Deliverable D5.4

Dissemination, Communication and Exploitation (C&D&E) report

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Report contributors		
Name	Beneficiary Short Name	Details of contribution
Celestino Sánchez	EUX	First draft and complete document

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Executive Summary

The Deliverable D5.4 “Dissemination, Communication and Exploitation (D&C&E) Report” presents the implementation and results of the communication, dissemination and exploitation strategy of the ESEP4Freight project. The overall objective of ESEP4Freight is to promote a cost-efficient and sustainable shift of freight flows to rail through the creation and validation of an open-access Web Platform integrating digital tools and data-driven services for the European logistics community.

The report builds upon the plan established in Deliverable D5.1 (Sánchez, 2023) and monitors the achievements of all project partners regarding outreach and exploitation activities. The methodology combines:

- A structured communication and dissemination plan based on KPIs;
- Continuous monitoring of outreach metrics (website, social media, press, events);
- Engagement with stakeholders and other EU-funded projects;
- Identification and development of Key Exploitable Results (KERs), notably the Web Platform integrating five digital tools.

ESEP4Freight achieved outstanding communication and dissemination performance, exceeding most of its predefined targets:

- Web presence: 1,750 unique visitors by October 2025, surpassing the M24 objective.
- Events: Participation in eight international exhibitions, double the planned target.
- Publications: Two journal articles submitted, two under preparation, and three sector articles published.
- Engagement: Three stakeholder workshops (one physical), two press releases, two newsletters, and three promotional videos.
- Visibility: Coverage in specialized media (Global Railway Review, Railway Gazette).

The Web Platform (https://intermodal-railfreight.eu/) constitutes the main exploitable output of the project, integrating modules such as the interactive map, external costs calculator, schedule viewer, contract toolbox, and stakeholder directory. Partners have also developed individual exploitation plans ensuring sustainability and long-term use of results.

The deliverable confirms that ESEP4Freight successfully fulfilled its communication and exploitation objectives.

Keywords: *rail freight, intermodal transport, dissemination, exploitation, web platform, Horizon Europe*

Abbreviations and acronyms

Abbreviation / Acronym	Description
C&D&E	Communication, Dissemination and Exploitation
CO_2	Carbon Dioxide
D&C	Dissemination and Communication
DG MOVE	Directorate-General for Mobility and Transport (European Commission)
eFTI	Electronic Freight Transport Information Regulation
ER	Exploitable Result
ER JU	Europe's Rail Joint Undertaking
EU	European Union
GA	Grant Agreement
HRB	Horizon Results Booster
IPR	Intellectual Property Rights
KER	Key Exploitable Result
KPI	Key Performance Indicator
LMS	Ley de Movilidad Sostenible (Spanish Sustainable Mobility Law)
O-D	Origin–Destination
OTIF	Intergovernmental Organisation for International Carriage by Rail
RDM	Reference Data Model
SG	Stakeholder Group
TRA	Transport Research Arena
WP	Work Package

1 Introduction

The present document constitutes the Deliverable D5.4 “Dissemination, Communication and Exploitation Strategies” in the project European Shift Enabler Portal for Freight (ESEP4Freight). Funding body is the EU-RAIL in the call HORIZON-ER-JU-2022-02 and it is the continuation of D5.1 (Sánchez, 2023).

1.1 Background and objectives

The European Shift Enabler Portal for Freight (ESEP4Freight) overall objective is to support an easy, cost-efficient and sustainable shift of freight flows to rail. ESEP4Freight contribution to the overall objective will focus on providing open high-quality and friendly-user information to all the actors of the supply chain and on testing innovative new tools to promote the shift to rail. ESEP4Freight will achieve this by:

- Creating, integrating and validating a set of web-based services integrated in an open-access Web Platform built upon an already existing web resource
- Proposing recommendations to adapt the current contractual and legal framework in intermodal transport to the needs of the different actors involved in the supply chain
- Bringing together a large number of actors of the European logistics system to identify their information needs and to test and disseminate the ESEP4Freight results

To reach these goals a dissemination, communication and exploitation (D&C&E) was prepared in D5.1 (Sánchez, 2023). This document summarises the results of the previous plan.

1.2 Definitions

Throughout this document, the terms ‘communication’, ‘dissemination’ and ‘exploitation’ will be used frequently. The definitions used by the authors are shown below:

The terms ‘dissemination’, ‘exploitation’ and ‘communication’ will be used frequently in this document, and their meaning is as per European Commission’s definitions provided in the European Union’s website for Research and innovation. A screenshot is provided in the Figure 1 below:

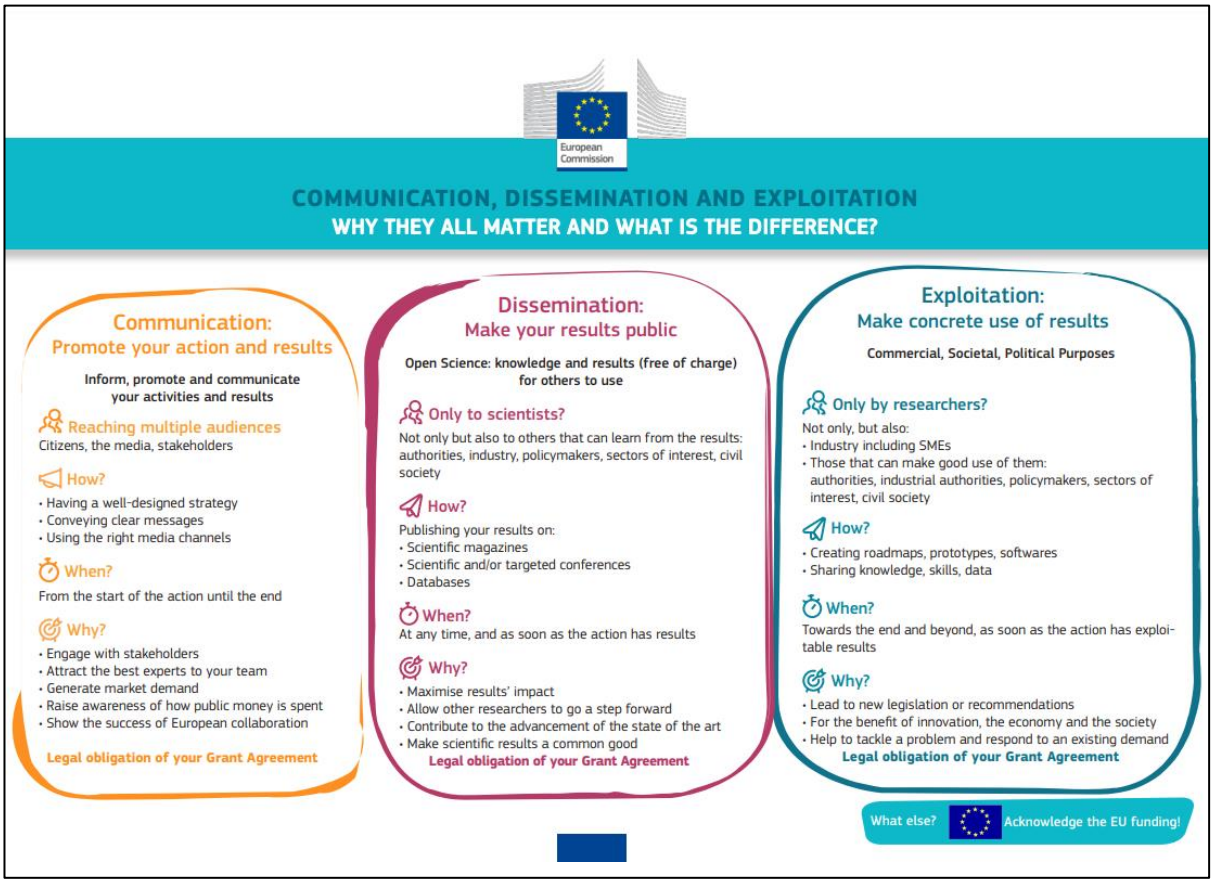

Figure 1. Communication, Dissemination and Exploitation definitions (European Commission, 2021)

2 Communication and Dissemination Activities

2.1 Communication Activities

This section describes the different communication activities foreseen during the project and reports on the status of each of them. A tracker of activities has been created with the goal of collecting all the D&C activities carried out by the partners during the project.

