



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

SAFER-LC Kick off Meeting, Paris, 11 May 2017

Overview

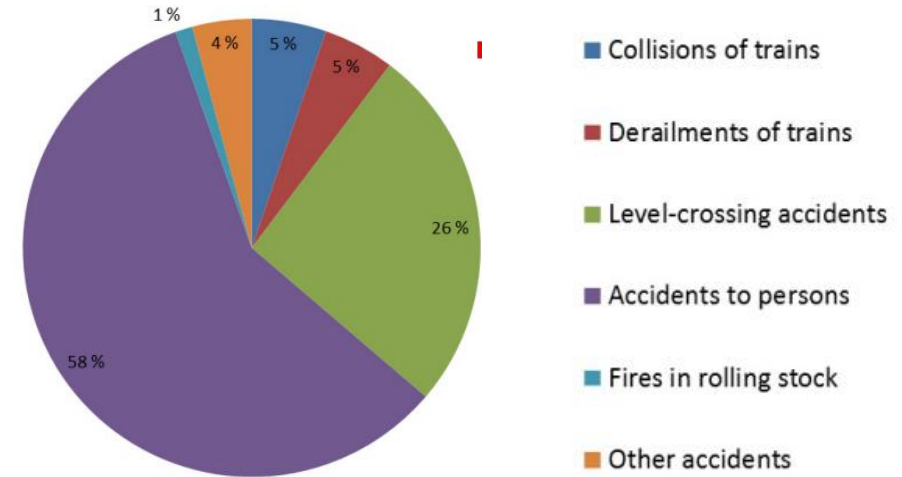
Marie-Hélène Bonneau

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

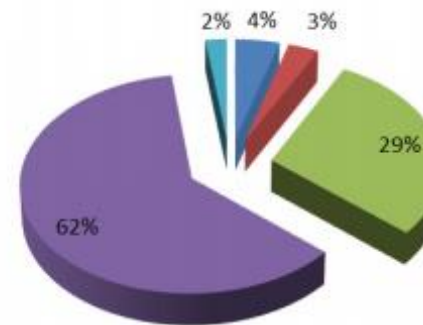


Background

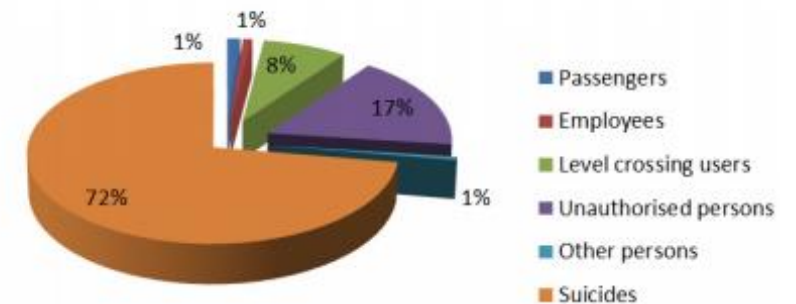
▲ Breakdown of significant accidents (2012-2014) – ERA Figures



▲ Relative share of victims per category of persons (2012-2014)- ERA Figures



Fatalities on railways disregarding railway suicides



Fatalities on railways including railway suicides

Objectives

- ▲ Improve safety and minimize risks at and around level crossings (LCs)
 - by developing innovative solutions and tools to detect as early as possible potentially dangerous situations leading to collisions at LCs and to prevent incidents at level crossing
- ▲ Focus both on technical solutions and on human processes
 - to adapt infrastructure design to end-users
 - to enhance coordination and cooperation between different stakeholders from different transportation modes.
- ▲ 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)
- ▲ Project submitted in September 2016 and selected in January 2017
- ▲ Starting date
 - 1st May 2017 for 3 years
- ▲ Budget
 - 4 888 927 €
- ▲ Total effort
 - 487,75 MM

Consortium

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

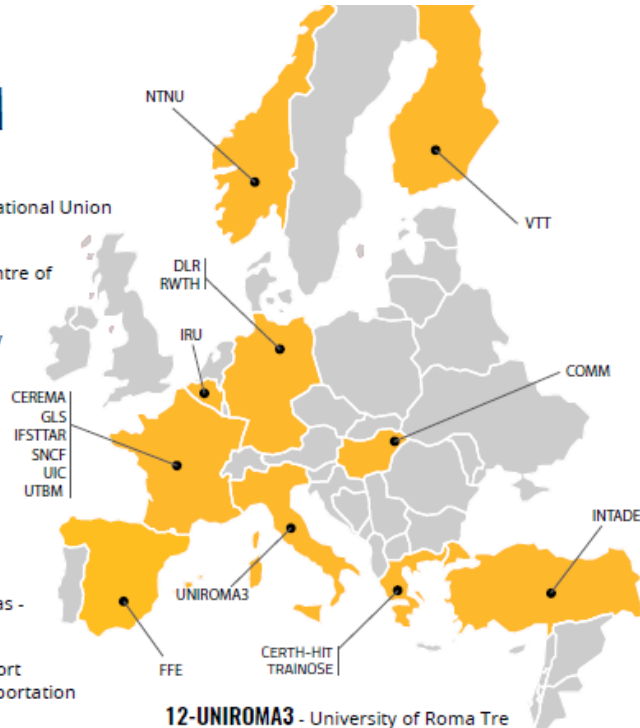
7-TRAINOSE - Trainose Transport - Passenger and Freight Transportation Services SA

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

▲ Coordinator : UIC

▲ 17 partners

▲ 8 European Union countries

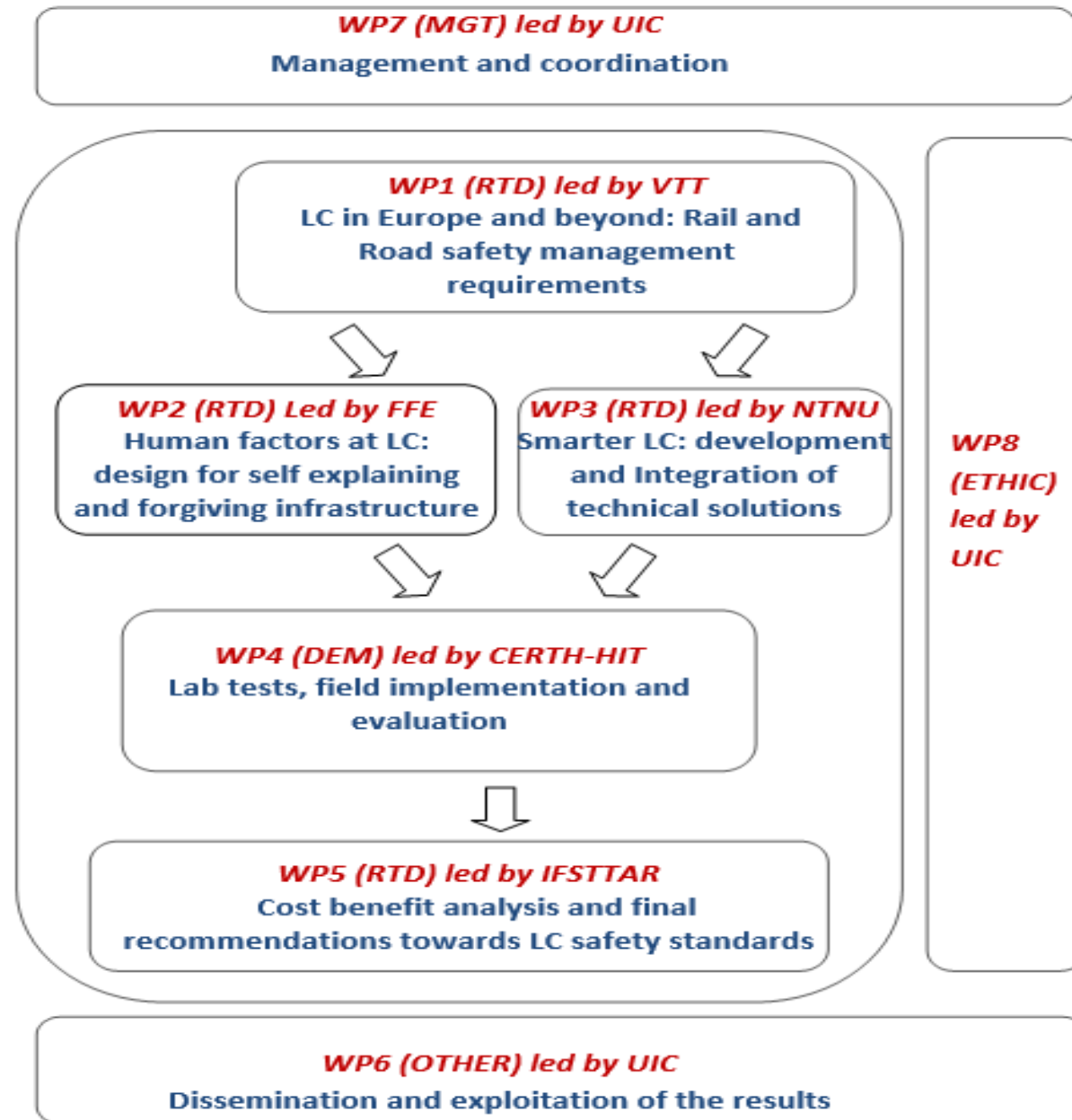
▲ 2 associate countries

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 low cost measures
 - ▲ Technical solutions
- ▲ Field-test and evaluation of the measures
- ▲ Elaboration of recommendations and guidelines
- ▲ Collection of all results in a toolbox



Structure



Timing

	Month																																				Lead partner
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	
1	LC in Europe and beyond: Rail and road safety management requirements																																				VTT
1.1					D1.1																																
1.2				D1.2																																	
1.3							M1.2 D1.3																														
2	Human Factor at LC: Design for self-explaining and forgiving infrastructure																																				FFE
2.1								M2.1 D2.1																													
2.2												M2.2 D2.2																							D2.5		
2.3																	D2.3																	D2.4			
3	Smarter LC: development and integration of technical solutions																																				NTNU
3.1																																				D3.4	
3.2													D3.1							M3.1																D3.5	
3.3																																					
3.4																				M3.2						D3.3											
3.4																				M3.3						D3.2											
4	Lab tests, field implementation and evaluation																																				CERTH
4.1													D4.1 D4.2																								
4.2																				M4.1 M4.2 M4.3						D4.3 M4.4									M4.5		
4.3																																				D4.4	
5	Cost- benefit analysis and final recommendations for Safer LC																																				IFSTTAR
5.1														D5.1																							
5.2																																					
5.3																																				D5.3	
5.3																																				D5.4	
6	Dissemination and exploitation of the results																																				UIC
6.1		D6.1 D6.2				D6.3														M6.1																M6.3	
6.2																																					
6.3																																					
6.4																																					
6.4													D6.4																								
6.5																																					
7	Management																																				UIC
7.1		M7.1	D7.1																																		
7.2																																					
7.3																																					
8	Ethical requirements																																				UIC
8.1							D8.1																														
8.2							D8.2																														
8.3																																					

Main changes on the description of work

- ▲ Performance indicators with quantification of
 - ▲ Objectives
 - ▲ Impacts

- ▲ Technical Risks and mitigation measures

- ▲ Addition of WP on Ethical issues

Specific objective	Indicator	Targeted value
Develop innovative solutions to enhance the safety of level crossings for road- as well as rail-users	Number of innovative solutions developed	10
Demonstrate and evaluate the proposed solutions	Number of field tests	5
Develop a toolbox accessible through a user friendly interface	Number of recommendations / measures available in the toolbox	50
Satisfaction assessment obtained	Number of questionnaires to assess the toolbox	40
Participation of rail and road infrastructure managers to ensure the relevance of the solutions produced	Number of companies involved	20
Help both rail and road managers to improve safety at level crossings	Number of international stakeholders involved	100

- ▲ Cooperation
- ▲ Competences and knowledge
- ▲ Commitment of all the actors

will be the success key

