



Deliverable 4.2

Dissemination plan

Project acronym:	4SECU Rail
Starting date:	01/12/2020
Duration (in months):	24
Call (part) identifier:	H2020-S2RJU-2019
Grant agreement no:	881775
Due date of deliverable:	Month 6
Actual submission date:	27/05/2020
Responsible/Author:	Anil Shewani - ARD
Dissemination level:	PU (Public)
Status:	Issued

Reviewed: YES

This Project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 881775. Call identifier: H2020-S2RJU-2019. Topic: S2R-OC-IP2-01-2019 - Demonstrator development for the use of Formal Methods in railway environment and Support to implementation of CSIRT to the railway sector.

Document history		
Revision	Date	Description
0.1	13/05/2020	First Draft
0.2	22/05/2020	Quality Check
1.0	27/05/2020	Issued

Report contributors		
Name	Beneficiary Short Name	Details of contributions
Anil Shewani and Adrià Farré	ARD	Structure definition and coordination. General contributions in all sections.
Christine Hassoun	UIC	Review of all sections.
Laura Masullo	SIRTI	Review of all sections.
Daniele Trentini	SIRTI	Quality check.

Legal Notice

The information in this document is subject to change without notice.

The Members of the 4SECURail Consortium make no warranty of any kind with regard to this document, including, but not limited to, the implied warranties of merchantability and fitness for a particular purpose. The Members of the 4SECURail Consortium shall not be held liable for errors contained herein or direct, indirect, special, incidental or consequential damages in connection with the furnishing, performance, or use of this material.

The JU cannot be held liable for any damage caused by the Members of the 4SECURail Consortium or to third parties as a consequence of implementing this Grant Agreement No 881775, including for gross negligence.

The JU cannot be held liable for any damage caused by any of the beneficiaries or third parties involved in this action, as a consequence of implementing this Grant Agreement No 881775.

The information included in this report reflects only the author's view and that the JU is not responsible for any use that may be made of such information.

Table of Contents

1.	Executive Summary	5
2.	Abbreviations and acronyms	6
3.	List of tables.....	7
4.	List of Figures	7
5.	Background and related tasks	8
6.	Objectives	9
7.	Scope.....	10
8.	Target audience	11
9.	Approach and actions	12
10.	Dissemination plan	14
10.1	Creation of a project identity.....	14
10.1.1	4SECU Rail Logo	14
10.1.2	4SECU Rail Templates	15
10.1.3	4SECU Rail project presentation brochure	15
10.2	4SECU Rail public website.....	16
10.3	Document management tool: SharePoint	17
10.4	Use of social media	17
10.4.1	Twitter account.....	17
10.4.2	LinkedIn account.....	18
10.5	Press release and media coverage.....	19
10.6	Content for Shift2Rail electronic newsletter	19
10.7	Final event conference.....	20
10.8	Participation in European research conferences and congresses	20
10.9	Presentations and publications.....	20
10.10	Organisation of workshops	21
10.11	Advisory Board	21
11.	Interaction with Shift2Rail IP2	21
12.	Conclusions and perspectives.....	23
13.	Appendices	24



13.1	4SECU Rail project presentation brochure	24
13.2	4SECU Rail Press Release	26
13.3	Media coverage.....	28

1. Executive Summary

The aim of this document is to provide a dissemination and communication plan for the Shift2Rail funded 4SECU Rail project (FORMal Methods and CSIRT for the RAILway sector) and to describe the materials and tools that will be used to facilitate the wide-spread of information and knowledge from the results created by the project, among and beyond the members of the consortium and beyond the life of the project.

For the dissemination of this two-year project to be successful, there needs to be a good cooperation between all the Work Packages throughout the whole life of the project.

The Dissemination Plan will be based on a large number of activities which will be carried out during the duration of the project, including:

- Organisation of the project's Kick-off Meeting.
- The creation of a project identity.
- The creation of a project brochure.
- The creation of a project public website.
- Use of Social Media.
- Project's press release.
- Production of two newsletters.
- Participation in conferences.
- Publication of results in relevant journals.
- Organisation of the project's Final Event.
- Organisation of workshops.

In this respect, a separated and more detailed analysis of the activities to be undertaken during the project will be provided. 4SECU Rail's close links with the Shift2Rail JU and other EU projects will ensure further dissemination of the results achieved by the project. The task leader of the work package 4 is Ardanuy with the support of: FIT, CNR, SIRTl, HIT RAIL BV, UIC and TREE.

This deliverable will be a dynamic document that will be revisited and edited periodically and will evolve with the project.

2. Abbreviations and acronyms

Abbreviation / Acronyms	Description
AB	Advisory Board
CNR	Consiglio Nazionale delle Ricerche
CSIRT	Computer Security Incident Response Team
MX	Month X
S2R JU	Shift2Rail JU
UIC	International Union of Railways
UITP	Union Internationale des Transports Publics
URID-WG	User Requirements/Implementation and Deployment Working Group
WP	Work Package

3. List of tables

Table 1 - 4SECU Rail communication actions and KPIs.....	13
--	----

4. List of Figures

Figure 1 - 4SECU Rail Target Audience.	11
Figure 2 – Nominal impact of key dissemination tools.	12
Figure 3 – 4SECU Rail’s project logo	14
Figure 4 – 4SECU Rail’s dissemination and communication activities logo.	14
Figure 5 – 4SECU Rail presentation brochure (trptych leaflet format).	15
Figure 6 – 4SECU Rail website’ homepage.	16
Figure 7 – 4SECU Rail Cooperation tool.....	17
Figure 8 – 4SECU Rail Twitter account profile	18
Figure 9 – Homepage of the 4SECU Rail LinkedIn account	19
Figure 10 - 4SECU Rail interaction within Shift2Rail IP2 framework.....	22

5. Background and related tasks

The 4SECU Rail consortium will deliver a co-designed collaborative process and tools for the coordination of cybersecurity response across European railways, as well as a Formal Methods Demonstrator to support better interoperability of signalling systems for railway security, safety and efficiency.

Throughout the project, the Outreach and Networking Work Package (WP4) will drive the dissemination of information, with the active collaboration of all partners: ARD, FIT, CNR, SIRTl, HIT, UIC and TREE, engaging in activities such as organising and participating in conferences, congresses, workshops and showcases.

The three tasks of WP4 are:

- Task 4.1 Dissemination and Communication
- Task 4.2 Advisory Board
- Task 4.3 Sustainability and Impact Maximization

WP4 seeks to ensure proper dissemination and promotion of the project and its results, in a way which is consistent with the wider dissemination and promotion activities of Shift2Rail. It will ensure that the outputs of the project are delivered in a form which makes them immediately available for use by the S2R Innovative Programmes.

Moreover, WP4, with the collaboration of all partners of the project, will also work on the publication and distribution of material like scientific publications, articles and brochures, press releases, newsletters and a website towards accomplishing dissemination of the project results to a wide range of audiences.