2.1.1 Project Identity

A project identity has been created at the beginning of the project including templates for presentations and reports as well as the ESEP4Freight logo. The project identity will help dissemination activities and ensure a consistent communication of the project concept, objectives and results. The set of templates can be seen below.

Figure 1. Set of templates of ESEP4Freight

To harmonize the preparation of dissemination products within the consortium and from a statical point of view, a set of visual identity guidelines have been produced.

2.1.2 Public Website

A dedicated website has been set up at the beginning of the project. The website (https://www.esep4freight.eu) is publicly accessible, with a section where visitors can register their interest by signing up to the newsletter.

The website is open to the public and displays the key project information, partners, results, news/events and links to the partners' websites. All the public deliverables will be published on the website and will be available for download.

Figure 2. Homepage of ESEP4Freight public website.

The project website can also be accessed via the ER JU website: https://rail-research.europa.eu/rail-projects/

The webpage has been a useful tool for communicating and disseminating the project. By the 8th of October the user metrics are the following.

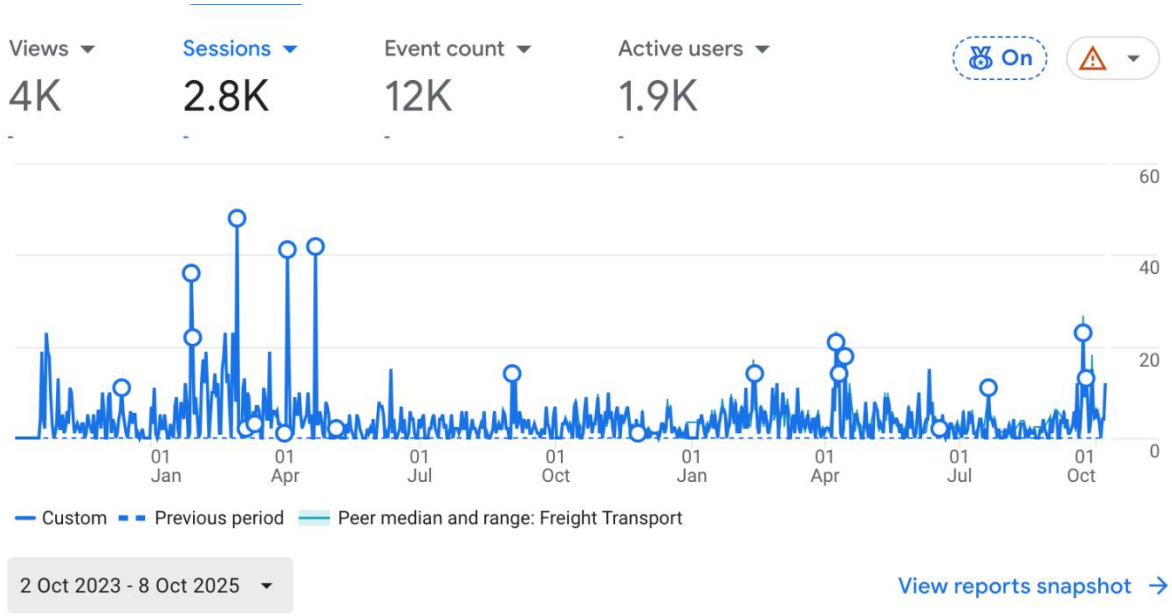

Figure 3. Metrics ESEP4Freight webpage

2.1.3 SEO strategy and Web Platform users assessment

An SEO strategy was developed and implemented for the Web Platform, with the objective of improving its visibility, enhancing organic search engine rankings, and supporting the dissemination of the project's results.

The Keyword Research & Optimization strategy focused on identifying high-value keywords in the fields of intermodal transport, rail freight, sustainable logistics, and European freight corridors. These keywords (such as intermodal rail freight, European freight corridors, Horizon Europe transport projects, interactive maps, terminals, freight traffic flows) were strategically mapped to website pages, blog posts, and platform features.

For On-Page SEO & Content Structuring, best practices were applied: short, keyword-rich URLs, optimized titles and H1s, complete meta descriptions and alt text. The site ensured responsive design, speed optimization (image compression, lazy loading, caching), and proper indexing via an XML sitemap and robots.txt submitted to Google Search Console. The strategy also included backlinks from project partners' official websites, social media promotion, and regular blog/news updates linked to EU freight and policy developments.

Despite the Web Platform being recently launched, the first assessment of users has been positive. Between September 15 and October 8, 2025, the Web Platform recorded 1,750 unique visitors from a total of 41,530 valid events, after filtering out bots and automated services. These users generated approximately 2,910 sessions, with an average session duration of 1 minute and 51 seconds and a bounce rate of 48.8%. The United States led in unique visitors (757), followed by Germany (164), the Netherlands (112), Sweden (53) and Spain (41).

2.1.4 Newsletters

Two newsletters providing information regarding the project activities, achievements and results, targeting cross-fertilization has been produced.

The first issue was released in February 2025 presenting the main achievements of the project and announcing the presentation of the Web Platform at transport logistic in June 2025. The first newsletter can be found here: https://mailchi.mp/cda6e7586bda/esep4freight-newsletter?e=e97888b91a.

The second issue was launched in October 2025 highlighting the official launch of the Web Platform. The second newsletter can be found here:
https://mailchi.mp/08dedd3b4d39/esep4freight-final-newsletter

By the end of October, the newsletter has 53 subscribers.

2.1.5 Brochure/flyer

One brochures-factsheet for dissemination to interested stakeholders in international events has been prepared, providing information about the Web Platform and the other results of the project. A digital version of the same flyer will be also produced.

A first version of the flyer has been prepared before the TRA2024 (April 2024) to be used during the conference. Both faces of the first version of the flyer can be seen below.

