



GIS-Based Infrastructure Management System for Optimized Response  
to Extreme Events of Terrestrial Transport Networks



## **Training Plan V1 (D10.3)**

February 2020 (V1.0)

**PUBLIC**



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# **SAFEWAY**

## **GIS-BASED INFRASTRUCTURE MANAGEMENT SYSTEM FOR OPTIMIZED RESPONSE TO EXTREME EVENTS OF TERRESTRIAL TRANSPORT NETWORKS**

**Grant Agreement No. 769255**

### **Training Plan V1**

**WP 10**      **Exploitation, Dissemination and  
Communication**

<b>Deliverable ID</b>	<b>D10.3</b>
<b>Deliverable name</b>	<b>Training Plan V1</b>
Lead partner	<b>FERROVIAL</b>
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**PUBLIC**

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## SAFEWAY Project Synopsis



According to European TEN-T guidelines, due consideration must be given to the risk assessments and adaptation measures during infrastructure planning, in order to improve resilience to disasters. SAFEWAY's aim is to design, validate and implement holistic methods, strategies, tools and technical interventions to significantly increase the resilience of inland transport infrastructure. SAFEWAY leads to significantly improved resilience of transport infrastructures, developing a holistic toolset with transversal application to anticipate and mitigate the effects extreme events at all modes of disaster cycle:

1. **"Preparation"**: substantial improvement of risk prediction, monitoring and decision tools contributing to anticipate, prevent and prepare critical assets for the damage impacts;
2. **"Response and Recovery"**: the incorporation of SAFEWAY IT solutions into emergency plans, and real-time optimal communication with operators and end users (via crowdsourcing and social media);
3. **"Mitigation"**: improving precision in the adoption of mitigation actions (by impact analysis of different scenarios) together with new construction systems and materials, contributing to the resistance & absorption of the damage impact.

SAFEWAY consortium has 15 partners that cover multidisciplinary and multi-sectorial business fields associated with resilience of transport infrastructure in Europe: national transport infrastructure managers & operators, a main global infrastructure operator, partners able to provide various data sources with large coverage in real time, comprehensive ITC solutions, and leading experts in resilience, risk databases, remote sensing-based inspection, and decision systems based on predictive modelling.

SAFEWAY will carry-out 4 real case studies distributed through 4 countries, linked to 5 corridors of the TEN-T Core Network. SAFEWAY has as main expected impacts:

1. at least 20% improvement in mobility; and
2. at least 20% lower cost of infrastructure maintenance.

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## Document Information

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## Document Approval

Ver.	Name	Position in project	Beneficiary	Date	Visa
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## Executive Summary

This document, deliverable 10.3 "Training Plan V1" is a deliverable of SAFEWAY project. It presents the training activities strategy that will be followed along and beyond the project in order to meet the training objectives, which are to identify and promote the project results likely to be transferred and to develop communication materials in order to facilitate the knowledge transfer.

The strategy description includes the target audience groups (SAFEWAY partners, Industry, Scientific community, Standardisation organisations, High-level education and Stakeholders), the key messages to share with each of them, a description of the training activities planned (internal seminars, online training, SAFEWAY workshop, SAFEWAY webcast and organisation of parallel project events) and their timeline, the training quality control to ensure a continuous improve on the quality of the training actions of the project and the partners involvement.

This deliverable presents the first version of the Training plan. There will be two more versions of the plan in order to keep the plan updated in accordance with the identified training needs.

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## Glossary of Terms

AB	Advisory Board
D&C	Dissemination & Communication
DCP	Dissemination and Communication Plan
IP	Industrial Property
KS	Key Stakeholders
PM	Policy Makers
PMB	Project Management Board
PTC	Project Technical Committee
RTD	Research and Technology Development
SH	Stakeholders
SO	Standardisation Organisations
SPs	SAFEWAY Partners
SR	Standards Review

## 1. Introduction

Training implies developing in oneself or others knowledge and skills to specific competencies in order to improve capabilities, capacities and performance among others.