It will also ensure that all important actors in the European railway sector are informed about 4SECU Rail objectives, content and results. A further objective is to facilitate acceptance of the project outcomes by the standards and regulatory bodies, as well as by the main actors of the EU rail sector.

6. Objectives

This document will define the target audience and the dissemination and communication strategy and activities for the successful dissemination, exploitation, and knowledge transfer of 4SECURail in alignment with Shift2Rail's communication and dissemination strategy.

This document will be a dynamic document that will be revised and edited periodically and will evolve with the project. It will be updated in M12 of the project.

More specifically, the detailed objectives are the following:

- To ensure that the outputs of the project are delivered in a form which makes them immediately available for use by the Innovation Programme 2 within Shift2Rail.
- To ensure that all important actors in the European railway sector are informed about 4SECURail to facilitate acceptance of the project outcomes by main actors of the EU rail sector.
- To disseminate, engage and promote the project and its research activities to relevant audiences.
- To provide maximum visibility and raise public awareness of the 4SECURail framework and outcomes by following a sound dissemination strategy.
- Develop effective dissemination channels to reach all interested parties outside the consortium, in academia, and the business communities.
- Execute successful dissemination activities (e.g., publications in high-quality journals, participation in relevant business, events, industrial exhibitions, etc.).
- Create a fruitful exploitation channel in Shift2Rail by pursuing a close link with the correspondent Call for Members (CFM) projects X2RAIL-3 and X2RAIL-2.
- Support existing and future regulation and standardization activities in cooperation with the members of the URID-WG managed by S2R JU.

7. Scope

The scope of the dissemination and communication strategy will be set by the development of a Plan for Dissemination of project results, which will be based on a large number of activities and will be carried out during the duration of the project, including:

- A Kick-off meeting was held, to which representatives of the Shift2Rail Joint Undertaking were invited. The event provided the participants with the main information about 4SECU Rail, including objectives, activities, and main communication channels with the members of the Joint Undertaking.
- A project identity set was created, containing elements such as templates for presentations and reports, as well as a brochure presenting the project.
- A project public website was developed and will be updated on a regular basis, containing general information about the structure, objectives, events, and progress. Links to some intermediate results will also be provided. All public deliverables will be published on the website. The 4SECU Rail public website will be linked in an appropriate way to, or integrated within, the website of Shift2Rail, if possible.
- Two newsletters will be produced during the project life, one towards the mid-point (M10) and one towards the end (M24). These will provide up-to-date information on the status and achievements of the project.
- 4SECU Rail will be presented at several European and international railway conferences and congresses, such as InnoTrans, Transport Research Arena, WCRR conference, etc. The Task partners will actively seek out and identify further opportunities to present the project at important conferences and events.
- To publish articles in relevant publications, such as Railway Gazette; IRJ; RTR – European Rail Technology Review; European Railway Review; and Rail Technology Magazine.
- Regarding the workshops described in WP3, UIC will organise these workshops that will involve its members for communicating 4SECU Rail results (both Formal Methods and CSIRT) and maximizing their dissemination and exploitation.
- To conclude the project, a Final Conference will be organised to present the results of the project.

8. Target audience

In order to achieve the intended impact, the 4SECURail project consortium must disseminate information about the project's objectives, activities, and results to a wide variety of stakeholders throughout the rail sector. This includes several stakeholders directly linked with the railway community (see Figure 1 - 4SECURail Target Audience):

- Research Institutions: Universities, Research Centres, Foundations, etc.
- Public Authorities: National/EU Institutions, Member States, National/Regional Authorities, etc.
- Associations and S&R Bodies.
- RUs & IMs: Signalling experts, Chief Incident Security Officers.
- Past/ongoing R&D projects.
- Rail Supply Industry: RS integrators/Suppliers, Sub-system Suppliers, SMEs, Infrastructure Contractors.

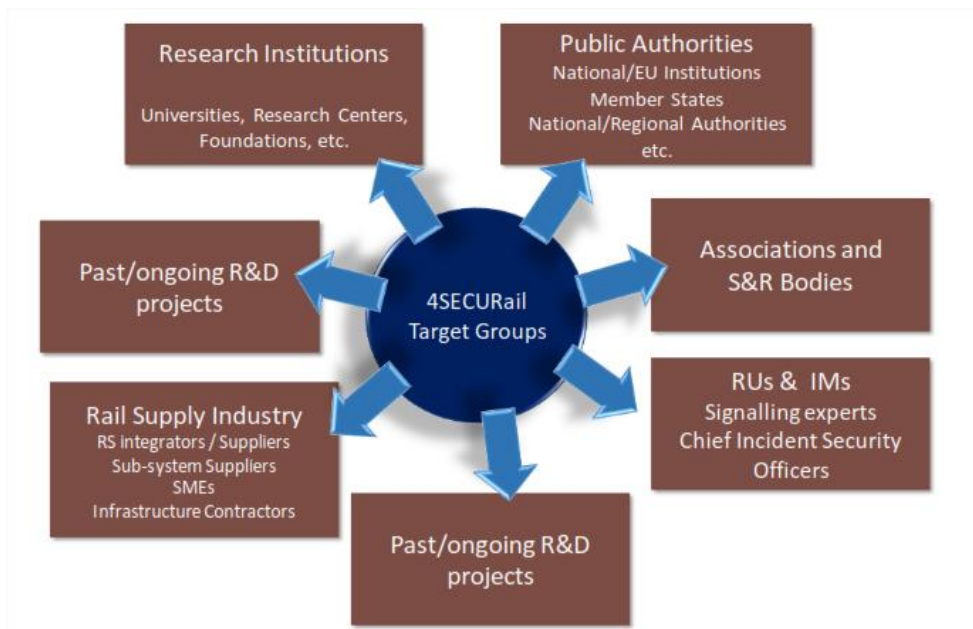


Figure 1 - 4SECURail Target Audience.

The main purpose of this exchange of information related to the 4SECURail project is to ensure that these important actors are aware of the developments that 4SECURail will bring to the Shift2Rail activities. The dissemination and exploitation measures of the project shall address the full range of potential users and uses. As part of the 4SECURail dissemination and exploitation strategy, the partners will decide how to ensure best value for the dissemination of resources available when seeking to cover the spectrum of stakeholders.

The project will capitalise upon members' already established contacts, and those of all 4SECURail

partners, networks and ways of working when reaching the most appropriate stakeholders to spread and maximise project outcomes and impacts.

9. Approach and actions

The 4SECU Rail dissemination process will consist of two parts: the first, strategy and assessment, and the second, implementation. Strategy and assessment have two key elements: the dissemination strategy and plan, and the efficacy of dissemination. Implementation, for its part, covers two aspects: execution, measurement and tracking of the progress of the dissemination strategy.

The dissemination of the results of 4SECU Rail will take several forms and use a variety of media. Some activities are expected to have a greater impact than others, and thus, their value may differ. The following chart illustrates the nominal impact of key dissemination tools (Figure 2).