Figure 4. Front side ESEP4Freight flyer Version 1

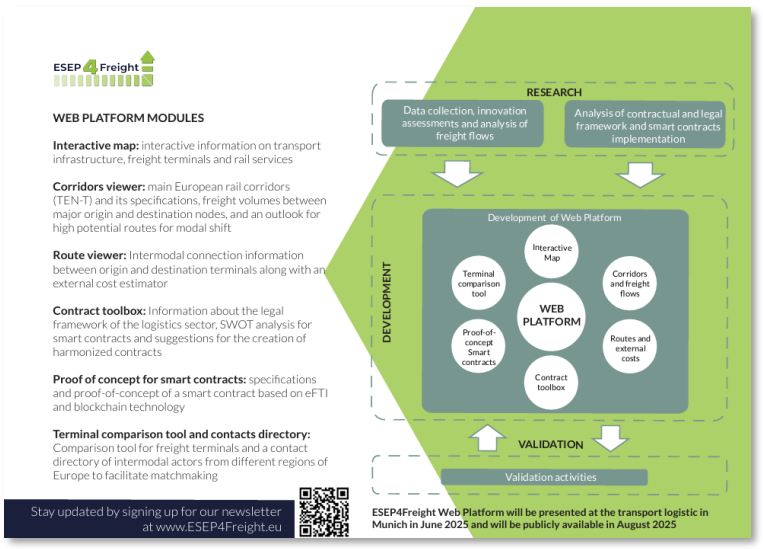

Figure 5. Back side ESEP4Freight flyer Version 1

The flyer has been later adapted once the Web Platform had defined their final modules and functionalities and used for the invitation of the Web Platform presentation at *transport logistic*.

Figure 6. Front side ESEP4Freight flyer Version 2

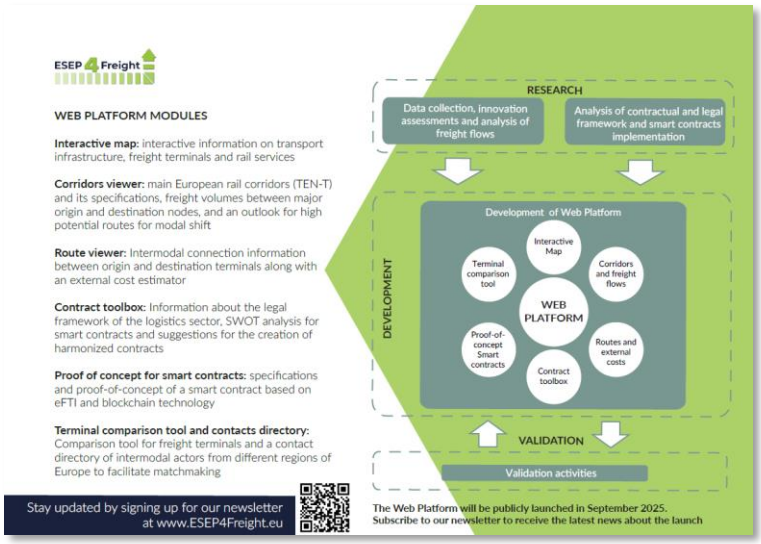

Figure 7. Back side ESEP4Freight flyer Version 2

2.1.6 Roll-up

Despite not being part of the dissemination activities planned in the GA, it has been decided to design a roll-up to be used by the partners in events where ESEP4Freight can be presented. A first version of the roll-up can be seen in the figure below.

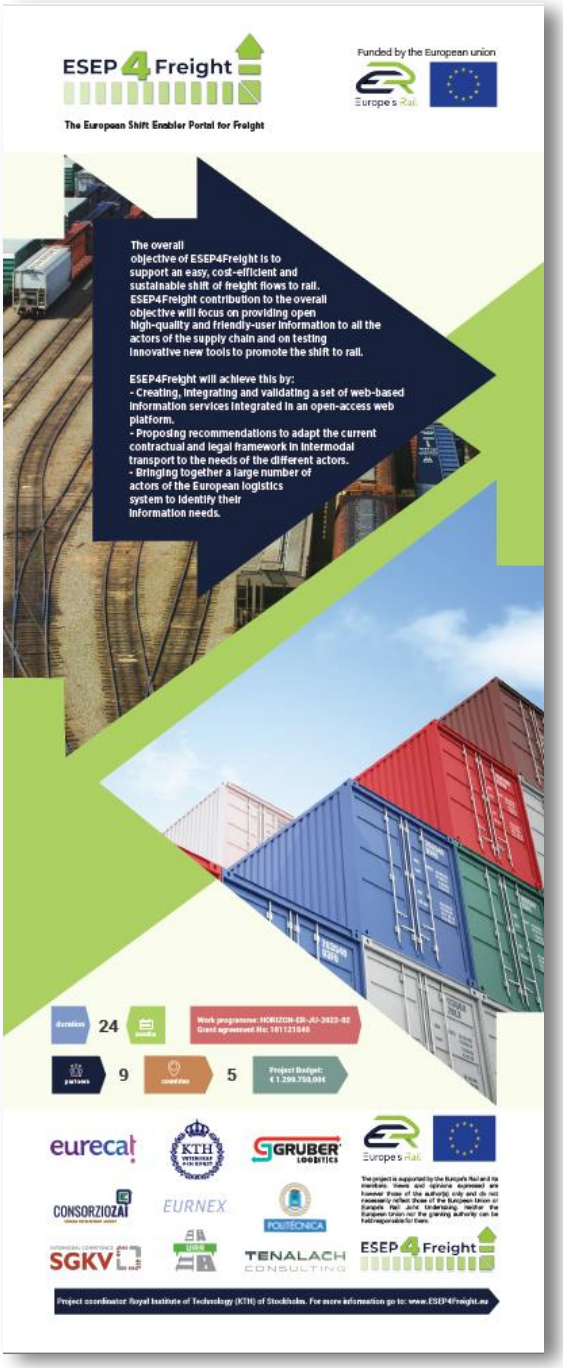

Figure 8. Roll-up design V1

The roll-up was updated to include additional project information for the transport logistic trade The updated version can be found in the figure below.

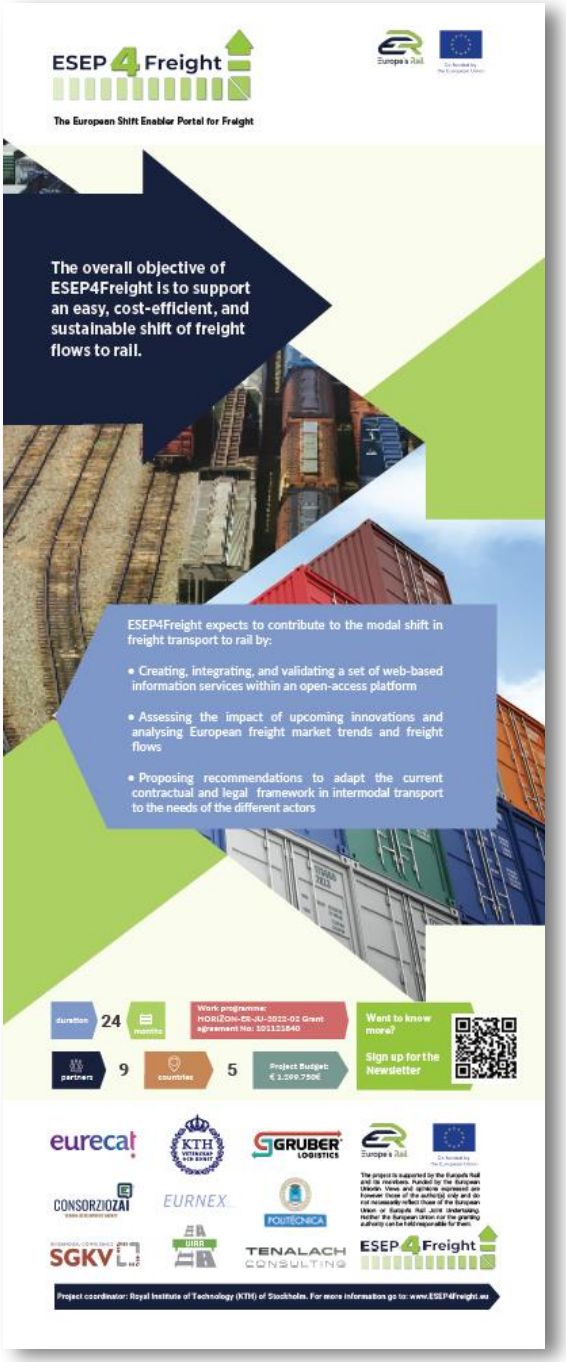

Figure 9. Roll-up design V2

2.1.7 Press Releases

ESEP4Freight will publish on its website at least two press releases, one at the beginning of the project and another one at the end.