In Safeway project, it is aimed to design, validate and implement holistic methods, strategies, tools and technical interventions to significantly increase the resilience of inland transport infrastructure. Therefore, 15 multidisciplinary partners are part of the project consortium:

- Universidad de Vigo in Spain
- Stiftelsen Norges Geotekniske Institutt in Norway
- The Chancellor Masters and Scholars of the University of Cambridge in United Kingdom
- Ingenieria Insitu SL in Spain
- Demo Consultants BV in the Netherlands
- Universidade do Minho in Portugal
- Planetek Italia SRL
- Infrastructure Management Consultants GmbH Zürich in Switzerland
- Ferrovial Agroman SA in Spain
- Budimex in Poland
- Infraestruturas de Portugal in Portugal
- Network Rail Infrastructure Limited in United Kingdom
- BeTR in The Netherlands
- Innovactory International BV in The Netherlands
- Transportøkonomisk Institutt in Norway

Among these partners, there are universities and research organisations, corporates and SME's, IT technology providers, and infrastructure constructors, maintainers, managers & operators.

Given this great diversity of partners and specialisations, and the complexity of the methods, strategies, tools and technical interventions to develop, it is key to maximise the impact of Safeway Project and make sure that all the partners are fully confident about the use of the results obtained within the project. The training activities will encourage the adoption of SAFEWAY results in the industry.

The Training Plan is a live document. This report is the first outcome of Task 10.3 "Technology Transfer Activities" and includes the preliminary plan to be followed along the project. This Training Plan further defines the scope of the training activities described in the Dissemination and Communication Plan (D10.1). This document and its future updates are aimed to set the framework to develop the contents for the SAFEWAY Partners to use during their training activities. Furthermore, this deliverable will be further updated in Month 30 and in Month 42 when the second and third versions of the plan will be produced (see Table 1).

**Table 1:** Planned calendar for submission of the Training Plan and its updates

<b>Deliverable Number</b>	<b>Deliverable Title</b>	<b>Due date</b>
D10.3	Training Plan (TP) V1	Month 18
D10.7	Training Plan (TP) V2	Month 30
D10.11	Training Plan (TP) V3	Month 42

### **1.1 Scope**

This report is the first outcome of task T10.3 “Technology Transfer Activities” and therefore defines the training strategy of the project, the training objectives, audience groups, messages and activities to organise in order to assure the knowledge transfer among all the partners, the industry, etc.

Training activities will give RTD organizations the possibility to spread their knowledge and the innovations made along the project in a wider scale while private companies and all partners involved in this project will improve their expertise, increasing their business value.

## 2. Training Strategy

This section describes the training objectives, the target audience groups, the training key messages and activities, the activities timeline, the training quality control and the partners' involvement.

### 2.1 Training objectives

The main two goals of the plan are:

- To identify and promote the project results that are likely to be transferred to potential audiences and/or end-users, both external and internal (always considering IP protection).
- To develop communication materials in order to ease the knowledge transfer between project members and their audience (defined through the target groups).

To reach these objectives, suitable material for training will be elaborated in addition to the documents produced along the project, as well as organizing specific training activities during and beyond the project.

### 2.2 Target audience groups, key messages and activities

As stated in Safeway's Dissemination and Communication Plan [1] the target groups for dissemination activities which will be also involved in training activities are:

- SAFEWAY partners
- Industry
- Scientific community
- Standardisation organisations
- High-level education
- Stakeholders

The project key messages and specific activities planned for each of the target groups above mentioned are summarised below in Table 2 [1].