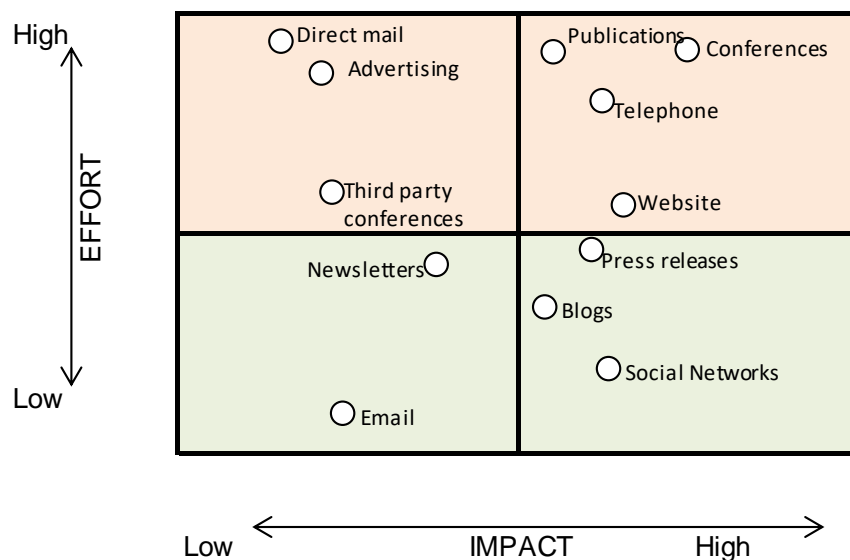


Figure 2 – Nominal impact of key dissemination tools.

A high-level overview of envisioned communication actions meant to valorise the Project outputs is as follows:

- **Website visibility.** Design, development, and usage of a fully functional and user-friendly standalone website available from the kick-off of the Project. The Web interface will comprise areas with main information about Consortium, partners, technical objectives, planned events and publishable deliverables, brochure, newsletters.
- **Social media presence.** Set up, community building, message posting and interaction with users on social media platforms (e.g., Twitter).
- **Brand image.** Design of Project logo and brochure and templates for the presentations, documents, and posters (if any) to be given away at events or via the Web.

- **Web publications of public deliverables.** Release of public deliverables by means of the Project website.
- **Physical presence dissemination.** Events (e.g., workshops, conferences) organised by the European Commission, sectoral bodies, members of the Advisory Board and Consortium Partners in their respective countries.
- **Educational dissemination.** Distribution of the knowledge base to students and academic instructors for educational purposes.
- **Academic dissemination of Project results.** Dissemination of Project results through various literary outlets (e.g., academic journals, conference proceedings, book chapters) in accordance with Open Access policies.

As a result, the Consortium gives life to a ‘multiplier’ effect in terms of reaching the established KPIs (Table 1), which becomes crucial in the achievement of targets. The amplification determined by the extended Consortium varies as a function of several factors characterizing the conveyed message (e.g., accessibility) and the underlying channel (e.g., virality, nodality, popularity, numerosness of users simultaneously involved, cost of message replication).

Communication action	Purpose(s)	Target(s)	Audience reached via 4SECU Rail channels	Audience reached via affiliated channels
Website visibility	Raise awareness, inform	All identified stakeholders + general audience	~ 1K	~ 10K
Social media presence	Raise awareness, inform, engage	All identified stakeholders + general audience	~ 100	~ 1K
Brand image	Raise awareness	All identified stakeholders + general audience	~ 1K	~ 10K
Web publications of public deliverables	Inform	All identified stakeholders + general audience	~ 100	~ 1K
Physical presence dissemination	Inform, engage, promote	All identified stakeholders + general audience	~ 100	~ 1K
Sectoral dissemination	Inform, engage, promote	Railway sector	~ 100	~ 1K
Educational dissemination	Inform, engage, promote	Academic community, academic instructors, students	~ 100	~ 1K
Academic dissemination of Project results	Inform	Academic community, academic instructors, students	~ 100	~ 1K

Table 1 - 4SECU Rail communication actions and KPIs

10. Dissemination plan

10.1 Creation of a project identity

A cohesive visual identity was created during the first three months of the project for use by the 4SECURail project partners, e.g. logo, documents, reports, presentations, meeting agenda, project flyer and other external communications. The project identity is of utmost importance to communicate, to be clearly identified, and to create an experience that encourages people to engage with us. It will help dissemination activities and ensure a consistent communication of the project concept, objectives and results.

10.1.1 4SECURail Logo

As a first step, the project logo was prepared and approved. It will be used further for all dissemination actions (see Figure 3).

Moreover, a second logo was defined. The padlock in the logo refers to the Computer Security Incident Response Team (CSIRT) while the laptop refers to the use of Formal Methods in the railway environment (see Figure 4).

Both logos will play an important role of utmost significance in creating project association regarding visual communication.



Figure 3 – 4SECURail's project logo



Figure 4 – 4SECURail's dissemination and communication activities logo.

10.1.2 4SECU Rail Templates

Project templates for PowerPoint presentations, Word reports and meeting agenda and minutes, have been prepared immediately after the creation of the project logo. The expected deliverables will be produced according to the deliverable template that will be used for all project deliverables.

10.1.3 4SECU Rail project presentation brochure

A brochure presenting the project was released in March 2020.

It contains a summary of the project, including its objectives and expected impacts as well as its main facts and figures. It also includes the list of partners at the kick-off date. The brochure has been printed and will be largely distributed by the project partners in most of the rail events organised during the life of the project.

The presentation brochure is shown in the Appendices, 4SECU Rail project presentation brochure.



Figure 5 – 4SECU Rail presentation brochure (triptych leaflet format).

10.24SECURail public website

A dedicated website was set up at the beginning of the project using the already set graphic identity. The URL of the website is www.4SECURail.eu. The website is publicly accessible and mobile friendly. The public website contains the following pages:

- **Homepage.** This page introduces the website and it displays a brief description of the project with its main expected impacts. On the right side of the homepage are the main facts and a specific window with the latest tweets (@4SECURail) of the project (Figure 6).
- **Partners.** It contains the project partners' logos with links to their respective websites.
- **News & Events.** The page contains the list of project news and information about related events. The section will be updated continuously throughout the lifetime of the project.
- **Advisory Board.** The Project will engage an Advisory Board (AB), i.e. a group of external independent experts of recognised knowledge in different kinds of background and areas of that will be constructed properly representing all domains relevant for the Shift2Rail initiative. The page will contain the AB partner's logos.
- **Dissemination.** The list of the project deliverables and a link, to download those that are public and approved by the Consortium and the Shift2Rail JU, will be included in this section. It will be allowed to download the publicly available dissemination materials, documents, and presentations.
- **Contact.** The users of the website will find here the direct contact information on how to reach the coordinator and how to get the information for which they may be interested in.