The first press release was launched in September 2023 and has focussed on informing potential interested actors about the beginning of the project. The first press release can be found in the figure below.

New European research project *ESEP4Freight (European Shift Enabler Portal for Freight)* to boost shift to rail in freight transport started on 1st September 2023

The ESEP4Freight project, funded by Europe's Rail Joint Undertaking, held its kick-off meeting in Berlin on 6-7 September 2023.

ESEP4Freight, coordinated by the Division of Transport planning at Royal Institute of Technology (KTH) in Stockholm and funded with EUR 1,3 million, started on 1st September and will take place over a 24-month period. The consortium, comprising of nine partners from five countries, also includes European rail Research Network of Excellence (Eurnex), Universidad Politécnica de Madrid, Union internationale pour le transport combiné Rail-Route (UIRR), Fundació Eurecat, Gruber Logistics, Tenalach Consulting, Studiengesellschaft für den Kombinierten Verkehr (SGKV), and Consorzio per la Zona Agricola Industrialle di Verona (ZAI).

The main objectives of ESEP4Freight are:

- Creating, integrating and validating a set of web-based services integrated in an open-access Web Platform. This will include an interactive map of the existing European rail freight infrastructure with routes and schedules viewers, as well as a CO_2 calculator, a contract toolbox and a match making tool;
- Proposing recommendations to adapt the current contractual and legal framework in intermodal transport to the needs of the different actors involved in the supply chain;
- Bringing together a large number of actors of the European logistics system to identify their information needs and to test and disseminate the ESEP4Freight results.

This first meeting served to align the activities to be carried out during the coming months of the project. These activities include the mapping of existing tools, the pre-identification of information needs of the different logistic actors, and a first definition of the modules to be included in the new Web Platform.

If you would like to stay informed about the project, please sign up for our newsletter in our web www.esep4freight.eu

For further information, please contact the project coordinator Ingrid Nordmark: inno@kth.se

The project is supported by the Europe's Rail and its members.

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Figure 10. First press release

The second press release was launched on 23th of September announcing the launch of the Web Platform. The second press release can be found in the figure below.

PRESS RELEASE

Berlin
23 September 2025

ESEP4Freight launches a comprehensive web platform to accelerate modal shift to rail across Europe

The EU-funded project ESEP4Freight today unveiled the new web platform www.intermodal-railfreight.eu, designed to make intermodal rail freight more accessible, transparent, and competitive across Europe.

At the heart of the platform is an Interactive Map that displays intermodal terminals and helps users plan routes primarily by rail, with the option to integrate available barge connections. Road transport is considered only for first/last-mile links.

Key Features:

- Interactive Map & Terminal Info: Explore and filter terminals, view details, and plan routes.
- Terminal Comparison: Compare up to six terminals by services, equipment, and loading units.
- Schedules: Access rail and barge timetables to optimise planning.
- Route Planning with External Cost Estimation: Calculate and compare multimodal routes by time, distance, and environmental impact.
- Stakeholders' Directory: A searchable database of intermodal actors across Europe for easy matchmaking.
- Contract Toolbox: Access harmonised legal documents and templates for intermodal logistics.
- Corridors & Traffic Flows: Visualise TEN-T rail corridors, infrastructure characteristics, and freight volumes.
- Smart Contract Demo: Proof of concept using eFTI and blockchain to digitalise and harmonise freight contracts.

The platform is aimed at logistics providers, shippers, terminal operators, authorities, and researchers, offering practical tools to identify greener, more efficient freight transport solutions.

For more information and to explore the platform, visit www.intermodal-railfreight.eu.
For press inquiries, please contact the project coordinator Ingrid Nordmark: inno@kth.se or the dissemination manager and technical coordinator Celestino Sánchez Martín: cesama@eurnex.eu

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Figure 11. Second press release

Both press releases can be seen below and in the project webpage (https://www.esep4freight.eu) and has been reproduced in other webpages, such as Global Railway Review (https://www.globalrailwayreview.com/news/146542/esep4freight-shift-to-rail-in-freight-transport) and Railway Gazette (https://www.railwaygazette.com/freight/web-platform-launched-to-accelerate-freight-modal-shift-to-rail/69705.article)

2.1.8 Social Media

ESEP4Freight has used LinkedIn, as a two-way access between the project partners and the technical and public audience. The consortium has regularly published announcements through defined hashtags (#ESEP4Freight) and postings have been also published on the EU-Rail JU

LinkedIn account to reach a wider audience.

2.1.9 Video Clip

ESEP4Freight has produced two videos during the project. The first video was produced with images from the meeting in Verona. The video can be watched in YouTube (https://www.youtube.com/watch?v=VO_TAAtcYdI). The second video was produced during the webinar "Document Management and Blockchain Technologies in an Intermodal Context. The video can be watched in YouTube (https://www.youtube.com/watch?v=SLPyIg1QsHs)

Additionally, a video of the interview carried out by EURNEX to a DHL representative, partner in FOR-FREIGHT has been uploaded to YouTube (https://www.youtube.com/watch?v=7Kmb6Z4g6-0).

2.2 Dissemination Activities

This section describes the different dissemination activities foreseen during the project and reports on the status of each of them.

2.2.1 Participation in Industrial and Commercial Exhibitions

2.2.1.1 Events organised by third parties

ESEP4Freight has participated in several industrial and commercial exhibitions organised by third parties:

- **Multimodal Logistics Task Force (Barcelona, 22/03/2024).** Online project presentation by EURNEX along with TRANS4M-R. Link with the presentation: https://railgrup.net/news/multimodal-logistics-taskforce-meeting-fomentando-la-sostenibilidad-en-el-transporte-de-mercancias-de-la-ue/
- **TRA2024 (Dublin, 17/04/2024).** Project presentation by EURNEX at EURNEX exhibition booth. Additional information: https://www.esep4freight.eu/esep4freight-at-the-tra2024/
- **Transport logistic (Munich, 04/06/2025).** Final conference with presentation of project results by the whole consortium and demonstration of the beta version of the Web Platform. Additional information: https://www.esep4freight.eu/successful-final-conference-of-esep4freight/
- **Innocam.FORUM (Dortmund, 18/09/2025).** Web Platform presentation by SGKV. Additional information: https://www.innocam.nrw/innocam-forum-18-09-2025/
- **Conference "El reto de la digitalización en el transporte con la llegada de las nuevas legislaciones europeas y españolas (eFTI y LMS)"[1], organized by Centro Espanol de la Logística (Barcelona,**

