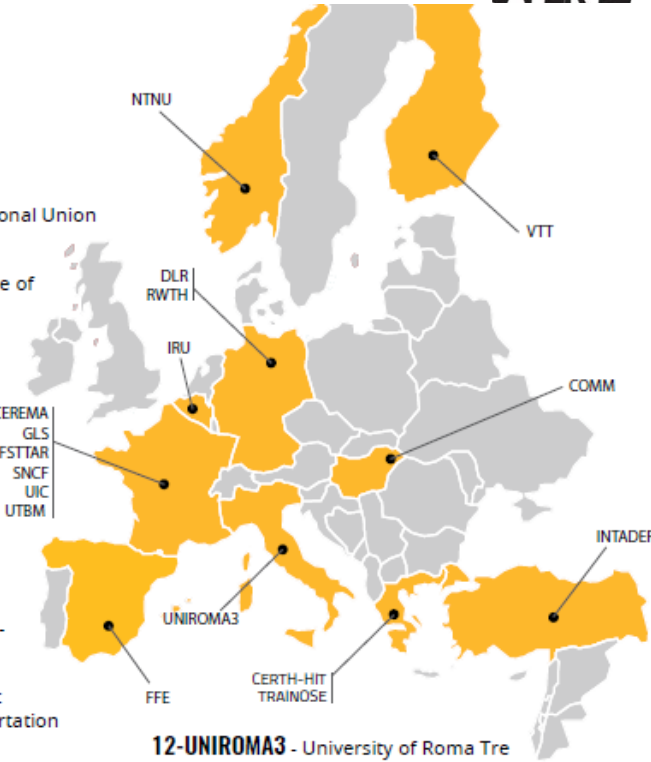
7-TRAINOSE - Trainose Transport - Passenger and Freight Transportation Services SA

8-INTADER - Intermodal Transportation and Logistics Research Association

9-CEREMA - Centre for Studies and Expertise on Risks, Environment, Mobility, and Urban and Country planning

10-GLS - Geoloc Systems

11-RWTH - Rheinisch-Westfaelische Technische Hochschule Aachen University



12-UNIROMA3 - University of Roma Tre

13-COMM - Commsignia Ltd

14-IRU - International Road Transport Union - Projects ASBL

15-SNCF - French Railways

16-DLR - German Aerospace Center - Institute of transportation Systems

17-UTBM - University of Technology of Belfort-Montbéliard

Approach

- ▲ Analysis of LC safety systems and definition of needs and requirements of the rail and road users for safer level crossings

- ▲ Development of innovative measures
 - ▲ Human centered measures
 - ▲ Technical solutions

- ▲ Field-test and evaluation of the measures

- ▲ Elaboration of recommendations and guidelines

- ▲ Collection of all results in a toolbox



Work achieved

- ▲ Analysis of level crossing safety in Europe and beyond (D1.1 – FFE)
- ▲ Level crossing accidents and factors behind them (D1.2 – VTT)
- ▲ Needs and requirements for improving safety at level crossing (D1.3 – UIC)
- ▲ State of the art of LC safety analysis: identification of key safety indicators concerning human errors and violation (D2.1 – FFE)

Deliverables available at <http://safer-lc.eu/deliverables-publications-5>



Selected scenarios

- ▲ Scenario for risk assessment
 - ▲ risk evaluation based on user behaviours using automatic video data analysis
- ▲ Scenario for smart detection system
 - ▲ car stuck or stopped at LC
 - ▲ information sharing in case of a train approaching
- ▲ Scenario for early detection of failures on the LC's equipment
- ▲ Scenario for surveillance of the road and rail surface at the LC
- ▲ Scenario for Optimized closure time
- ▲ Communication system for information sharing



Next Events

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|--|-----------------|--------|
| Mid-term conference | 10 October 2018 | Madrid |
| Workshop 3 on the toolbox (evaluation) | December 2019 | Paris |
| Workshop 4 on the toolbox (training) + Final conference | April 2020 | Paris |





▲ Website available at
www.SAFER-LC.eu

▲ Contact
Info@safer-lc.eu