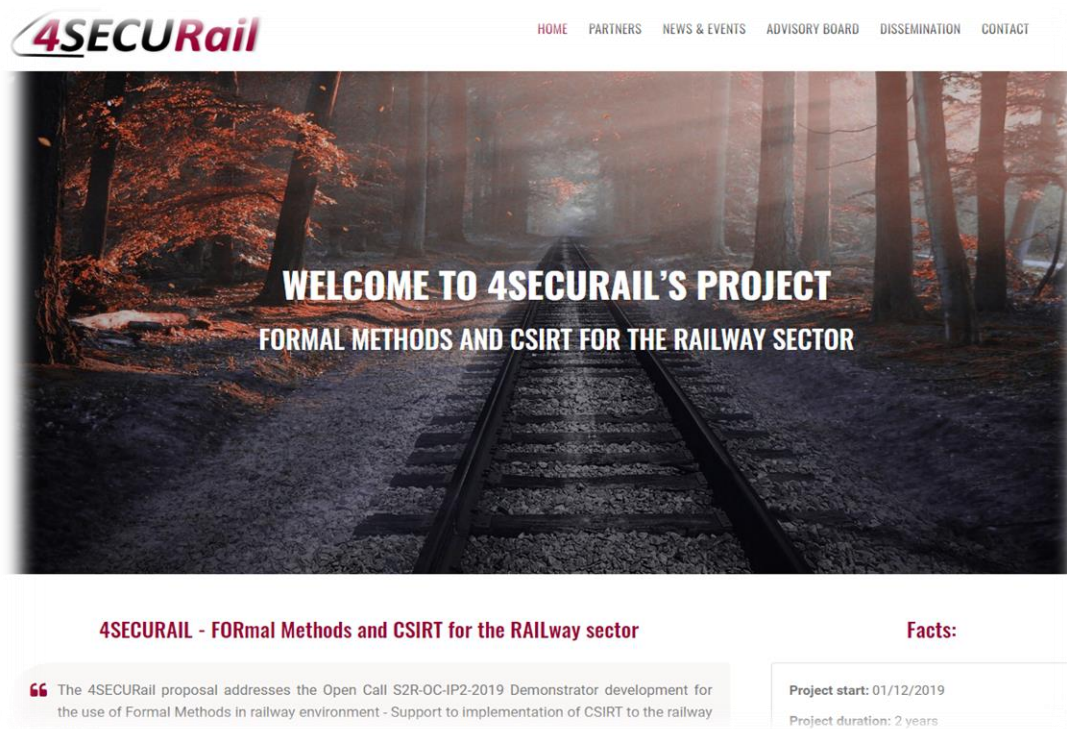


Figure 6 – 4SECURail website' homepage.

10.3 Document management tool: SharePoint

The 4SECU Rail document management tool was selected to be Microsoft SharePoint, which it is also used as a communication platform between the project partners.

SharePoint is used to support the work of the consortium members. For access to platform, the coordination controls the access to the members of the consortium as well as the rights to edit any document or file allocated in the project folder list. The beneficiaries shall use the SharePoint to share project information.

The main functionalities to be used by project participants are the following:

- upload and download documents (Administration information, collaboration agreements, deliverables, minutes of meetings, agendas, presentations, technical Annex, contact list, etc.)
- create and check meetings, find documents related and confirm attendance to meetings, add actions and check their current status.

Figure 7 illustrates 4SECU Rail's SharePoint platform.

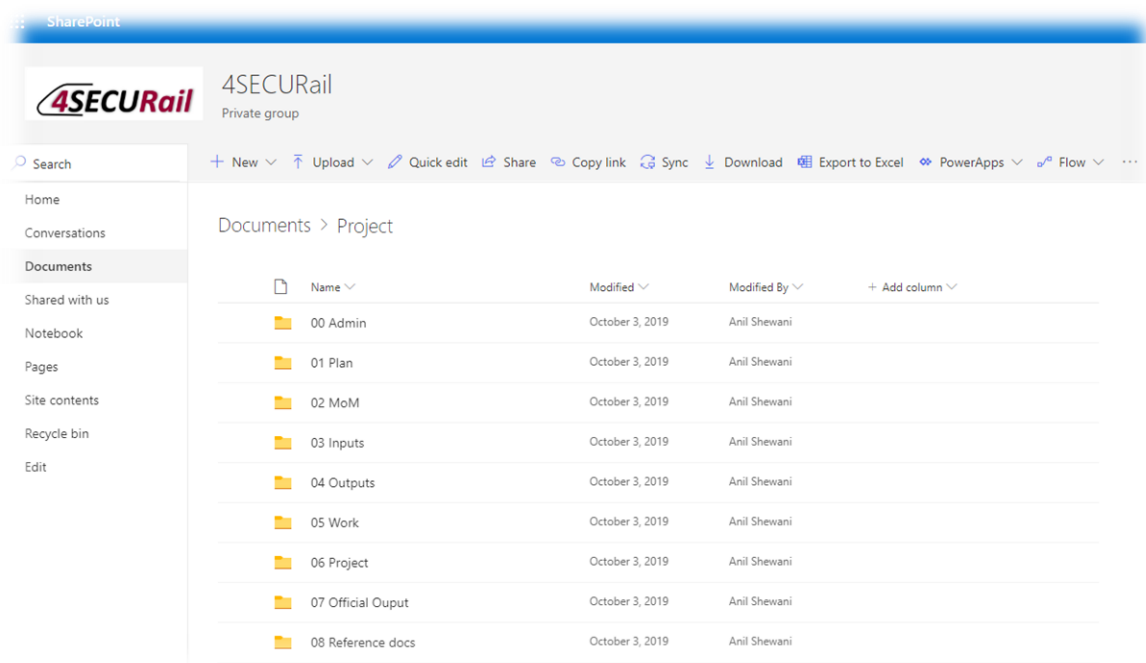


Figure 7 – 4SECU Rail Cooperation tool

10.4 Use of social media

10.4.1 Twitter account

A Twitter account was created to maximise project diffusion and communication activities through the most relevant twitter channels related to the railway sector.

S2R_4SECU Rail twitter account (@4SECU Rail) was launched at the Kick-off Meeting. It is used to convey messages from the 4SECU Rail project, from the Shift2Rail JU, the partners of the project and from actors of the railway and transportation sector.

Figure 8 shows the homepage of the twitter account.

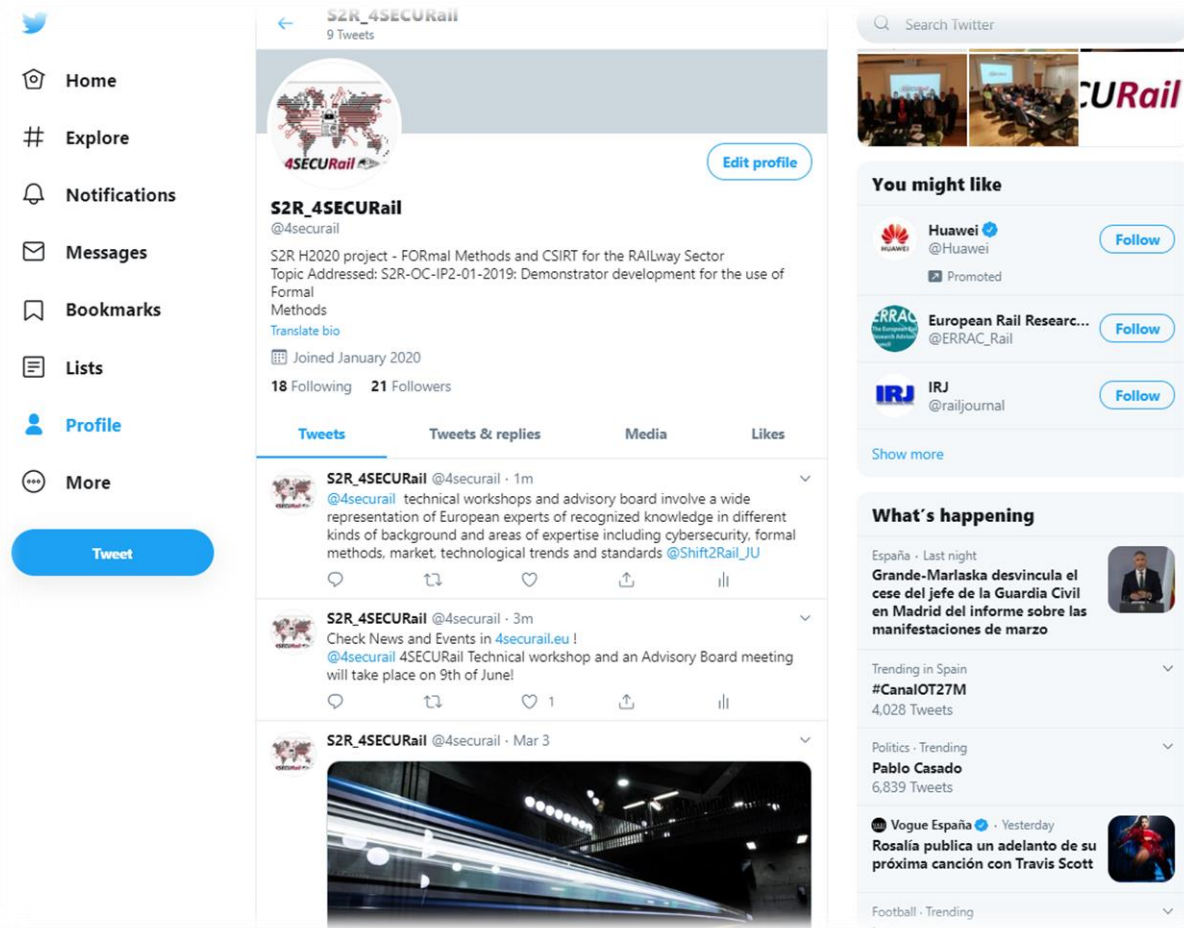


Figure 8 – 4SECU Rail Twitter account profile

Twitter will be used, all along the project life, to disseminate 4SECU Rail results to enhance the visibility of Shift2Rail to the largest audience possible, in the railways but also in the transport sector.

10.4.2 LinkedIn account

A 4SECU Rail LinkedIn account has also been created to set a network with key contacts which could be contacted to fulfil the communication and dissemination activities and to make more detailed reporting on the project achievements.

Figure 9 shows the 4SECU Rail's LinkedIn homepage.

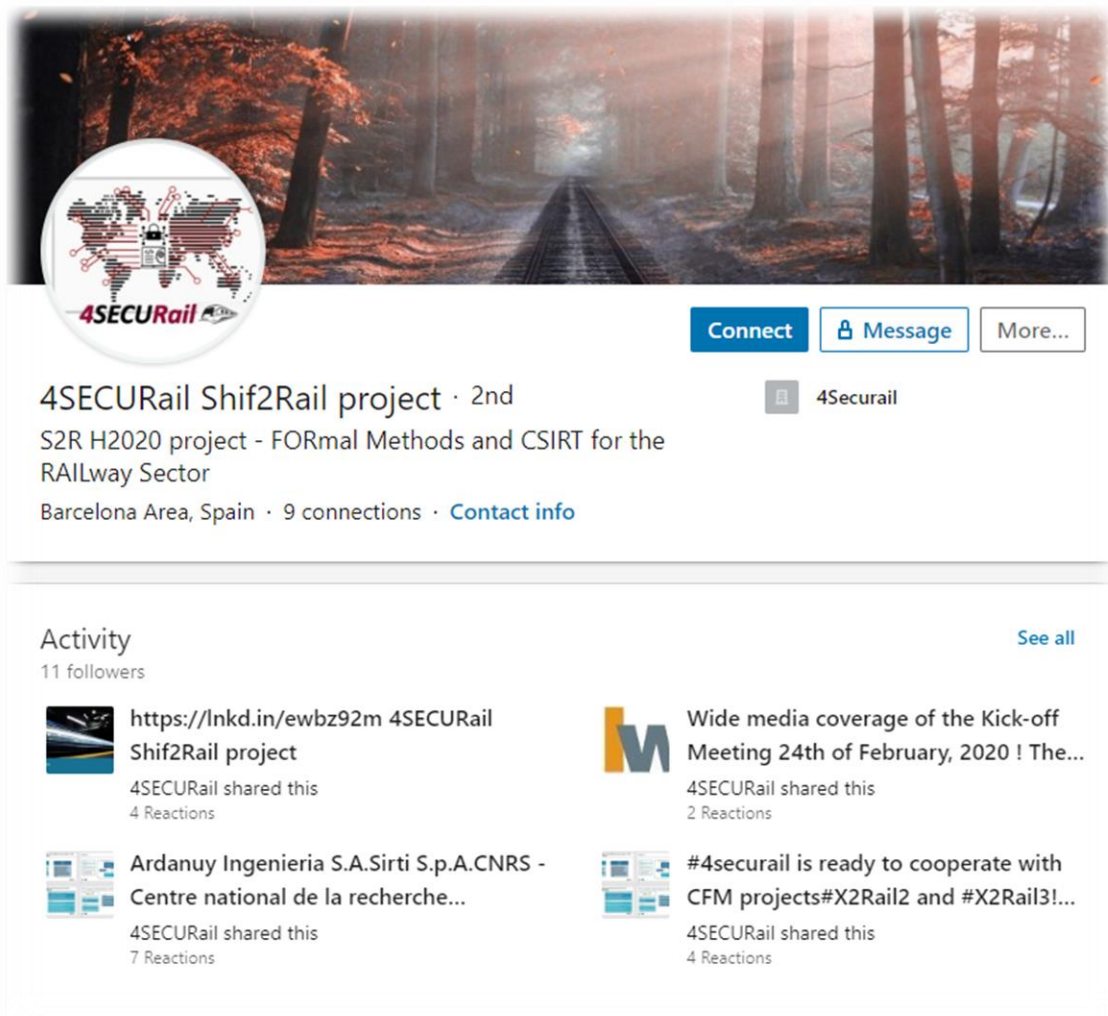


Figure 9 – Homepage of the 4SECU Rail LinkedIn account

LinkedIn will be used, all along the project life, to disseminate 4SECU Rail results to enhance the visibility of Shift2Rail to the largest audience possible, in the railways but also in the transport sector.