[1] English: The challenge of digitalization in transport with the arrival of new european and spanish legislation (eFTI and LMS)

22/10/2025). Web Platform demonstrator by EURECAT. Additional information: https://cel-logistica.org/curso/digitalizacion-transporte-evento/

2.2.1.2 Events organised by the consortium (or consortium partners)

- **TerminalTag 2023 (Berlin, 09/11/2023).** Roll-up display by SGKV. Additional information: https://sgkv.de/terminaltag/terminaltag-2023/
- **Verona Stakeholder Group (SG) meeting (Verona, 27/02/2024).** Presentation of the project and feedback gathering from SG members by the whole consortium. Additional information at D5.2 (Borgogna, 2025) and here: https://www.esep4freight.eu/meeting-in-verona-in-february-2024/
- **TerminalTag 2024 (Berlin, 06/11/2024).** Project presentation by EURNEX. Additional information: https://sgkv.de/terminaltag/terminaltag-2024/

2.2.2 Scientific and Technical publications

2.2.2.1 Scientific publications in academic journals

Two publications have been submitted:

- Shifting goods to rail in Europe: Where are we? Current status and future directions. Djordjevic, B. and Minbashi, N. Journal of Transport Geography. Submitted in September 2025.
- Rail freight modal share in Europe: clustering models for NUTS level 2 and statistical regions, Minbashi, N., World Conference of Transport Research, Toulouse 2026 (WCTR 2026 Toulouse), (Submitted in October 2025)

Two publications are currently in preparation (the titles are tentative):

- Scoping review on AI deployment in rail freight transport (EURNEX, Eurecat, and UPM)
- Blockchain-Enabled Smart Contracts for eFTI-Compliant Freight Transport Information Platforms (UPM)

2.2.2.2 Sector/technical magazines and other magazines

Three articles have been published so far:

- Knowledge hub: ESEP4Freight's contribution to rail freight information. (2024) Sánchez, C. and Nordmark, I. *Global Railway Review*. Issue 1. Link: https://edition.pagesuite-professional.co.uk/html5/reader/production/default.aspx?pnum=40&edid=b45a09ca-8254-4e7a-8f53-69dd4900b2a6&isshared=true
- Il Consorzio Zai e Gruber Logistics partecipano al progetto di ricerca "Esep4Freight (28/02/2024). *Pianura24*. https://www.pianura24.it/2024/02/28/il-consorzio-zai-e-gruber-logistics-partecipano-al-progetto-di-ricerca-esep4freight/
- Gruber Logistics: Beteiligung an EU-Forschungsprojekt. 05/02/2024. Brüggmann, A. B. *Transport. Die Zeitung für den Güterverkehr.* https://transport-online.de/news/gruber-logistics-beteiligung-eu-forschungsprojekt-141480.html

2.2.2.3 Conference papers and posters

- **Rail Live 2023 (Madrid, 01/12/2023).** Poster presentation during the exhibition by EURNEX
- **TRA2024 (Dublin, 17/04/2024).** Conference paper presentation**.** Additional information: https://www.esep4freight.eu/esep4freight-at-the-tra2024/. Conference paper published on 19/07/2025: DOI: https://doi.org/10.1007/978-3-031-95284-5_65
- **6th SmartRaCon Scientific Seminar (San Sebastián, 24/10/2024).** Conference poster presentation by Eurecat. Additional information: https://www.esep4freight.eu/poster-at-the-6th-smartracon-scientific-seminar-src6ss/
- **Transportation Research Symposium (Rotterdam, 25/05/2025).** Conference poster presentation by KTH. Additional information: https://www.linkedin.com/posts/niloofar-minbashi-48062262_transportation-research-symposium-about-activity-7332700283229179905-_Qtb?utm_source=share&utm_medium=member_desktop&rcm=ACoAAAnJc1IBM06uGAnrXlxkg0W2n9h2YZyamT0

2.2.3 Other Dissemination activities

Apart from the dissemination activities listed above. Several additional activities not originally planned have been carried out.

- **Webinar on Document Management and Blockchain Technologies in an Intermodal Context by UIRR (Online, 20/02/2024).** Additional information**:** https://www.youtube.com/watch?v=SLPyIg1QsHs
- **Webinar with the SG to validate WP2 output by UIRR (Online, not open to the public, 14/01/2025)**
- **Webinar to present the features of the Web Platform to the SG by EURECAT (Online, not open to the public, 30/01/2025)**

2.3 Contact with other projects and initiatives

ESEP4Freight established contacts with several projects and initiatives

TRANS4M-R:

An Advisory Board connected to the project was established with members from the FP5-TRANS4M-R project namely Felix Hildebrandt (HaCon), Patrick Seeßle (DB Cargo), and Sneha Gosavi (Lindholmen Science Park). Three Advisory Board meetings and one joint workshop have been organised within the framework of the ESEP4Freight project.

The first meeting, held on 28 August 2023, began with a presentation of the participants and an introduction to the ESEP4Freight project. The discussion focused on identifying possible common interests and establishing connections to specific work packages.

The second meeting, on 3 September 2024, reviewed the outcomes of the previous session and provided a general status update. Detailed presentations of results from Work Packages 1, 2, and

3 were given.

The third meeting, held on 13 May 2025, reviewed the outcomes of the previous session and presented the overall project status. A key item on the agenda was the alignment of activities with FP5-TRANS4M-R followed by closing discussions under AOB.

In addition to these Advisory Board meetings, a joint workshop was organised on 25 September 2025. This workshop focused on piloting the results of Work Package 2 and comparing differences and similarities between platforms.

FOR FREIGHT:

An online meeting between both projects was organised on 19th March 2024 to present both projects and to explore possible collaborations. As result of this collaboration, a partner from FOR FREIGHT (DHL Spain) was interviewed for the WP2. The interview was uploaded to YouTube and used as dissemination tool (https://www.youtube.com/watch?v=7Kmb6Z4g6-0)

MultiRELOAD:

An online meeting between both projects took place on 21st February 2024 to present both projects and to explore possible collaborations. No further contact has taken place.

ADMIRAL:

The liaison between ADMIRAL and ESEP4Freight is established via UPM, partner in both projects. A first online meeting was organised on 25th September 2024. A new meeting to explore more closed collaboration was organised on 29th October 2024. ADMIRAL partners provided feedback on the beta version of the Web Platform to improve the functionalities.

PODS4Rail:

The liaison between both projects has taken place thorough three partners involved in both projects (KTH, UPM and EURNEX). A survey from PODS4Rail has been shared with the SG and a part of the output have been used for the WP1.

Appel d'air:

Appel d'air is a platform developing a tool similar to the Web Platform to be developed in ESEP4Freight but focussed on France. Several meetings (July 2024 and October 2024) have been held to explore possible collaborations, but no specific collaboration action was identified.

ReMuNeT:

Two meetings were organised between ReMuNet and ESEP4freight (November 2024 and July 2025) to identify possible collaboration points. No clear collaboration path has been identified by the end of ESEP4Freight.

Collaboration for sustainable freight transport:

Contact established with the project "Collaboration for sustainable freight transport" managed by Swedish Transport Administration (Trafikverket) funded by Nordic Council of Ministers. Project member contributed with validation of the platform.

2.4 KPIs assessment

The following table lists the metrics and corresponding target values which will measure the effectiveness of the D&C activities. D5.4, produced by the end of the project, will report on the compliance of the selected metrics.

Table 1. KPIs and target values for D&C activities

Activity/Metrics		Target value	Assessment
Dissemination	Industrial and commercial exhibitions	Participation in exhibitions ≥ 4; Exhibition booths ≥ 2	Participation in 8 exhibitions (2 with exhibition booths): Rail Live 2023, TerminalTag 2023, Multimodal Logistics Task Force, Transport Logistic, TRA2024 (with exhibition booth), Terminal Tag 2024 (with exhibition booth), Innocam.FORUM, Conference "El reto de la digitalización en el transporte con la llegada de las nuevas legislaciones europeas y españolas (eFTI y LMS)
	Scientific publications	Academic journals ≥ 2; Sector magazines ≥ 2; Conferences ≥ 5; Conference demonstrators ≥ 2	2 publications to an academic journal submitted and 2 in preparation 2 publications in a sector magazine (+ 1 publication in a general public magazine) 4 posters and conference papers 2 conference demonstrators
	Workshops/surveys	SG workshops (at least one physical) ≥ 2 with ≥ 10 participants per workshop; SG surveys ≥ 2 per SG with ≥ 30	3 workshops with the SG and one of them physical in Verona in February 2024 1 online survey and several

		participants per survey	surveys during the workshops
	Online repository	Number of publicly available deliverables and publications ≥ 15	The target will be reached once all deliverables are approved and submitted
Communication	Web Platform	Unique visitors > 1500 visitors at M24	1750 unique users by 8th October
	Project website	Unique visitors > 400 by M12; > 2000 by M24	The total number of unique visitors to the project website by the end of the project is around 2000 visitors
	Social media	LinkedIn group followers >100; Twitter followers >100; ReTweets >100	No specific groups were created for the project. The main communication point for ESEP4Freight was Eurnex LinkedIn page
	Press release/newsletters	Press releases: 2; Newsletters: 2	2 press releases launched 2 newsletter launched
	Factsheets/Flyer	Factsheet: 1; Hardcopies > 100; Digital project flyers: 1	1 factsheet/digital flyer with 2 versions. Over 100 copies produced for different exhibitions
	Video clip	Number of online video clips: 1; Number of video views at M24 > 200	The total views of the 3 videos related to ESEP4Freight uploaded to YouTube are 144
	Roll-up	Number of roll-up produced: ≥ 3	2 versions of the roll-up produced and over 3 copies of the roll-up were produced for several exhibitions

Overall, the project has achieved excellent results in terms of its dissemination and communication KPIs. Most targets were fully met or even exceeded, such as participation in eight exhibitions (double the target), publication of sector articles, organization of three SG workshops (including one physical), and achieving 1,750 unique web visitors, exceeding the M24 objective despite the public version of the Web Platform being launched in September. The scientific publications are expected to achieve the defined KPIs in a few months, once the remaining journal articles are submitted and accepted. The expected publication of 4 articles in journals will compensate the

missing conference paper/poster. In addition, several not originally planned D&C activities have been carried out, such as a webinar.

Although a few indicators, like video views, fell a bit short, the overall outreach and visibility of the project has been highly successful.

3 Exploitation Plan

3.1 List of Exploitable Results

A first identification of the exploitable project results as well as the exploitation claims of each Exploitable Results (ER) was carried out in the D5.1. The exploitable results identified at the beginning of the project has been refined and adapted during the project development.

Despite the different ERs can be separately exploited, it is important to highlight that the Web Platform comprises the ER#1 to 5. The ERs #1 to 5 has been identified as the Key Exploitable Result (KER) of the project.

The final list of the ERs can be found in the table below.

Table 2. Identification of Key Exploitable Results

	Assets and knowledge	**Short description**
KER1	ER#1 Interactive map	The ESEP4Freight interactive map is a web-based application that shows the relevant logistics nodes and the multimodal connections between them, in Europe. It is composed by different layers, that enable to show additional information related to the elements displayed in the map provided by operators as well as the output of additional tools to be developed in the project, such as external costs calculator, O-D flows, etc. The Interactive map can be employed as a stand-alone tool, though its added value results from the integration with other tools such as external costs calculator, schedule viewer and the stakeholder directory.
	ER#2 External costs calculator	The ESEP4Freight external costs calculator will permit the Web Platform users to estimate the amount of external costs between two terminals or production/delivery sites. Different combinations of transport modes can be selected and the corresponding amount of external costs will be estimated based on the loading units, their weights, mode of transports, and the infrastructure involved in the transhipment. This would enable to quickly understand the benefits of intermodal transport based on rail or inland waterway compared to pure road transport.
	ER#3 Schedule viewer	The schedule viewer is a tool able to support the decision-making process by displaying the operation times of the terminals as well as the schedules for the available connections in each node of the represented network. It enables the calculation of time for a journey based on schedules provided by operators. The schedule viewer is designed to be used together with the web map.

	Assets and knowledge	Short description
	ER#4 Contract toolbox	This toolbox includes a repository of standardised contract models relevant for different types of business relationships to help in the selection of the appropriate contract model according to different criteria and specifies the legal transport conditions. The second part of the contract toolbox consists of an architecture for setting smart contracts amongst parties with the chosen clauses and the milestones to be achieved to ignite them.
	ER#5 Stakeholder directory	This tool allows to find the most suitable services (providers/suppliers) according to specific requests. The tool takes as inputs the profiles of service providers and the searching criteria introduced by requesters of a service.
n/a	ER#6 Recommendations for adapting the legal framework	The set of recommendations serves as a basis to propose practical adjustments of current and/or ongoing legal/policy initiatives.
n/a	ER#7 Recommendations for harmonised contracts	The recommendations for harmonised contracts consist of a compilation of current best practices facilitating the modal shift. They focus on the contractual arrangements between shippers and logistic service providers.
n/a	ER#8 – Knowledge and stakeholder engagement methodologies	Knowledge and stakeholder engagement methodologies from WP4/WP5

3.2 Key Exploitable Results (KER): Web Platform

As explained in the previous section, the ERs #1 to 5 have been clustered in one single KER called Web Platform. The Web Platform is the main output of the project ESEP4Freight and was launched by the end of September. The Web Platform can be found here: https://intermodal-railfreight.eu/.

The content on the exploitation of the Web Platform of this section is complementary to the Section 5.2 “Web Platform Sustenance Plan” in the D4.1 “Business cases analysis for intermodal transport solutions”. A Web Platform sustainability plan has been developed in Chapter 5.2 from D4.1 (Plehm et al., 2025).

3.2.1 Market Analysis

A market analysis on existing similar solutions was developed at the beginning of the project and has been recently published (Sánchez Martín et al., 2025). The market analysis was summarised in the D5.1 Communication, Dissemination and Exploitation (C&D&E) strategies and plans (Sánchez, 2023)

3.2.2 Horizon Result Booster (HRB) workshops

Requesting assistance from the Horizon Results Booster (European Commission, 2023) services from the European Commission to provide advice on financially sustainable exploitation paths were required.

HRB services were required at the beginning of the project. This comprised two workshops:

- Service 1 - “Assisting projects to improve their existing exploitation strategy” and
- Service 2 – Business Plan Development

The service 1 was finished and a final report was produced. The Service 2 was interrupted as a clear exploitation path for the Web Platform was identified by the consortium during its development.