**Table 2:** Target groups, key messages and training activities

Target group	Key Messages	Training activities
<b>SAFEWAY partners</b>	<ul style="list-style-type: none"> <li>✓ Project objectives, partners, activities, public documents and videos.</li> <li>✓ Technical background, keys to use SAFEWAY platform.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Project website and social media.</li> <li>✓ <b>Internal seminars.</b></li> </ul>
<b>Industry</b>	<ul style="list-style-type: none"> <li>✓ Project objectives, partners, activities, public documents and videos.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Project Website and social media.</li> <li>✓ <b>Online training.</b></li> <li>✓ <b>SAFEWAY workshop.</b></li> <li>✓ <b>SAFEWAY Webcast.</b></li> </ul>

Target group	Key Messages	Training activities
	<ul style="list-style-type: none"> <li>✓ Project results, specific knowledge and fundamental principles.</li> <li>✓ Project results and main features of the manufacturing process and novel products.</li> <li>✓ Project contents, developments and results.</li> <li>✓ Project results and main features of the Technological Platform and novel products.</li> <li>✓ Project results, with emphasis on: SAFEWAY platform.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Technical articles in Infrastructure Management Journals.</li> <li>✓ Presentations/lectures/posters in congresses &amp; conferences on Resilience for climate change adaptation and critical infrastructures.</li> <li>✓ <b>Organisation of parallel project events.</b></li> </ul>
<b>Scientific community</b>	<ul style="list-style-type: none"> <li>✓ Project objectives, partners, activities, public documents and videos.</li> <li>✓ Project results, specific knowledge and fundamental principles.</li> <li>✓ Project contents, developments and results.</li> <li>✓ Project results and main features of the Technological Platform and novel products.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Project website and social media.</li> <li>✓ Scientific articles in Journals.</li> <li>✓ Technical articles in Infrastructure Management Journals.</li> <li>✓ Presentations/lectures/posters in congresses &amp; conferences on Resilience for climate change adaptation and critical infrastructures.</li> <li>✓ <b>Organisation of parallel project events.</b></li> </ul>
<b>Standardisation organisations</b>	<ul style="list-style-type: none"> <li>✓ Project objectives, partners, activities, public documents and videos.</li> <li>✓ Project results and main features of the manufacturing process and novel products.</li> <li>✓ Standards relevant data from the project.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Project website and social media.</li> <li>✓ <b>SAFEWAY Workshop.</b></li> <li>✓ <b>SAFEWAY Webcast.</b></li> </ul>
<b>High-level education</b>	<ul style="list-style-type: none"> <li>✓ Project objectives, partners, activities, public documents and videos.</li> <li>✓ Project results, specific knowledge and fundamental principles.</li> <li>✓ Project results and main features of the manufacturing process and novel products.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Project website and social media.</li> <li>✓ <b>Online training.</b></li> </ul>

Target group	Key Messages	Training activities
<b>Stakeholders</b>	<ul style="list-style-type: none"> <li>✓ Project results and main features of the manufacturing process and novel products.</li> <li>✓ Project contents, developments and results.</li> </ul>	<ul style="list-style-type: none"> <li>✓ Project website and social media.</li> <li>✓ <b>SAFEWAY Workshop.</b></li> <li>✓ <b>SAFEWAY Webcast.</b></li> </ul>

Please note that *Project website and social media*, *Scientific articles in Journals*, *Technical articles in Infrastructure Management Journals* and *Presentations/lectures/posters in congresses & conferences on Resilience for climate change adaptation and critical infrastructures* in the table above are not “training activities” per se, however they have been included in Table 2 because these are the tools to disseminate and publish the documents and results produced along the project which are also part of the training strategy.

### 2.3 Activities timeline

SAFEWAY project lasts from September 2018 until February 2022. Education and training activities will occur throughout the project, slightly more concentrated towards the end of the project so that more results can be shared.

In addition to the documents produced along the project, there will be at least 4 **internal seminars** that will be held in parallel to the project meetings to ease the partners’ attendance, **online training** beyond the project, a **SAFEWAY Workshop** which will take place in Month 42, a **SAFEWAY Webcast** and two **parallel project events** to be organised in parallel to project meetings, open to stakeholders and in connection to the project Pilots. While Table 3 provides an overview of the plan, Table 4 provides more specific details on how the internal seminars, SAFEWAY workshop and the parallel project events will be potentially organised.