10.5 Press release and media coverage

In the scope of the dissemination strategy of 4SECU Rail project a press article was released by the consortium in order to reach relevant communication media and publications.

The press article released, and the list of media covered are detailed in the Appendices, 4SECU Rail Press Release and Media coverage sections, respectively.

10.6 Content for Shift2Rail electronic newsletter

4SECU Rail will provide to Shift2Rail content for its electronic newsletter as often as possible via

the [S2R Projects Communication Planning Google sheet](#).

10.7 Final event conference

A 4SECU Rail public event, at the end of the project, will be organised by the Project Coordinator (Ardanuy). The final conference will be used to present the project results and raise awareness about 4SECU Rail's key conclusions. This conference will be open to anyone interested in participating. To ensure maximum audience invitations will be sent to the key actors in the field. The location will be chosen to ensure maximum participation.

It will provide a platform to discuss the achieved results of the project. Solutions for the identified problems and challenges will be presented based on the 4SECU Rail project results and the harmonization of needs, requirements and demands facing the Shift2Rail expectations will be discussed.

The major objectives of such event are:

- To enable other stakeholders not directly involved in the project to be briefed on results at important project milestones.
- To have an interactive discussion on the basis of their comments and proposals made to draft version documents and deliverables disseminated through professional associations – partners of the project.
- To validate the proposed results by consensus of all stakeholders concerned.
- To check the potential for the implementation of the proposed solutions.
- To provide guidance for further work and for the completion of deliverables.

Apart from the Final Conference, 4SECU Rail partners plan to promote the project results during European research conferences and congresses.

10.8 Participation in European research conferences and congresses

It is important to share the know-how acquired by the partners of the 4SECU Rail consortium with as many railways stakeholders as possible. 4SECU Rail partners will focus on the presentation of the results through working papers and conferences. Therefore, every single partner will share the results with its clients and present the project during fairs (for example InnoTrans, Expo Ferroviaria, etc...). These efforts will also lead to marketing strategies for later commercial exploitation of new products.

Apart from the Final Event Conference, 4SECU Rail partners plan to promote the project results during events organised in Europe in 2021, such as EXPO FERROVIARIA (Turin, September 2021) and InnoTrans (Berlin, April 2021), consortium partners' events and other relevant occasions.

10.9 Presentations and publications

Project results are also planned to be published through articles mainly in specialised press and

scientific journals. 4SECURail will actively look-out for high profile academic and industrial events that are within the domain of interest of the project. They will also seek to publish articles in relevant publications, such as Railway Gazette; IRJ; RTR – European Rail Technology Review; European Railway Review; and Rail Technology Magazine.

10.10 Organisation of workshops

It is to be noted that in addition to the effort and actions mentioned in WP4, some technical activities will also be maximizing dissemination and exploitation and are representing resources to support these actions.

4SECURail partners will organise two workshops that will involve both workstream members for collecting feedback on intermediate and final results and that will have a strong impact on the dissemination and exploitation efficiency of the project. The main objective will be to present test results to the targeted community for assessing the prototypes, along with presentation and demonstration of the Formal Methods and their Cost-Benefit Analysis as well as the CSIRT model and working platform.

10.11 Advisory Board

In 4SECURail project, research and technology uptakes will also be supported by an Advisory Board. This will help the consortium to reach the goals set-up in the dissemination and communication strategy. The 4SECURail partners will support this task by checking the viability and accuracy of the 4SECURail results with the user requirements, cases and scenarios coming from the Advisory Board members in order to safeguard the project's outputs in conformance with the real needs of the sector.

11. Interaction with Shift2Rail IP2

The 4SECURail project outcomes are foreseen as a contributor to the scope of Shift2Rail Innovation Programme 2. A special attention will be put in the Shift2Rail projects X2Rail-2 and X2Rail-3 to learn from each other's results and cross-fertilise the work progress.

Delivery of the innovations will be achieved through the efficient co-operation between 4SECURail and the Shift2Rail Joint Undertaking, underpinned by the motivation of the 4SECURail project consortium to make available all results which will be required for the carrying out of the planned research work within X2Rail-3 and X2Rail-2 projects. The results of 4SECURail will go directly as outputs to the Joint Undertaking, for use as inputs to other activities in Shift2Rail.

Figure 10 presents the integration of 4SECURail within Shift2Rail and the close links with the correspondent X2Rail-3 and X2Rail-2 projects, where 4SECURail will contribute to the required aspects of TD2.7 and TD2.11 implementation, in close collaboration with complementary activities.

Therefore, the dissemination and exploitation of the project's results to IP2 of Shift2Rail will be ensured. Knowledge transfer discussions will be organised between the project WP leaders and

relevant Shift2Rail TD leaders.

4SECURail is fully committed to finalise and sign the Collaboration Agreement (COLA) with its correspondent CFM projects, X2Rail2 and X2Rail3, by the end of May 2020. However, cooperation between 4SECURail and X2Rail2/X2Rail3 already started and the projects have set up a tight collaboration from the beginning of the projects.

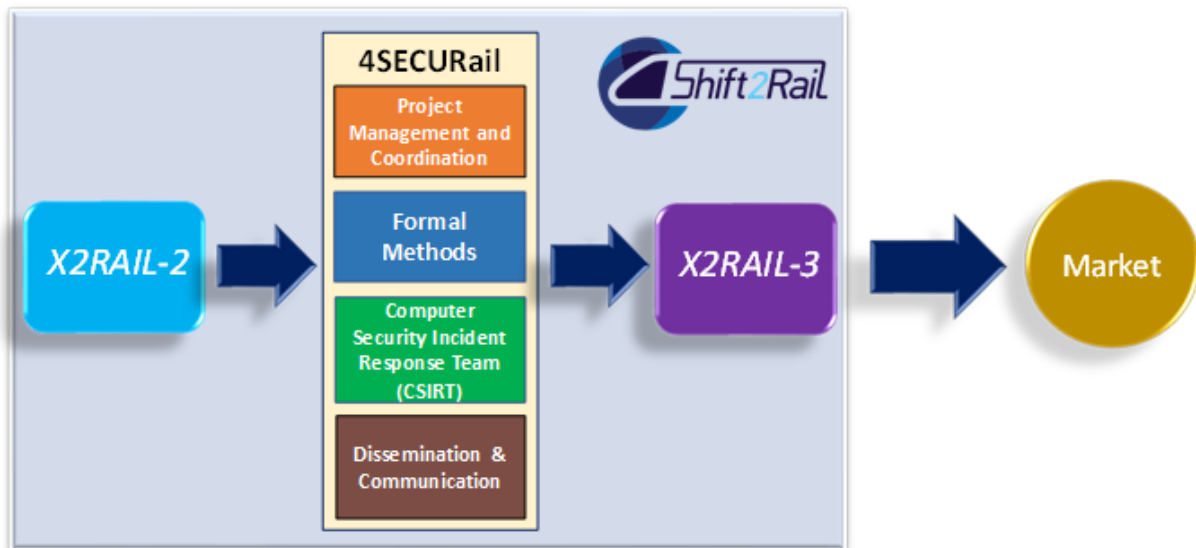


Figure 10 - 4SECURail interaction within Shift2Rail IP2 framework

12. Conclusions and perspectives

This document provides a comprehensive dissemination and exploitation strategy for the 4SECURail project and describes the approach, actions, materials and strategy that have been and will be used for external communication, along with the engagement and uptake of the results by relevant stakeholders and Shift2Rail IP2.


Dissemination activities and events have been planned and were defined in the scope of the Dissemination plan. Nevertheless, it is anticipated that more dissemination opportunities will arise as the project progresses. Therefore, the 4SECURail consortium will use this plan as an initial strategy which will be further updated and reviewed on a regular basis. Dissemination activities will be discussed at WP level and will be coordinated generally via WP4 *Outreach and Networking*.

The results of the activities of this work package and the impact of 4SECURail will be monitored by the project coordinator (Ardanuy).


13. Appendices

13.1 4SECU Rail project presentation brochure


FACTS AND FIGURES




Call
H2020-S2RJU-2019
Call for proposals 2019 - H2020 - SHIFT2RAIL Joint Undertaking




Topic
S2R-OC-IP2-01-2019: Demonstrator development for the use of formal methods in railway environment and support to implementation of CSIRT to the railway sector




Type of Action
RIA: Research and Innovation Action




Acronym and Title
4SECU Rail - Formal methods and CSIRT for the railway sector



Grant Agreement
Grant Agreement (GA) No: 881775



Start Date
December 01, 2019



Duration
24 Months

PROJECT MEMBERS




PROJECT COORDINATOR



Ardanuy


TECHNICAL LEADER

Sirti
Building New Europe


PROJECT PARTNERS








This Project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 881775



FORMal Methods and CSIRT for the RAILway Sector


CONTACT US

Project Coordinator:
Albert Ferrer-Bonsoms
albert.ferrer@ardanuy.com
+34 932 063 300


PROJECT WEBSITE
<https://4securail.eu>

This Project has received funding from the European Union's Horizon 2020 research and innovation programme under Grant Agreement No. 881775

<https://4securail.eu>



[www.twitter.com/4securail](https://twitter.com/4securail)



www.linkedin.com/in/4securail-shift2rail-project/

OBJECTIVES

The 4SECU Rail proposal addresses the Open Call S2R-OC-IP2-2019 which takes a two-fold perspective by working on the Demonstrator for the use of Formal Methods (FM) and on the implementation of Computer Security Incident Response Team (CSIRT) for Railways.

The following overall objectives will be targeted:

Demonstrator development for the use of formal methods in the railway environment

- Development of the demonstrator
- Identification of a railway signalling subsystem, described by means of standard interfaces
- Specification and evaluation of the cost/benefit ratio and learning curves for adopting the demonstrator in the railway environment

Support for implementation of Computer Security Incident Response Team (CSIRT) in the railway sector

- To define stakeholder requirements for a European Rail CSIRT collaborative activity
- To test and validate the draft CSIRT model
- To identify relevant platforms to support CSIRT and adapt to meet CSIRT needs
- To test and update the CSIRT collaborative environment so as to ensure meeting user needs

AMBITION

Demonstrator development for the use of formal methods in the railway environment



Reduction of cost and time-to-market for software-based railway signalling systems



Increased market competition and standardisation



Demonstrator for formal development using standard interfaces



Clear cost/benefit analysis for applied formal methods



Clear description of learning curve required

Support for implementation of Computer Security Incident Response Team (CSIRT) in the railway sector



Sustainability in degraded situation by increasing in a significant way the cooperation reaction time and quality between all stakeholders in case cyber threat occurrence



Significant increase in security

PROJECT ORGANISATION

4SECURAIL is being developed through four work packages (WPs); the diagram presented below represents a first contact point with the methodology developed for this project.

WP1: Project management and coordination

ARDANUY INGENIERIA S.A.

WP2: Demonstrator development for the use of formal methods in the railway environment

CONSIGLIO NAZIONALE DELLE RICERCHE (CNR-ISTI)

WP3: Support for implementation of CSIRT in the railway sector

HIT RAIL BV

WP4: Outreach and networking

ARDANUY INGENIERIA S.A.



13.2 4SECURail Press Release

Seven partners set to deliver new Shift2Rail ‘4SECURail’ project for railway cybersecurity and safety

Two [4SECURail](#) teams aim to design a Computer Security Incident Response Team (CSIRT) for joint EU-Rail cyber security, and a Formal Methods Demonstrator for improved Railway Signalling Systems

Utrecht, 24 February 2020 – A consortium of seven European specialist partners from Spain, Italy, The Netherlands and France has been selected to deliver a new EU [Shift2Rail](#) Programme funded through Horizon 2020.

Started in December 2019 and officially launched in Barcelona in January 2020, [4SECURail](#) is co-ordinated by engineering consulting firm [Ardanuy Ingeniería, S.A.](#), in collaboration with [CNR](#), [FIT](#), [Hit Rail](#), [SIRTI](#), [Tree Technology](#) and [UIC](#).

The [4SECURail](#) consortium will deliver a co-designed collaborative process and tools for the coordination of cybersecurity response across European railways, as well as a Formal Methods Demonstrator to support better interoperability of signalling systems for railway security, safety and efficiency.

[Hit Rail B.V.](#), the European rail industry’s IT specialist, will work alongside partners [UIC](#) (International Union of Railways) and [Tree Technology](#) an R&D company to deliver the co-design and testing of a model and collaboration platform for a European Railway Computer Security Incident Response Team (CSIRT), designed to coordinate the Cyber Security response actions of the separate railway security teams. The CSIRT will extend that collaboration and will be demonstrated and tested in 2020/2021 to support future consideration of the feasibility of deployment by the [Shift2Rail](#) Joint Undertaking and its work in X2RAIL3 supporting the EU Rail ISAC and Rail Community.

[Consiglio Nazionale delle Ricerche](#) (CNR) will work, alongside [Ardanuy](#), [FIT Consulting](#) and [SIRTI](#), to provide a demonstrator for the evaluation, in terms of cost, benefits and required learning curve, of the impact of the use of Formal Methods for the rigorous specification of the components of a railway signalling infrastructure. This is of particular interest to railway Infrastructure Managers, since only cost-effective and precise specification methodologies allow improvement in the



dependability of the subsystems developed by different suppliers.

[Shift2Rail](#) is a European rail initiative that seeks to encourage focused Research and Innovation (R&I) aimed at integrating new and advanced technologies through its Horizon 2020 funding and aimed at completing the Single European Railway Area (SERA). The [4SECURail](#) project, started in December 2019 and officially launched in January 2020, will contribute to ensuring correct behaviour, interoperability and safety for signalling systems, along with measures to deploy collaborative Cyber Security support across Europe.

This project has received funding from the [Shift2Rail](#) JU under the European Union's Horizon 2020 research and innovation programme, under Grant Agreement 881775.

About Ardanuy Ingeniería, S.A.

Ardanuy Ingeniería S.A. was founded in 1992. The Company is a Spanish Corporation with offices in Spain (headquarters in Madrid and offices in Barcelona, Valencia, Seville and the Canary Islands) and branches in Lithuania, India, Colombia, Peru and Algeria, developing activities in more than 60 countries in all 5 continents. Ardanuy is an engineering consulting firm specialised in studies, projects, works management, safety engineering (ISA), operation / maintenance studies; and technical guidance for railways (high-speed, conventional, freights, metros, trams, cable cars), including all systems and infrastructures: track, signalling, traction power systems, depots, stations, tunnels, etc.

www.ardanuy.com

About Consiglio Nazionale delle Ricerche

The Italian National Research Council (CNR) (<http://www.cnr.it>) is the main public research organisation of Italy, carrying out, promoting and transferring multidisciplinary research through a network of more than one hundred institutes all over the country.

About FIT Consulting s.r.l.

FIT Consulting srl (FIT) is an Italian independent SME, founded in 1997. Dynamic and professional, over time FIT managed to build a network of over 300 partners in Europe, Asia and the USA, becoming members of the main European thematic networks on mobility of people and goods. Its expertise is based on more than twenty years of experience in fund-raising and technical and scientific assistance for the development of innovative projects and services.

www.fitconsulting.it

About Hit Rail B.V.

Hit Rail B.V. is a private Dutch company created in 1990 and owned by European railway companies. Its purpose is to provide secure telecommunications and IT services to the European Railways community, connecting more than 50 railway companies from 23 countries through its secure IP-based Hermes virtual private network (VPN).

For more information please visit <http://www.hitrail.com/> or send an email to info@hitrail.com.

About SIRT I S.p.A.

SIRT I is a leading Italian technology company providing solutions for engineering and network communications. Established in 1921, SIRT I develops innovative solutions for various markets, including railway transportation systems, telecommunications, energy, and all those which require a network infrastructure. SIRT I is operating globally, employing around 4,000 employees worldwide.

www.sirti.it

About TREE Technology S.A.

TREE Technology SA (TREE) is a Spanish R&D-performing SME providing information and communication technology solutions based on Big Data and Artificial Intelligence for different sectors and markets (e.g., healthcare, security, banking and insurance, culture, energy, space, industry, and transport). TREE works within an open innovation model to provide

their customers with advanced ICT solutions, helping them to optimise their processes and improve their business. R&D activities, in particular cooperative initiatives, are key to the company business model in assessing the maturity of emerging technologies, gathering new and differential knowledge, and identifying strategic partners to create new business opportunities.

www.treetk.com

About UIC

UIC is the worldwide organisation for international cooperation among railways and promotion of rail transport at a global level. Founded in 1922, it currently gathers 200 members on all 5 continents, among them railways, rail operators, infrastructure managers, etc. The mission of the association is to promote rail transport at world level with the objective of optimally meeting current and future challenges of mobility and sustainable development.

www.uic.org

Press enquiries 4SECU Rail:

anil.shewani@ardanuy.com

13.3 Media coverage

The next table lists the reached media.

Media	Date	Link to the website (URL)
Realwire News Service	24-Feb-20	https://www.realwire.com/releases/Seven-partners-set-to-deliver-new-Shift2Rail-4SECU Rail-project-for-railway
Informazione IT	24-Feb-20	https://www.informazione.it/c/B1C2548D-57B2-4D9D-9697-46A780F6C85A/Seven-partners-set-to-deliver-new-Shift2Rail-4SECU Rail-project-for-railway-cybersecurity-and-safety
Global Railway Review	24-Feb-20	https://www.globalrailwayreview.com/news/97194/european-consortium-deliver-shift2rail-cyber-security-programme/
UIC Front page website	24-Feb-20	https://uic.org/spip.php?article2224
Digitalisation World	24-Feb-20	https://digitalisationworld.com/news/58613/seven-partners-set-to-deliver-new-shift2rail-4securail-project-for-railway-cybersecurity-and-safety
Noticias del Transporte	24-Feb-20	http://www.noticiasdeltransporte.com/transportation_news/Seven%2Bpartners.html
Newslocker Logistics	24-Feb-20	https://www.newslocker.com/en-us/profession/logistics/global-cash-logistics-market-2019-toll-cms-info-systems-ltd-prosegur-gardaworld-journal-of-industry/
Virtual Strategy	24-Feb-20	https://virtual-strategy.com/2020/02/24/seven-

Magazine		partners-set-to-deliver-new-shift2rail-4securail-project-for-railway-cybersecurity-and-safety/
Global Security Magazine	24-Feb-20	https://www.globalsecuritymag.com/Seven-partners-set-to-deliver-new,20200224,96039.html
Railway Technology	25-Feb-20	https://www.railway-technology.com/news/consortium-european-partners-eu-shift2rail-programme/
Railpage (Australia)	24-Feb-20	http://www.railpage.com.au/news/s/european-consortium-to-deliver-new-shift2rail-cybersecurity-programme
Railway Technology	25-Feb-20	https://www.railway-technology.com/news/consortium-european-partners-eu-shift2rail-programme/
Railpage (Australia)	24-Feb-20	http://www.railpage.com.au/news/s/european-consortium-to-deliver-new-shift2rail-cybersecurity-programme
Tacktech	24-Feb-20	https://www.tacktech.com/news.cfm?subtype=tech&nid=79015&meta=seven-partners-set-to-deliver-new-shift2rail-4securail-project-for-railway-cybersecurity-and-safety
MENA FN	25-Feb-20	https://menafn.com/1099754424/Seven-partners-set-to-deliver-new-Shift2Rail-4SECURail-project-for-railway-cybersecurity-and-safety
Bizwire Express	24-Feb-20	http://www.bizwireexpress.com/showstoryRW.php?storyid=281413
IT News Online	24-Feb-20	http://www.itnewsonline.com/realwire/Seven-partners-set-to-deliver-new-Shift2Rail-4SECURail-project-for-railway-cybersecurity-and-safety/24031
Latest Breaking News	24-Feb-20	https://thelatestbreakingnews.com/seven-partners-set-to-deliver-new-shift2rail-4securail-project-for-railway-cybersecurity-and-safety/