3.2.3 IPR Management

The table below shows the generated IPR during the project as well as the type of protection and the owners.

Table 3. Ownership of the project results

	Assets and knowledge	IPR generated	Type of protection	Owners
KER1	ER#1 Interactive map	EUT: software developer (computer code identified with time stamp RTS-185/25). Data preparation (rail network infrastructure, network based on the timetables, corridors information, freight flows). Architecture definition. SGKV: intermodal terminal database with infrastructure data KTH: data from traffic estimation	EUT: Protectable SGKV: Protectable KTH: Protectable	SGKV, EUT, KTH
	ER#2 External costs calculator	EUT: integration with the route calculation algorithm SGKV: development of an algorithm for the external cost calculation for intermodal transport	EUT: Protectable SGKV: Protectable	SGKV, EUT
	ER#3 Schedule viewer	EUT: software developer (computer code identified with time stamp RTS-185/25). Data preparation (timetables) SGKV: collecting timetables of intermodal operators and converting into a standardized format	EUT: Protectable SGKV: Protectable	SGKV, EUT
	ER#4 Contract toolbox	UPM developed the smart contract solution architecture, as well as the variables match between transport documents information and MTT RDM for harmonization of dataset of the solution. For the example of the demo, it was developed among EUT, TEN and UPM based on an initial real example from GRU. EUT: software developer, smart contract proof of concept development (computer code identified with time stamp RTS-185/25).	EUT: Protectable	UPM, EUT,

	Assets and knowledge	IPR generated	Type of protection	Owners
	ER#5 Stakeholder directory	EUT: software developer (computer code identified with time stamp RTS-185/25).	EUT: Protectable	EUT
n/a	ER#6 Recommendations for adapting the legal framework	UIRR has recommended a series of potential adaptations to the current legal framework including single transport document, uniform liability regime for intermodal transport, EU emissions trading system.	UIRR: protectable	UIRR
n/a	ER#7 Recommendations for harmonised contracts	Based on the WP2 analysis and on the key recommendations, harmonised skeletons for GTCs between intermodal operators and customers and for a EU convention for intermodal freight transport have been designed and developed.	UIRR: protectable	UIRR
n/a	ER#8 Knowledge and stakeholder engagement methodologies	Methodologies based on the work performed in the WP% to manage the Stakeholder Group	GRUBER: open	GRUBER

3.3 Individual Exploitation Plans

This section outlines specific strategies for the ERs from Section 3.1.

The information is organised in tables, one per partner. Each table lists the results that belong to the partner and provides information regarding the partner's motivation to exploit them and their long-term exploitation plans.

3.3.1 KTH

Table 4. KTH exploitation plan

KTH – INDIVIDUAL EXPLOITATION PLAN		
ER/KER	Motivation to exploit:	Long term exploitation plans:
ER#1 Interactive map	An Interactive Map is a valuable tool to support research, education, and collaboration within the field of railway systems and digitalisation. The result aligns with KTH's strategic focus on developing innovative, data-driven solutions for sustainable and efficient rail transport. By integrating the Interactive Map into ongoing and future research projects, KTH can enhance analysis capabilities, visualise complex railway infrastructure and operations data, and facilitate stakeholder engagement. Furthermore, the result can strengthen KTH's position as a key academic partner in European railway innovation initiatives and support knowledge transfer to industry and public authorities.	In the long term, KTH aims to further develop and maintain the Interactive Map as a core component of its digital railway research infrastructure. The tool will support future European and national research projects, enabling advanced analysis of railway networks, asset management, and operational performance. KTH plans to use the map as a platform for integrating real-time data and simulating new railway technologies. Additionally, it will serve as an educational resource for training future railway engineers and as a demonstration tool to strengthen collaborations with industry, infrastructure managers, and public authorities. This sustained exploitation will help position KTH as a leading academic centre for digital transformation and innovation in the rail sector.
ER#2 External costs calculator	KTH is motivated to exploit the External Costs Calculator as a key tool to advance research on the environmental, social, and economic impacts of rail transport. The result aligns with KTH's focus on sustainable mobility and supports evidence-based decision-making by quantifying external costs such as emissions. By integrating the calculator into research projects and educational activities, KTH can contribute to the development of strategies and innovations that improve the sustainability and competitiveness of	In the long term, KTH aims to further develop and exploit the External Costs Calculator as a fundamental component of its research and innovation activities in sustainable transport. The tool will support longitudinal studies on the environmental and socio-economic impacts of rail and other transport modes, enabling comprehensive life-cycle assessments and policy scenario analyses. KTH plans to use the calculator to support the development of methodologies and

	railways. Moreover, the tool will strengthen KTH's collaborations with industry and public authorities by providing scientifically grounded data to support investment decisions and policy development.	standards for external cost assessment at national and European levels. It will also be applied in education and training, as well as in collaborative projects with industry and authorities, thereby strengthening KTH's role as a scientific authority in sustainability assessment and transport policy development.
ER#3 Schedule viewer	KTH is motivated to exploit the Schedule Viewer as a practical tool to support research and analysis in railway operations, timetable planning, and traffic management. The result aligns with KTH's focus on digital solutions for improving railway efficiency and reliability. It will be used to visualise and evaluate train schedules, analyse operational scenarios, and test optimisation methods within research projects and educational activities. The Schedule Viewer also offers opportunities to strengthen collaboration with infrastructure managers and industry partners by demonstrating innovative approaches to timetable management and decision support.	KTH aims to exploit the Schedule Viewer in the long term as a research and innovation tool to support the development of advanced timetable planning, optimisation, and decision-support solutions. Schedule Viewer will enable more accurate modelling and analysis of railway operations. It will support future research projects, collaborations with industry and infrastructure managers, and educational activities, contributing to the design of more efficient, reliable, and sustainable railway systems. Through this, KTH will strengthen its role as a key research partner in digitalisation and operational optimisation of rail transport.

3.3.2 Eurnex

Table 55. Eurnex exploitation plan

Eurnex – INDIVIDUAL EXPLOITATION PLAN		
ER/KER	Motivation to exploit:	Long term exploitation plans:
KER1 ESEP4Freight Web Platform	The promotion of research in rail transport is the core of Eurnex business. The Web Platform is expected to become a relevant tool for researchers in the field of rail freight transport.	This tool could be further developed in the future. The Web platform would serve as basis for subsequent European research projects and would facilitate, therefore, the participation of Eurnex and its members in new European research projects

3.3.3 UPM

Table 66. UPM exploitation plan

UPM – INDIVIDUAL EXPLOITATION PLAN		
ER/KER	Motivation to exploit:	Long term exploitation plans:
ER#4 Contract toolbox	The digitalization of processes is one of the most driving innovations nowadays and leads to promising results for publish new academic papers	The solution could be engaged in a prestandardization activity that gives visibility to the university's research activity.