**Table 3:** SAFEWAY planned timeline for Training Activities

	2018	2019	2020	2021	2022	2023	2024	2025
SAFEWAY PROJECT								
Internal seminars								
Online training								
SAFEWAY Workshop								
SAFEWAY Webcast								
Organisation of parallel project events								

**Table 4:** SAFEWAY planned timeline for Training Activities

Project meeting	M12	M18	M24	M30	M36	M42
<b>Planned Location</b>	Norway	Brussels	The Netherlands	Brussels	Portugal	Spain
<b>Estimated Date</b>	September 2019	April 2020 (M20)	September 2020	April 2021 (M32)	September 2021	February 2022
<b>Partners attending</b>	PTC	PTC	ALL + AB	PTC	ALL + AB	PTC/ALL
<b>Type of activity</b>	1st Internal Seminar	2nd Internal Seminar	1st Parallel Event	3rd Internal Seminar	2nd Parallel Event	SAFEWAY Workshop and 4th Internal Seminar
<b>Activities related to D10.3</b>	Transfer knowledge between SPs	Transfer knowledge between SPs	Transfer knowledge to Industry and SO	Transfer knowledge between SPs	Transfer knowledge to Industry and SO	Transfer knowledge between SPs and Transfer knowledge to Industry, SH and SO

## 2.4 Training quality control

In order to ensure a continuous improvement on the quality of the training actions of the project, collection of feedback after the training activities will be implemented as part of the training strategy. After each internal seminar and the parallel events, a feedback form (see **iError! No se encuentra el origen de la referencia.**) will be distributed among the delegates. Aiming to monitor and adjust future training activities in order to continuously improve the project training experience.

## 2.5 Partners involvement

This task (T10.3) is led by Ferrovial with the support of the project coordinator: Universidad de Vigo. All the partners in the consortium are involved in promoting the training strategy, sharing their ideas, knowledge and results, developing all the necessary materials and attending the activities organized. Furthermore, all partners are encouraged to identify training needs and to propose additional training activities. The keys to define the training needs are:

- The identification of the topic to train;
- The definition of the details for the session (contents, length, format, audience required...);
- The appointment of a session responsible person for the training session;
- The organisation of the session; and

- 
- The collection of training feedback and improvement opportunities by means of a feedback form (see **iError! No se encuentra el origen de la referencia.**).

## 3. Channels and tools

The training tools planned for SAFEWAY training strategy, that is, Internal seminars, Safeway Workshop, online training, SAFEWAY Webcast and Project parallel events are further developed in this section.

### 3.1 Internal seminars

#### 3.1.1 Purpose

The internal seminars are organised as training sessions for the consortium partners to share the necessary background and the project results achieved. The purpose of these seminars is to fulfil one of the main goals of the training strategy, which is the knowledge transfer among the partners. The partners themselves will be in charge of providing the training to the other partners by presenting their results and achievements.

#### 3.1.2 Target audience

Initially, it was planned to organise the seminars only for SAFEWAY partners, however, due to the interest shown by some members of the Advisory Board, they will also be invited.

#### 3.1.3 Proposed content

The contents of the internal seminars are dependent on the project progress. The first internal seminars will be focussed on the first project results while the last seminars will also include the keys to use SAFEWAY platform. The plan is that all partners participate in the seminars to share and spread their achievements.

#### 3.1.4 Proposed timing

Four internal seminars will be held in parallel to the project meetings, to ease the attendance of partners. As stated in Table 4, they are planned for the following months:

- Month 13
- Month 18
- Month 24
- Month 42

### 3.2 SAFEWAY workshop

#### 3.2.1 Purpose

The Workshop will be a good opportunity to introduce SAFEWAY to a wide range of key stakeholders and obtain their feedback. A final international workshop will be organized by Universidad de Vigo, event in which all the results will be presented and discussed, as described in the DCP [1].

### **3.2.2 Target audience**

The conference will be targeted to technology innovators on infrastructure management, including end-users, materials and technology suppliers, the research community, regulatory agency, standardization bodies and all the potential players interested in fields associated to innovative resilience of transport infrastructure with special focus on their application in railway and roads. Over 100 attendees are expected to attend.

### **3.2.3 Proposed content**

The specific content of the workshop will be defined in the next version of the Training plan, i.e., V2.