3.3.4 UIRR

Table 77. UIRR exploitation plan

UIRR – INDIVIDUAL EXPLOITATION PLAN		
ER/KER	Motivation to exploit:	Long term exploitation plans:
ESEP4Freight Web Platform	Promote digital solutions easing information access for shippers interested in intermodal transport services	Any shippers or LSPs contacting UIRR to use intermodal services will be directed to the platform, allowing them to find the best match for their needs. The platform will continue to be promoted among UIRR members as a tool to gain customers. The platform's database will be updated with UIRR terminal codes. A synchronisation remains an option.
ER#6 Recommendations for adapting the legal framework ER#7 Recommendations for harmonised contracts	Promote standardisation in the intermodal sector	Use the outcome of the WP2 to eventually update UIRR Terms and Conditions. Cooperate OTIF and CIT in charge of creating conventions between rail stakeholders. The objective is to integrate intermodal considerations in their conventions. Promote the creation of a harmonised transport document among DG move and European decision-makers.

3.3.5 Eurecat

Table 88. Eurecat exploitation plan

Eurecat – INDIVIDUAL EXPLOITATION PLAN		
ER/KER	Motivation to exploit:	Long term exploitation plans:
ER#1 Interactive map ER#3 Schedule viewer	The know-how acquired during the project can be applied to other projects or research. The web platform can help to give visibility to the work developed by Eurecat	Further research and developments in private-public projects. Application of the technology and reference architecture in other contexts. Use of the knowledge achieved for consultancy services or as part of training courses at Eurecat Academy
ER#4 Contract toolbox	The smart contract demonstration is a great example of how blockchain technology can be applied.	Use the Demo to explain blockchain technology and its applications for businesses.

3.3.6 Gruber Logistics

Table 99. Gruber Logistics exploitation plan

Gruber Logistics – INDIVIDUAL EXPLOITATION PLAN		
ER/KER	Motivation to exploit:	Long term exploitation plans:
KER1 – Web Platform (ER#1–5)	Direct support for daily operations in identifying efficient intermodal alternatives and strengthening modal shift strategies. Facilitate clearer and faster contractual arrangements with partners and customers, reducing uncertainties in multimodal chains. Enable easier identification of partners and service providers across Europe to build more reliable intermodal routes.	Integrate the Web Platform into internal logistics planning tools and offer its use to clients as value-added advisory service. Promote the use of standardised/harmonised contracts in Gruber Logistics' international operations and support their adoption in the wider logistics network. Ensure ongoing utilization of the directory to strengthen Gruber Logistics' network of rail logistics partners and to identify new opportunities for collaboration.
ER#8 – Knowledge and stakeholder engagement methodologies	Benefit from structured engagement with stakeholders to better capture customer needs and market challenges.	Apply methodologies to future innovation projects and internal stakeholder management, reinforcing Gruber Logistics' role as innovation driver.

3.3.7 Tenalach

Table 1010. Tenalach exploitation plan

Tenalach– INDIVIDUAL EXPLOITATION PLAN		
ER/KER	Motivation to exploit:	Long term exploitation plans:
KER1	Guiding public administrations, logistics operators, and shippers toward innovative freight transport solutions	Integrate ESEP4Freight methodologies and tools into consultancy and training services, use the platform to support authorities in multimodal and low-carbon strategies, share results through professional forums, and explore adapting the solution to new markets, such as the Mediterranean, Latin America, and Asian countries.

3.3.8 SGKV

Table 1111. SGKV exploitation plan

SGKV – INDIVIDUAL EXPLOITATION PLAN		
ER/KER	Motivation to exploit:	Long term exploitation plans:
KER1	The web platform will be a valuable tool in promoting combined transport.	In the long term, we plan to build upon the outcomes of the platform by integrating selected components, into our own tools, including the route calculator. Furthermore, we intend to apply the methodologies developed within the project, particularly those enabling traffic monitoring without the use of cookies, to enhance the functionality and privacy standards of our digital solutions.

3.3.9 ZAI

Table 1212. ZAI exploitation plan

ZAI – INDIVIDUAL EXPLOITATION PLAN		
ER/KER	Motivation to exploit:	Long term exploitation plans:
KER1 – ESEP4Freight Web Platform	As the managing body of Interporto Quadrante Europa, one of the most important European freight villages, ZAI has a strong interest in exploiting innovative digital solutions that improve the visibility, transparency, and attractiveness of intermodal transport. The platform supports ZAI's mission to foster modal shift towards rail, enhance sustainability, and provide added value services to the logistics community.	ZAI plans to integrate the platform and its modules into the services offered through ZAILOG and other innovation activities. The interactive map will be promoted to companies located in the freight village to increase awareness of intermodal connections. The CO_2 calculator will be used in ZAI's sustainability reporting and stakeholder engagement. The contract toolbox and matchmaking functionalities will be tested in cooperation with local and regional operators to support SMEs. Beyond the project, ZAI will continue dissemination and integration through EU projects and institutional partnerships.
ER6/7 – Policy recommendations and standardisation guidelines	ZAI is actively involved in European networks and projects, where policy advocacy and harmonisation of processes represent a strategic interest. Exploiting these recommendations will strengthen ZAI's role in supporting regulatory frameworks favourable to intermodal growth.	ZAI will use the recommendations developed in ESEP4Freight in its institutional activities and within UIR (Unione Interporti Riuniti) to influence national and EU policy discussions. The outputs will be integrated into ZAI's long-term innovation strategy, including future Horizon Europe and Interreg projects.

4 Conclusions

The Deliverable D5.4 “Dissemination, Communication and Exploitation (C&D&E) Report” summarises the outcomes of all activities carried out in Work Package 5 of the ESEP4Freight project. The main objective of this work was to ensure the visibility, impact, and sustainability of the project’s results by implementing an integrated communication, dissemination, and exploitation strategy. Building upon the framework established in D5.1, this deliverable evaluates how the defined goals and key performance indicators (KPIs) have been achieved throughout the project’s lifetime.

The methodology followed a structured approach combining continuous monitoring of dissemination and communication actions, systematic stakeholder engagement, and alignment with other European projects. Quantitative indicators (website visitors, social media metrics, publications, events) were complemented by qualitative assessments of cooperation and visibility. This ensured a comprehensive evaluation of how the project contributed to promoting digitalisation and modal shift in European freight transport.

The results demonstrate that ESEP4Freight has exceeded its initial targets. The consortium successfully organised or participated in eight major industrial and scientific events—double the planned objective—and produced two press releases, two newsletters, three videos, and several scientific and technical publications. The project website and Web Platform attracted significant attention, reaching 1,750 unique users shortly after launch. Collaboration with related EU-funded projects (TRANS4M-R, FOR FREIGHT, ADMIRAL, among others) further expanded outreach and knowledge exchange. Most KPIs related to dissemination and communication were fully met or surpassed, confirming the robustness of the overall strategy.

On the exploitation side, the identification and refinement of eight Exploitable Results, including the Key Exploitable Result (KER), the Web Platform, represent a major achievement. This platform integrates several tools (interactive map, external costs calculator, schedule viewer, contract toolbox, and stakeholder directory) that will continue to serve as open-access digital enablers for the freight transport community. Each partner developed a tailored exploitation plan to ensure long-term impact and sustainability of the outcomes.

The ESEP4Freight project has fulfilled its communication, dissemination, and exploitation objectives. It has contributed to raising awareness, fostering innovation, and supporting the digital transformation of European freight transport. The Web Platform provides a tangible and sustainable outcome that will continue to support future research, industrial innovation, and policy-making. The experience and results achieved lay a solid foundation for future initiatives aimed at enhancing intermodality and promoting a sustainable modal shift to rail across Europe.

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