### **3.2.4 Proposed timing**

SAFEWAY workshop will be organised in Month 42 of the project, that is, in February 2022 (see Table 4).

## **3.3 Online training**

### **3.3.1 Purpose**

As stated in the DCP [1] online training will be available beyond the project to demonstrate software tools capabilities, SAFEWAY IT platform, etc.

### **3.3.2 Target audience**

The main target audience are high-level education and industry.

### **3.3.3 Proposed content**

Since the Online training is planned to be available beyond the project, its specific content will be defined in the third version of the Training plan in Month 42.

### **3.3.4 Proposed timing**

Beyond the project, as indicated in Table 4.

## **3.4 SAFEWAY Webcast**

### **3.4.1 Purpose**

SAFEWAY Webcast aims to distribute functionalities of SAFEWAY IT platform and its associated services, as described in the DCP [1].

### **3.4.2 Target audience**

The Webcast will be targeted to industry, stakeholders and standardisation organisations.

### **3.4.3 Proposed content**

Since the Webcast will not be available until Month 36, the specific content of the Webcast will be defined in the next version of the Training plan.

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#### **3.4.4 Proposed timing**

SAFEWAY webcast will be organised in Month 36 of the project (see Table 4).

### **3.5 Parallel project events**

#### **3.5.1 Purpose**

As described in the DCP [1], the main aim of these events is to share with the scientific community and the industry the project developments and results.

#### **3.5.2 Target audience**

These events will be targeted to the scientific community and the industry.

#### **3.5.3 Proposed content**

The contents of the internal seminars depend on the project progress, but the key will imply the sharing of project developments and results as well as the main features and characteristics of the SAFEWAY platform.

#### **3.5.4 Proposed timing**

It is foreseen to organise two parallel project events. As stated in Table 4, they are planned for the following months:

- Month 24
- Month 36

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## Acknowledgements

This deliverable was carried out in the framework of the GIS-Based Infrastructure Management System for Optimized Response to Extreme Events of Terrestrial Transport Networks (SAFEWAY) project, which has received funding from the European Union's Horizon 2020 research and innovation programme under grant agreement No 769255.

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## References

- [1] C. Perez-Collazo. Dissemination and Communication Plan (DCP) V1 (D10.1). Available from: <https://www.safeway-project.eu/en/results/d10-1> [Accessed 1<sup>st</sup> February 2020].

# SAFEWAY

## GIS-BASED INFRASTRUCTURE MANAGEMENT SYSTEM FOR OPTIMIZED RESPONSE TO EXTREME EVENTS OF TERRESTRIAL TRANSPORT NETWORKS

**Grant Agreement No. 769255**

### Training Plan V1 - Appendices

**WP 10**      **Exploitation, Dissemination and  
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<b>Deliverable ID</b>	<b>D10.3</b>
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## Appendices Contents

- **Appendix 1: Training feedback form**

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## Appendix 1. Training feedback form

Name and email (optional):		Date (dd/mm/yyyy):	
Training activity:	Internal seminar <input type="checkbox"/> Parallel event <input type="checkbox"/>	I agree on being asked for further feedback: Yes <input type="checkbox"/> No <input type="checkbox"/>	

Please complete the feedback form for today's training session. Your contribution is very valuable to improve the quality of the training sessions. Instruction on scoring is at the bottom of this page.

Question	1	2	3	4	5
The training was relevant to my needs. I can use what I have learnt.					
<i>Comment:</i>					
The materials provided were helpful. The content was well organised.					
<i>Comment:</i>					
The trainers were helpful, informative and approachable.					
<i>Comment:</i>					
Adequate time was provided for questions and discussions.					
<i>Comment:</i>					
I am more aware now about the project Technical background and the keys to use SAFEWAY platform					
<i>Comment:</i>					
How would you rate this session overall?					
<i>Comment:</i>					
<b>1 - Strongly Agree, 2 - Agree, 3 - Strongly disagree, 4 - Disagree, 5 - Not applicable</b>					

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If you have further comments or suggestions or your training aims were not met, please use the box below to explain in your own words the details: