

ESCALATE

Powering European Union Net Zero Future
by Escalating Zero Emission HDVs
and Logistic Intelligence



Image © Sunset on Semi Truck, Caleb Ruiters, Unsplash

Communication & Dissemination & Exploitation Plan

Project deliverable D8.1

B. Aydın (BSA), A. E. H. Karıcı, M. Z. Erkesim (USR), A. D. Graf (POLIS)



This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101096598.

Deliverable Administrative Information

Deliverable Administration					
Grant Agreement	101096598	Project short name	ESCALATE		
Deliverable no.	D8.1	Name	Dissemination, Communication and Exploitation Plan		
Status	Final	Due	M6	Date	30/06/2023
Author(s)	B. Aydin (BSA), A. E. H. Karci (USR), A. D. Graf (POLIS), M. M. Vilches (POLIS), M. Z. Erkesim (USR)				
Related tasks	T8.1: Dissemination and Communication and Network-of-Interest				
Dissemination level	Public				
Document history	Version	Date	Written by	Reviewed by	Comments
	V1.0	30/05/2023	B. Aydin (BSA)	M. Ghazali (USR)	Content Update
	V2.0	15/06/2023	A. E. H. Karci (USR)	S. O. Gamo (FEV - FR)	Content Update
	V3.0	27/06/2023	M. Z. Erkesim (USR)	T. Schnorbus (FEV)	Formatting and Content Update
	V4.0	30/06/2023	A. D. Graf (POLIS)	A. E. H. Karci (USR)	Final Corrections

Legal Disclaimer

This project has received funding from the European Union's Horizon Europe research and innovation programme under grant agreement No 101096598. The views represented in this document only reflect the views of the authors and not the views of the European Commission. The dissemination of this document reflects only the author's view and the European Commission is not responsible for any use that may be made of the information it contains.

DELIVERABLE ADMINISTRATIVE INFORMATION	I
PROJECT EXECUTIVE SUMMARY	III
ESCALATE PARTNERS	III
1 DELIVERABLE EXECUTIVE SUMMARY	1
2 INTRODUCTION	4
3 OBJECTIVE AND SCOPE	5
4 DISSEMINATION AND COMMUNICATION APPROACH	7
5 DISSEMINATION AND COMMUNICATION METHODS AND TOOLS	14
6 MANAGEMENT AND COORDINATION OF D&C&E ACTIVITIES	26
7 EXPLOITATION	30
8 RESULTS AND DISCUSSION	37
9 CONCLUSIONS	38







Project Executive Summary

ESCALATE, an EU funded Research and Innovation project, has been awarded funding under the HORIZON-CL5-2022-D5-01 call, highlighting its significance within the academic and scientific community. The primary objective of ESCALATE is to showcase and demonstrate the efficacy of high-efficiency zero-emission heavy-duty vehicle (z-HDV) powertrains, with a targeted increase of up to 10% in their overall efficiency. Specifically tailored for long-haul applications, these powertrains are designed to provide an impressive range of 750+ kilometres without the need for refuelling or recharging, while simultaneously ensuring consistent performance during daily operations over a period of six months or more under real-world conditions. To achieve these ambitious goals, ESCALATE focuses on the development of meticulously designed modular building blocks, which are intended to attain a Technology Readiness Level of 7 or 8. These modular components will serve as the foundation for three distinct types of z-HDVs, namely battery-HDV (b-HDV), fuel-cell-HDV (f-HDV), and range extender-HDV (r-HDV). The utilization of innovative business model innovations will be instrumental in optimizing the integration and utilization of these standardised and modular building blocks, further enhancing their efficiency and effectiveness. Moreover, the ESCALATE project aims to contribute valuable insights to the scientific community through the production of three comprehensive white papers. These papers will delve into various aspects of z-HDV technology, with one particular white paper focusing on defining a clear pathway to reduce well-to-wheel greenhouse gas emissions specifically from heavy-duty vehicles. The formulation of this pathway will be informed by rigorous analysis, utilizing both empirical results and policy assessments, thereby establishing a robust foundation for future efforts in reducing the environmental impact of HDVs. Through its multifaceted approach, ESCALATE strives to advance the knowledge and understanding of high-efficiency z-HDV powertrains, foster technological innovation, and contribute to the ongoing efforts of EU aimed at achieving sustainable and environmentally friendly transportation systems.

ESCALATE partners

List of participating countries:

-  Belgium
-  Denmark
-  Germany
-  Spain
-  Estonia
-  France
-  Finland
-  Greece
-  Poland

-  Portugal
-  Austria
-  Turkey
-  UK



List of partners:

- FEV Europe GmbH & FEV France (FEV)
- Project coordinator
- University Of Surrey (USR)
- Technical Coordinator
- Mercedes-Benz Turk As (MBT)
- Brussels Research and Innovation Center for Green Technologies (BRING)
- Teknologian Tutkimuskeskus Vtt Oy (VTT)
- Virtual Vehicle Research GmbH (VIV)
- Aristotelio Panepistimio Thessalonikis (AUTH)
- Promotion of Operational Links with Integrated Services, Association Internationale (POLIS)
- Instituto De Ciencia E Inovacao Em Engenharia Mecanica E Engenharia Industrial (INEGI)
- Deutsches Zentrum Fur Luft - Und Raumfahrt Ev (DLR)
- Rheinisch-Westfaelische Technische Hochschule Aachen (RWTH)
- BMC Otomotiv Sanayi Ve Ticaret Anonim Sirketi (BMC)
- Engie Energie Services (ENGIE)
- Commissariat A L'Energie Atomique Et Aux Energies Alternatives (CEA)
- FEV TR Otomotiv Ve Enerji Arastirmave Muhendislik Limited Sirketi (FEV TR)
- Ai4sec Ou (AI4SEC)
- Ballard Power Systems Europe As (BLRD)
- Kempower Oy (KEM)
- Hydrogen Europe (HEU)
- Ergtech Spolka Z Ograniczona Odpowiedzialnoscia (ERG)
- Pbx GmbH (PBX)
- Primafrio Corporacion, S.A. (PRMF)
- BSA Inno & Tech GmbH (BSA)
- Oy Sisu Auto Ab (SISU)
- Valmet Automotive Ev Power Oy (VAL)
- Ortem Elektronik As (ORTEM)
- DHL Lojistik Hizmetleri As (DHL)
- Deutsches Institut Fuer Normung Ev (DIN)
- Kuljetus Ja Muutto O. Jylha Oy (TRJ)
- Oy M Rauanheimo Ab (RHM)
- TEKFEN Muhendislik As (TEK)
- FORD Otomotiv Sanayi Anonim Sirketi (FORD)
- Coventry University (CU)
- Electra Commercial Vehicles Limited (ELECT)
- Advanced Electric Machines Ltd (AEM)
- Reliability And Safety Technical Center (RSTER)
- Turkiye Bilimsel Ve Teknolojik Arastirma Kurumu (TUBITAK)

Social Media Links:



twitter.com/EscalateHEurope



linkedin.com/company/escalate-eu-project

For further information please visit WWW.ESCALATE-EU.COM



1 Deliverable executive summary

This report presents a comprehensive overview of the Dissemination, Communication and Exploitation (D&C&E) plan for the ESCALATE project, along with a summary of the planned activities. The document delineates the objectives of the dissemination efforts, which encompass targeting specific stakeholders, using different communication channels and tools to reach the general public and creating a recognizable visual identity. Particular emphasis is placed on the strategic utilization of web and social media platforms to maximize the project's outreach. Complementary to these efforts, the creation of visual material, including posters, banners and leaflets will be undertaken to facilitate the dissemination process.

The ESCALATE project primarily focuses on the development of innovative modular HW and data-driven SW components from TRL5/6-TRL7/8. In this regard, establishing strong partnerships with academia, public institutions, regulatory bodies, and business organizations assumes paramount importance. The report delves into the intricacies of these collaborations and engagements, elucidating the significance of the five zero emission heavy duty vehicles (zHDV) together with three charging and hydrogen (H₂) refueling stations as well as fleet management related innovations.

Furthermore, the document encompasses a comprehensive list of planned conference participations and academic publications, as well as webinars and workshops, which exemplify the project's commitment to sharing its findings and insights with the wider research community.

In conclusion, it is essential to recognize the significance of Deliverable 8.1 as a public document that contributes to the transparency and accountability of the ESCALATE project. By adhering to the D&C&E plan, ESCALATE ensures that its activities and progress are openly shared, foster collaboration, and promote a wider societal impact.



List of figures

Figure 1: ESCALATE color palette.	16
Figure 2: Screenshots of the ESCALATE website homepage.	18
Figure 3: Communication KPIs.....	25
Figure 4: Dissemination KPIs	26

List of tables

Table 1: Planned dissemination and communication activities and KPIs	9
Table 2: ESCALATE Partners Memberships.....	10
Table 3: Correspondence between Target Groups and Communications Channels.....	13
Table 4: Preliminary List of Conferences and Events ESCALATE Partners Target.	23
Table 5: Completed and Planned Publications until January 2024	25
Table 6: Planned and Completed Dissemination and Communication Activities until January 2024	29
Table 7: Key Exploitable Results	31
Table 8: Continuous Updates on D&C&E Reports	37



List of abbreviations and acronyms

Acronym	Meaning
HDV	Heavy Duty Vehicle
IPR	Intellectual property Rights
KER	Key Exploitable Result
EC	European Commission
OEM	Original Equipment Manufacturer
zHDV	Zero Emission Heavy Duty Vehicle
KPI	Key Performance Indicator
WP	Work Package
H2	Hydrogen
SB	Steering Board
CEN	European Committee for Standardization
ISO	International Organization for Standardization
AI	Artificial Intelligence
CSR	Corporate Social Responsibility
TCO	Total Cost of Ownership
Rol	Return of Investment



2 Introduction

The primary objective of this deliverable is to establish a formal plan and methodology that all project partners participating in the ESCALATE project are required to adhere to. The purpose of this plan is to facilitate the creation, utilization, sharing, and distribution of knowledge, activities, and research findings throughout and beyond the project's duration.

To achieve strategic communication, this document incorporates the best communication practices commonly employed in European projects. Emphasis is placed in tailoring communication activities to the target audiences rather than focusing solely on the medium of communication. In line with this approach, it is imperative to clearly define the objectives of each communication and dissemination activity.

Furthermore, this document is designed in compliance with the European Commission (EC) Guidance on social media, which was published in 2020. This guidance provides comprehensive instructions on effectively utilizing social media platforms within Horizon projects, offering valuable insights and recommendations. By adhering to these guidelines and methodologies, the ESCALATE project aims to optimize its communication efforts, ensuring that valuable knowledge and research outcomes are effectively disseminated to relevant stakeholders and audiences both during and after the project's lifetime.

2.1 Target Audience

The target audience for the D&C&E plan encompasses three main groups:

- **ESCALATE Partners:** This includes all members participating in the project's consortium. They are the primary audience for this deliverable, as it directly pertains to their involvement and contributions to the project.
- **Commission:** This audience comprises representatives from the Commission Services responsible for overseeing the project and independent reviewers appointed to assess its progress and outcomes. Their involvement is crucial in ensuring compliance with project requirements and evaluating its success.
- **Other External Organizations and Projects:** This audience primarily consists of external organizations and projects with a vested interest in areas such as zero emission heavy duty vehicles, modular and scalable powertrain components, or infrastructure providers. While the primary focus is on the groups mentioned, this deliverable is considered public, and its contents can also be made available to others within this category.

By addressing these three distinct audiences, the D8.1 aims to provide comprehensive coverage of the project's progress, findings, and implications. Consortium members and Commission Services gain insights directly relevant to their involvement, while external organizations and projects receive valuable information aligned with their areas of interest. This approach ensures that relevant stakeholders are well-informed, fostering collaboration, knowledge sharing, and potential synergies between projects and organizations operating in related fields.



3 Objective and Scope

The objective of the D&C&E plan is to provide a comprehensive status report and outline the dissemination, exploitation, and communication activities within the project. It aims to fulfil the specific needs of various audiences, including consortium members, independent reviewers, and other external organizations and projects. The deliverable serves as a reference point, offering insights into the achievements made thus far, our planned activities, and the potential dissemination, exploitation and collaboration opportunities. The scope of this deliverable encompasses the following key aspects:

Status Report on Communication Activities and Dissemination Materials:

- Provide an overview of the communication activities undertaken within the project, including the development and dissemination of materials.
- Detail the achievements, outcomes, and impact of these activities.
- Outline the executed activities and anticipated milestones for communication and dissemination efforts.

Dissemination and Exploitation Strategy:

- Present the overall strategy for disseminating project outcomes and exploiting the results effectively.
- Identify relevant mechanisms and strategies for dissemination and exploitation.
- Address the specific needs and considerations of the consortium members in implementing the dissemination and exploitation plans.

Reporting for Commission:

- Offer a formal reporting framework to provide a structured assessment of the status of the ESCALATE dissemination, exploitation, and communication activities.
- Demonstrate the concrete plans for long-term exploitation of project results.
- Provide evidence of compliance with project requirements and alignment with project objectives.

Identification of Collaboration Opportunities:

- Assist external organizations and projects in evaluating potential cooperation with ESCALATE partners during or after the project.
- Highlight areas of interest and identify possibilities for knowledge sharing and collaborative initiatives with other projects.

By encompassing these key elements, the deliverable aims to provide a comprehensive overview of the project's communication efforts, dissemination activities, and plans for future exploitation. It acts as a valuable reference document for consortium members, the Commission, independent reviewers, and external stakeholders, facilitating effective communication, evaluation, and potential collaborations.

3.1 Relationship to other documents

3.1.1 Project Deliverables

This deliverable is closely linked to and builds upon the insights and findings derived from the following preceding deliverables:

D1.3 Innovation and Data Management Plan: Outlines the strategies and procedures for managing and safeguarding project data, ensuring its accessibility, integrity, and security. It establishes guidelines for the collection, storage, and sharing of research data, while also addressing issues related to data protection and

privacy. The plan highlights the importance of data management in facilitating collaboration, reproducibility, and the dissemination of project findings. Furthermore, it emphasizes the integration of innovative approaches and technologies to optimize data collection, analysis, and knowledge extraction processes. This deliverable serves as a comprehensive framework for effective innovation and data management throughout the project, promoting efficient utilization of resources and fostering impactful research outcomes.

D8.2 Dissemination, Communication and Exploitation, Branding and IPR management: Provides a comprehensive overview of the project's strategies and activities for sharing and promoting project outcomes to relevant stakeholders. It outlines the planned dissemination channels and mechanisms to effectively communicate project results, ensuring wide-reaching impact and knowledge transfer. The deliverable also addresses the importance of branding in maintaining a consistent project identity and fostering recognition among target audiences. Additionally, it highlights the management of Intellectual Property Rights (IPR) to safeguard ESCALATE innovations and ensure proper exploitation and commercialization opportunities are explored. It serves as a guiding document, providing a roadmap for successful dissemination, communication, branding, and IPR management throughout the project lifecycle.

3.1.2 Confidential Documentation on Key Exploitable Results

To protect commercially exploitable results and confidential information a separate and confidential documentation has been developed. This documentation serves the purpose of consolidating all information pertaining to the exploitation of each Key Exploitable Result (KER), including a detailed description of the KER, potential users or market, associated benefits, and the project deliverables contributing to the result. The documentation also includes the IPR registry data for the KER, which lists the owners, any limitations on project results or background necessary for exploiting the KER, and information on required IPR protection mechanisms. Furthermore, it encompasses an Exploitation Planning section outlining the planned exploitation type, overall strategy, means of disseminating the results, goals, necessary steps, and a tentative schedule. For technically oriented results with commercial potential, target Technology Readiness Levels (TRLs) are also included. The documentation will be continuously updated and refined throughout the exploitation planning process, ensuring that it consistently provides the latest plans for all targeted KERs. It complements the formal deliverables on exploitation planning and can be shared with individuals or organizations that have a legitimate need to access it.



4 Dissemination and Communication Approach

4.1 Dissemination

The main objective of the dissemination activities within the ESCALATE project is to raise awareness, provide information and education to the community, obtain input and feedback from stakeholders, and promoting and showcasing the outputs and outcomes of the ESCALATE project. The target audience for these activities encompasses various groups, such as professional users in the logistic and automotive industry (including fleet managers, original equipment manufacturers (OEMs) and suppliers at Tier 1 and Tier 2 levels), academic communities, and regulatory entities.

To ensure effective dissemination, ESCALATE will leverage the involvement of key stakeholders who possess influential roles as decision makers and facilitators, enabling them to act as multipliers in disseminating information about ESCALATE innovations, activities, achievements, and deliverables. Notably, five concrete demonstrators showcasing potential of zero emission heavy duty vehicles, alongside three infrastructures, and four digital twins which will be crucial to disseminate and communicate the innovations and advancements achieved through ESCALATE.

Multiple dissemination channels will be utilized by ESCALATE to promote both the project itself and its outcomes. These channels encompass a wide range of mediums and platforms, including but not limited to:

- [ESCALATE website](#)
- [ESCALATE newsletters](#)
- Public deliverables
- ESCALATE presentation materials (posters, presentations, etc.)
- Press releases – online, and print media
- Social media presence (LinkedIn, Twitter)
- Participation in national and international conferences, workshops, exhibitions, and events
- Organization of conferences, workshops, exhibitions and other events
- Horizon Europe Programme meetings (exchange with other projects)
- Demonstrations using specific sets of labs (e.g., DLR, VTT)
- Publications (Scientific journals, conference proceedings)
- Education and training activities (lectures, courses, or seminars)
- Academic dissemination and exploitation (Individual projects, Master theses, PhD)

The dissemination activities of ESCALATE are summarized in the Table 1. Public deliverables will be made available on the project website, in compliance with the regulations set forth by the European authorities, ensuring accessibility to individuals with an interest in the subject matter.

Area	Dissemination Measure	Key Performance Indicators (KPIs)
Research	Publication of scientific outputs	> 5 journal papers planned. >8 articles in industry magazines
	Disseminate scientific results in conferences	>30 conference papers planned

	Standardisation contributions	Liaison with >2 working groups. Presentation in 2 standardisation meetings >3 technical reports
Commercial	Participation in events & workshops	Participation to >20 events Presentation in >20 events Demonstration of results in booths in >4 events
	Website	>5000 unique visitors ~2 min. duration visits >5000 page views
	Social media	>750 accumulative followers >1100 accumulative posts >250 interactions >40 klout score
	Blog	>80 posts (at least 2 per partner) >200 interactions
	Media	>14 press releases (at least 2 per 6-month)
	Communication material	>8 project factsheets/brochures & banners 7 e-newsletters (6 months) >5 joint videos >6 blog posts in EC mechanism
	Organisation of project events	3 workshops 5 Demo Events per pilot
	Community Building	Engagement with stakeholders
Collaboration & synergies with projects		>5 projects with synergies >2 projects funded in the same call with synergies. >5 joint activities

	Internal networking	>8 internal partners events >10 links to the project's website >4 pilot training sessions
--	---------------------	---

Table 1: Planned dissemination and communication activities and KPIs

4.2 Communication

The communication endeavours deployed within the ESCALATE project have been designed to guarantee extensive visibility and acknowledgment of the consortium. These activities are strategically orchestrated as part of a marketing-oriented dissemination campaign, employing designed materials, with the overarching aim of optimizing the influence and extent of the project's outcomes.

A. The internal communication activities of ESCALATE are guided by the following objectives:

1. Structure the communication flow within the ESCALATE, facilitating effective information exchange among consortium members.
2. Establish efficient mutual networking and participation, fostering collaboration and engagement among all stakeholders.
3. Actively involve and engage the entire consortium, ensuring that all partners are informed and contribute to the communication efforts.

B. The external communication activities of ESCALATE are driven by the following objectives:

1. Enhance stakeholder awareness concerning the activities and progress made within ESCALATE.
2. Attain recognition for the research, technology development, and innovative outcomes achieved through the project.
3. Generate awareness among potential future customers of the products developed within ESCALATE.

More specifically, the communication objectives of the ESCALATE project encompass the following aspects:

- Firstly, it aims to effectively communicate and disseminate knowledge to a broad audience within the international transport community and beyond. This entails the widespread sharing of project findings, advancements, and relevant insights to ensure the broadest possible impact.
- Secondly, the project endeavours to foster interactive relationships with international partnerships and counterparts, facilitating meaningful exchange, collaboration, and the exploration of synergies.
- Lastly, the project aims to cultivate positive public awareness through the development and maintenance of an informative project website, as well as the implementation of engaging social media campaigns.

These efforts collectively strive to promote the project's goals, achievements, and societal relevance to a wider audience.

4.2.1 Target groups and target audiences

The communication efforts will primarily target specific audiences and groups, particularly those to which ESCALATE consortium partners belong. This approach ensures that project activities and results are effectively communicated at strategic (S), technical (T), and operative (O) levels during workshops, conferences, and work package (WP) meetings within the respective organizations. It should be noted that these communication activities will extend beyond the duration of the ESCALATE project due to the composition of memberships and ongoing exploitation activities. The following list presents the memberships of ESCALATE partners, which will be utilized for communicating project activities, findings, and results:

Table 2 : ESCALATE Partners Memberships

Entity	Level
Association of European Suppliers for Automotive Software (AESAS)	S
Society of Automotive Engineers (SAE International)	T
European Automotive Research Partners Association (EARPA)	S
European Road Transport Research Advisory Council (ERTRAC)	S
European Green Vehicle Initiative Association (EGVIA)	S
European Council for Automotive R&D (EUCAR)	O
European Association of Automotive Suppliers (CLEPA)	S
ERTICO – ITS Europe	S
Trans-European Transport Network (TEN-T)	S

The ESCALATE project has identified the following target groups for its work:

- Scientific communities
- End users
- Technology providers
- R&D project ecosystem
- European Commission
- General Public.

To address these different target groups, the following communication channels have been selected:

- **Interactive project website:** will serve as a comprehensive platform that offers pertinent information on the project, including its objectives, methodologies, and notable findings. This website will be a gateway for stakeholders to access in-depth details and resources related to the project.
- **Press releases and social media:** will be utilized as means of disseminating public communications regarding significant project outcomes that bear substantial societal or community implications. These communication channels aim to raise awareness, generate interest, and engage the wider public in the project's progress and achievements.

- Event presentations:** they play a vital role in conveying tailored content to diverse target groups. These presentations are thoughtfully designed to accommodate the needs and interests of various stakeholders, ensuring effective communication and comprehension of project-related information. This approach facilitates effective knowledge transfer and fosters meaningful engagement with the project's objectives and outcomes.

4.2.2 Types of project deliverables

The project encompasses several types of deliverables, each serving specific purposes. Firstly, project deliverables in the form of **public reports** provide comprehensive overviews of the project's findings and their corresponding impact. It is important to note that the disclosure of sensitive or confidential information is strictly limited within these reports.

In addition, the project generates **scientific papers** that offer detailed descriptions of selected project outcomes. These papers are typically tailored for specific scientific communities and serve as a means of disseminating scholarly knowledge. To ensure widespread accessibility, the consortium endeavours to adhere to open access principles, taking into consideration the project's budget and organizational guidelines. By doing so, the consortium aims to maximize the dissemination and impact of its research findings within the scientific community.

Furthermore, the project also produces deliverables in the form of **prototypical demonstrators**, which serve as tangible examples showcasing the practical outcomes of the project. These prototypes effectively illustrate the project's achievements and contribute to a better understanding of its potential applications and implications. The 5 tangible demonstrators for zHDVs, and 3 infrastructures along with the 500000+km field-tests under real operating conditions vehicles, will serve as primary means of dissemination and communication for ESCALATE.

The ESCALATE project will feature five demonstrator zero-emission heavy-duty long-haul vehicles, out of which one will be virtual. These vehicles will showcase the advancements and capabilities achieved through ESCALATE, incorporating modular software and hardware components, as well as an enriched infrastructure. Additionally, the project will develop a fleet management tool with user interfaces to further enhance the efficiency and effectiveness of the vehicles' operations. These demonstrator vehicles and associated infrastructure, along with the fleet management tool, will serve as key means of dissemination and communication, highlighting the project's achievements and innovations.

Table 3 provides an overview of the correspondence between target groups and the communication channels envisaged in the project, highlighting the main communication avenues both within and beyond the project. The level of technical detail provided through each communication channel typically increases from press releases to scientific publications.



Target Group	Communication Tools and Channels	Benefits to target group
Scientific & Academic communities	Reference group Publications Workshops & Webinars Conferences & Events Demonstrators	Insights on zHDVs pilots Updates on technology development and on national and EU regulations Understanding fundamental elements of the zHDVs market
Technology Users	Reference group Conferences & events Website & Newsletters Social Media Demonstrators	Insight in future zHDVs State of play information on zHDVs Insights on technology development
Technology Providers	Reference group Workshop & webinars Conferences & events Website & Newsletters Social Media	Insight in the future of zHDVs Visibility towards zHDVs implementers Insights on technology development
EU Commission	Press releases Website Conferences Deliverables	Inform decision makers and relevant stakeholders. Project progress monitoring Insight on technology development
European Associations (ERTRAC, ERTICO, etc)	Workshop & webinars Conferences & events Website & Newsletters Social Media	Good practice and knowledge sharing Network and cluster creation around zHDVs development Understanding and scale-up of ESCALATE innovations
Public Authorities	Reference group Workshop & webinars Conferences & events Website & Newsletters Social Media	Inform decision makers and relevant stakeholders. Governments learn from ESCALATE results. Understanding and scale-up of ESCALATE innovations

General Public	Conferences & events Website & Newsletters Social Media	Good practice and knowledge sharing State of the art knowledge about the development and implementation of zHDVs Understanding and scale-up of ESCALATE innovations
-----------------------	---	---

Table 3 : Correspondence between Target Groups and Communications Channels



5 Dissemination and Communication Methods and Tools

5.1 Dissemination Methods

The primary strategic objective of our dissemination activities is to facilitate the scale-up of ESCALATE project results, thereby maximizing their impact. To effectively guide partners in implementing their respective dissemination activities, ESCALATE incorporated mechanisms for monitoring dissemination activities and allow for ad-hoc and on-demand actions as needed.

To maximize our impact, it is imperative to ensure project visibility and engage stakeholders actively. This entails ensuring that stakeholders are aware of our activities and understand the added value they bring. Additionally, it involves exploiting project assets, producing valuable insights, sharing lessons learned, and providing meaningful gender-disaggregated data to the targeted stakeholders. Moreover, ESCALATE aims to facilitate the replication of its elements of success and to reach policymakers at various levels to foster the scaling up of EU's innovation, particularly in the context of sustainability. In this regard, ESCALATE's dissemination activities will be conducted along three primary directions:

- **Creating Awareness:** This involves generating awareness and familiarity with the project, its vision, and its activities. The objective is to establish a solid foundation of knowledge and understanding among stakeholders.
- **Disseminating Achievements:** This direction focuses on effectively disseminating the tangible achievements and outcomes of the project. By showcasing the results obtained through the project's endeavors, we aim to highlight its value and impact to a broader audience.
- **Demonstrating Benefits and Impact:** The final direction aims to demonstrate the tangible benefits and overall impact of ESCALATE. Through concrete examples and evidence, we seek to foster the adoption of our outcomes among interested stakeholders, emphasizing the transformative potential of our project.

By strategically implementing these dissemination directions, ESCALATE endeavors to create a widespread understanding of the project's objectives, accomplishments, and benefits. Ultimately, our aim is to encourage the active uptake and utilization of ESCALATE's outcomes by relevant stakeholders, contributing to sustainable and impactful advancements in the field.

5.2 Communication & Dissemination Tools

Throughout the duration of the ESCALATE, a range of dissemination materials and tools have been and will continue to be developed. These materials are tailored to address diverse communication needs, cater to different event types, and align with the project's evolution and outcomes. The subsequent tools have been identified as instrumental in achieving effective dissemination:

Website: The ESCALATE project maintains a dedicated website as the primary platform for disseminating project-related information. The website serves as a central hub for project updates, news, deliverables, and technical documents. It also offers general information about the project's objectives, methodology, consortium partners, and contact details. It acts as a repository for dissemination materials, including PDF versions of public deliverables, technical and scientific papers, public presentations, leaflets, brochures, posters, and other relevant documents. This central repository ensures easy access to project-related materials for interested parties.

Brochure: A comprehensive project brochure is created to provide a concise overview of the ESCALATE project, including its objectives, applications, and benefits. This promotional flyer serves as a quick reference tool, targeting both professional audiences (universities, administrations, manufacturers, European Commission members, automobile clubs, etc.) and non-professional audiences on special occasions.

Leaflet: The project also produces a project leaflet designed as a promotional tool. This material aims to quickly communicate the project's main objectives and general aspects. It primarily targets professional audiences, but it can also be used to reach the non-professional public. The leaflet is distributed at various events, trade shows, congresses, and other gatherings attended by project members, enhancing communication and dissemination efforts.

Social Media: ESCALATE utilizes popular social media platforms such as Twitter and LinkedIn to reach a broader audience and engage with stakeholders. These platforms enable real-time communication, sharing of project updates, achievements, and relevant industry news. Social media channels help foster engagement, attract contributors, and promote the project's activities within the online community. Regular updates, announcements, and interactive content will be shared to foster broader awareness and engagement with the project.

Workshops and Conferences: Organizing workshops and participating in conferences present invaluable opportunities for direct engagement with stakeholders and peers. ESCALATE will participate in and organizes different types of events with specific objectives, such as workshops, conferences, seminars, and webinars. These events facilitate knowledge exchange, networking opportunities, and the dissemination of project outcomes. By engaging stakeholders, these gatherings help raise awareness of the project and its relevance in the industry.

Webinars and Online Training: Harnessing the accessibility and convenience of online platforms, webinars and virtual training sessions will be conducted. These platforms enable remote participation, allowing for widespread dissemination of project insights, methodologies, and lessons learned.

Collaboration with Strategic Partners: Building strategic partnerships with relevant organizations and networks will be pursued. By collaborating with these partners, the project's visibility and impact can be extended, reaching a wider audience, and enhancing dissemination efforts.

By utilizing a diverse range of external tools, the ESCALATE project maximizes its outreach and effectively communicates its progress, achievements, and objectives to a wide range of stakeholders, both within and beyond the project consortium. Their effective utilization will ensure comprehensive and impactful dissemination of project activities, outcomes, and knowledge.





Figure 1: ESCALATE color palette.

5.2.1 Project Website

The project website for ESCALATE is hosted, designed, curated, and managed by FEV, with POLIS help, ensuring continuous updates and improvements. Serving as the primary platform connecting the project and its stakeholders, the website plays a pivotal role in facilitating communication and dissemination efforts for the ESCALATE project.

The website serves as the central repository of public project-related content. As the prominent tool for communication and dissemination, it was initially launched in March 2023 and will be regularly updated throughout the project's duration. Built on the widely used WordPress CMS (Content Management System), the website offers flexibility and compatibility with mobile devices, ensuring an optimal user experience. It incorporates plugins for Search Engine Optimization (SEO) and enhanced security measures.

The website aims to provide publicly disclosed information, acting as a hub and interactive platform for project-related data and information. While catering to a general audience, it also offers access to more technical content targeted at professional stakeholders. Additionally, it contains the relevant project

documents such as deliverables, scientific papers, and public presentations. Integration with social media networks, including Twitter and LinkedIn, is planned during the project, alongside a subscription form for the project newsletter.

The online dissemination materials will remain accessible beyond the project's completion, with a minimum availability period of three additional years. This ensures sustained access to ESCALATE achievements and information.

The website's main functions include:

- Providing general information about the project's vision and overall objectives.
- Introducing the project methodology and working plan.
- Presenting information about the ESCALATE consortium, including details about each partner.
- Disseminating project results to the target audiences of ESCALATE.
- Communicating the latest news regarding achievements, meetings, and events directly relevant to the work carried out by the consortium.
- Storing all communication materials, such as public deliverables, technical and scientific papers, presentations, leaflets, brochures, and posters in PDF format.
- Including external links to other relevant activities, EC-funded projects, international projects, seminars, webinars, and public presentations that are linked or of interest to the ESCALATE audience.
- Provide a channel to subscribe to ESCALATE's newsletter.
- Providing links to partners, external companies, stakeholders, and other EC-funded projects to enhance the dissemination impact of ESCALATE.

FEV, as the leader of Work Package 1, will be responsible for managing the website. The content will be agreed upon by the consortium members, ensuring approval from the leaders of other Work Packages at a minimum.

5.2.1.1 Website Look and Feel

The website design incorporates identity patterns that align with the project's branding. Notably, the colors featured in the logo, primarily cold colors, are employed throughout the website. Additionally, the font chosen for the website is Arial, which further reinforces the project's visual identity. To enhance the appeal of the website and bolster its content, the inclusion of photographs on every page has been deemed necessary.

This ensures that the chosen visuals are in line with the project's objectives, messaging, and overall aesthetic, thus maintaining consistency and relevance across the website. By adhering to these guidelines, the website achieves a visually engaging and cohesive presentation, while effectively supporting the dissemination of project information.

The ESCALATE Website presents a slight and clean interface, with a main top navigation menu leading to the different sections and sub-pages of the website. The main navigation menu is on the top. The ESCALATE Logo acts as a shortcut to the Homepage, wherever the user might be at a given moment, and the website also uses breadcrumbs as an additional navigation feature. The general footer (available in all pages) includes acknowledgement of EC funding and features two widgets linking it to the project's social media.

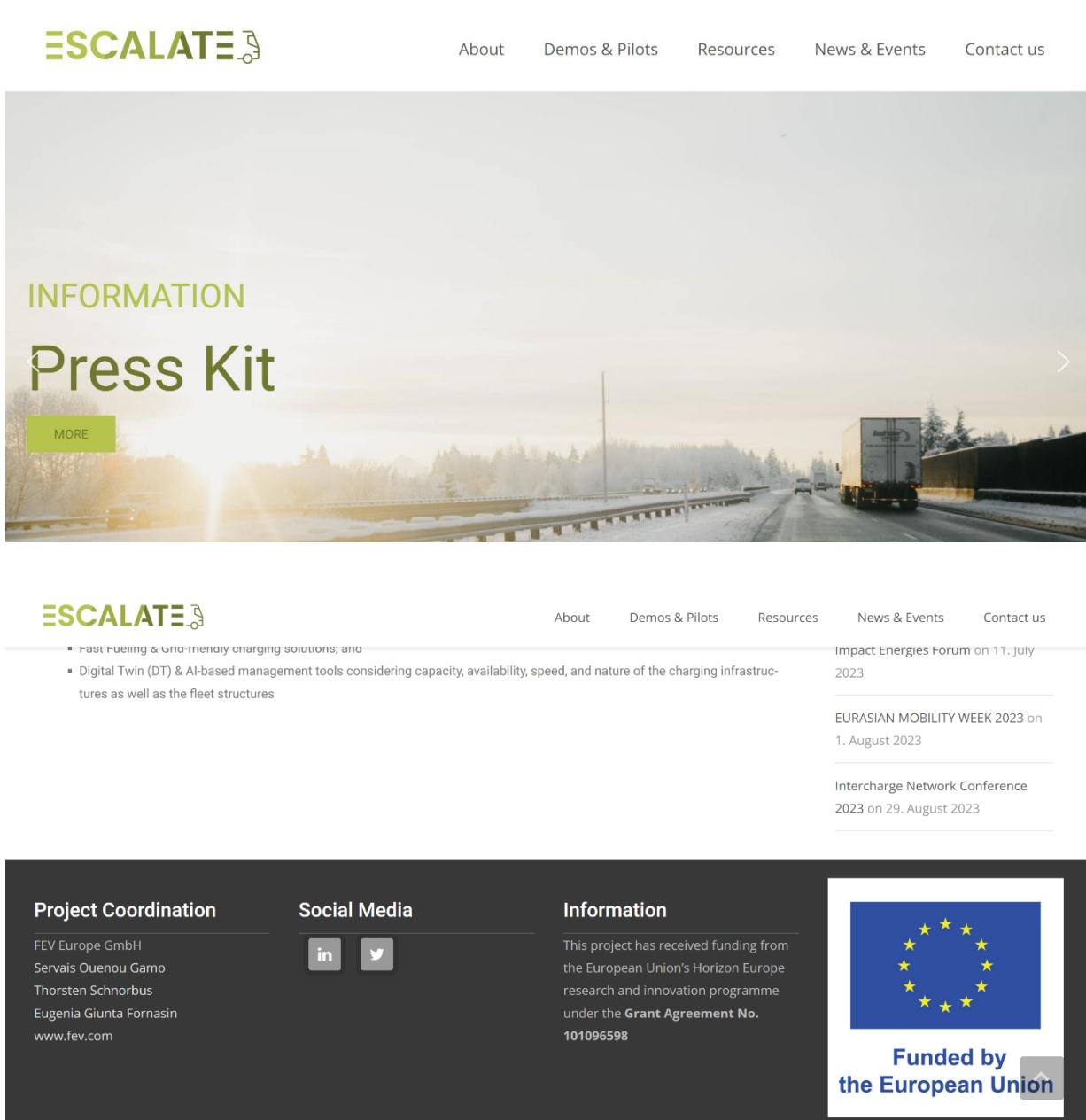


Figure 2 : Screenshots of the ESCALATE website homepage.

5.2.1.2 Website Content

The project website for ESCALATE will encompass a diverse range of content types, serving to provide visitors with comprehensive and relevant information. The following categories of content will be featured on the website:

- **About ESCALATE:** This section will offer an overview of the project. Including its goals and impacts, the project structure and the partner organizations involved.
- **Demos & Pilots:** The section will be dedicated to the demonstrations carried out during the project. It will highlight the innovative elements they are bringing to the transport sector and zHDV technologies.

- **Resources:** The website will provide access to the press kit, the publications and the public deliverable documents produced throughout the project's duration. These documents will offer valuable insights and findings related to the project's progress and outcomes.
- **News & Events:** Both upcoming and past events and activities related to the project will be highlighted in this section. It will serve as a platform for showcasing project-related conferences, workshops, webinars, and other relevant gatherings. It will also include a repository of the project's newsletter.
- **Contact us:** Visitors will have easy access to contact details, allowing them to get in touch with the project team or relevant stakeholders for inquiries, collaborations, or other forms of engagement.

5.2.1.3 Website Statistics

Maintaining a comprehensive record of web activity is of utmost importance, and thus the ESCALATE project has established specific KPIs to effectively evaluate the success of this communication channel. The subsequent figure showcases the predefined targets for the most prevalent KPIs. To facilitate these measurements, the project will utilize the Google Analytics tool, which offers valuable insights into website performance and user engagement.

The results derived from these measurements will be presented annually to the consortium members, providing them with a comprehensive overview of web analytics. Additionally, these findings will be incorporated into the regular updates of the designated deliverable, ensuring that all stakeholders are apprised of the project's web performance progress.

By leveraging the power of Google Analytics and tracking key metrics such as website traffic, page views, bounce rates, conversion rates, and user behavior, the ESCALATE project can gain invaluable insights into the effectiveness and impact of its web-based communication strategies. These insights will enable informed decision-making and the optimization of web content and user experience to better align with the project's goals and objectives.

5.3 SharePoint: project-wide repository

SharePoint serves as the primary repository and communication platform for the ESCALATE project. While the management of the repository primarily falls under the responsibility of Work Package 1 (Project Management), Work Package 8 (WP8) supports dissemination and exploitation activities for all project partners.

The use of SharePoint allows for efficient and centralized storage of project-related documents, data, and information, ensuring easy access and collaboration among consortium members. It serves as a comprehensive platform that enables effective communication, knowledge sharing, and coordination of dissemination and exploitation efforts. By utilizing the specific collections and pages designated for these purposes, WP8 actively supports partners in disseminating project outcomes and exploiting the generated knowledge and intellectual property.

The collaborative nature of SharePoint enhances transparency, facilitates information exchange, and contributes to the overall success of the ESCALATE project. It serves as a vital tool in streamlining project management, fostering effective communication, and promoting the dissemination and exploitation of project-related resources and findings.

5.4 Digital Tools

5.4.1 E-newsletter

In collaboration with the consortium's partners, the project will publish semestrial newsletters that include project details and zHDVs news. Short project updates, news, and events for partners and all relevant stakeholders will be included in the regular e-newsletters, which will be distributed through email. These updates will come either directly from the project or from other relevant sources, such as the communities associated with ESCALATE. The activities taking place on the pilot locations will receive particular focus. The newsletters will also cover broader zHDVs news, with information gleaned from the most recent industry events, such as, for instance, the current discussions taking place in EU institutions over the change of the regulations on CO2 emission limits for heavy duty vehicles.

The semestrial newsletter will be sent out electronically via a number of mailing lists, including the POLIS contact databases, which contain over 10,000 contacts for a variety of urban transport stakeholders from various levels and sectors. Each partner will be required to assist in spreading the newsletters among their networks and distribution contacts in order to reach as many readers as possible.

5.4.2 Press Releases

ESCALATE will publish a variety of press releases covering the project's theme, innovations, findings, and anticipated impacts in order to maximize impact and outreach. These will be released through the channels of the consortium partners, journals, and the mainstream media. Magazines that can promote ESCALATE will be identified, they will include both national and local channels. The media will be contacted directly, and press releases will be used to announce significant events. Through national magazines with whom consortium members have connections, we will try to get the articles picked up by additional publications.

5.4.3 Social Media

5.4.3.1 Twitter

Twitter is a microblogging service that lets users publish brief messages and engage in conversation with other users via their mobile devices or computer browsers. These exchanges are open, in contrast to emails and texts. The benefits that Twitter could provide in support of a project's communication goals are numerous.

The ESCALATE twitter account will exclusively be used for the project, making it clear that it is unrelated to any institutional communication from the EU about zHDVs. Uses for the Twitter account include:

- key messages (news and images)
- providing links to pertinent information,
- live reporting on ESCALATE participation to events,
- updating our followers on the pilots and our partners activities

The ESCALATE twitter account is [@EscalateHEurope](#). On the ESCALATE website, a Twitter feed will display the most recent tweets. #ESCALATE serves as the project's official hashtag. #ESCALATEHEurope, #ESCALATEproject, #ESCALATEzHDV, and #ESCALATEeTrucks are other hashtags associated with the project.

5.4.3.2 LinkedIn

LinkedIn, renowned as the foremost professional network, represents a highly significant platform that offers an ideal environment for engaging with multiple identified groups of stakeholders and the intended target audience within the ESCALATE project. As a thriving digital space tailored specifically for professional

networking, LinkedIn provides unparalleled opportunities to establish meaningful connections, foster collaborations, and disseminate project-related information to a diverse range of relevant individuals and organizations.

The robust presence of professionals, experts, industry leaders, researchers, and decision-makers on LinkedIn presents an exceptional avenue for promoting the ESCALATE project and its objectives. By strategically leveraging the platform's features, such as company pages, groups, and targeted advertising, the project can effectively enhance its visibility, engage with the desired stakeholders, and cultivate a strong network of individuals who hold a vested interest in the project's domain.

Moreover, LinkedIn offers various tools and functionalities for sharing project updates, research findings, relevant publications, and other informative content. These resources can be disseminated through individual profiles, project-specific pages, or dedicated groups, ensuring broad exposure, and facilitating meaningful discussions among professionals within the industry.

Engaging with LinkedIn's active community through posts, comments, and sharing valuable insights allows the ESCALATE project to establish thought leadership, showcase its expertise, and build credibility within the professional sphere. Additionally, by actively participating in relevant industry discussions and groups, the project consortium can expand its network, foster collaborations, and attract potential partners or stakeholders who align with the project's goals and vision.

In summary, LinkedIn will serve as a pivotal platform for the ESCALATE project to effectively connect with diverse stakeholders, engage the target audience, disseminate project-related information, and foster collaborations that contribute to the project's success and impact in the respective domain.

5.4.3.3 Social Media Statistics

Monitoring social media activity is crucial in order to assess the effectiveness of communication channels. To gauge the success of these efforts, the ESCALATE project has established specific Key Performance Indicators that serve as objective benchmarks. These KPIs enable the measurement and evaluation of various metrics related to social media engagement and impact. By tracking these indicators, the project can gain insights into the reach, engagement, and influence of its social media presence. Figure 7 illustrates the defined KPIs, which encompass metrics such as follower growth, post engagement rates, click-through rates, social media impressions, and sentiment analysis. These KPIs facilitate a comprehensive understanding of the project's online visibility, audience engagement, and overall social media performance, empowering the project team to make data-driven decisions and optimize their communication strategies accordingly.

5.5 Physical Tools

5.5.1 Leaflet

The ESCALATE project has outlined plans to develop a project leaflet that will serve as a promotional flyer. This material aims to provide a concise and easily accessible overview of the project's main objectives and other general aspects. The primary target audience for this project leaflet will be professionals, including individuals from universities, government administrations, manufacturers, members of the European Commission, and automobile clubs. However, on special occasions, it may also be utilized to communicate with the general public.

The distribution of this material will take place at various events, trade shows, congresses, and any gathering where project members are in attendance. Its purpose is to enhance communication and dissemination efforts related to the ESCALATE project. Additionally, an electronic version of the leaflet will be created, ensuring high-quality printing resolution and maximum flexibility for all project members to utilize as needed.

However, to maintain organization and ensure appropriate use, it is recommended that permission be sought from the designated dissemination authority before utilizing the material. This will help ensure the proper and effective utilization of the project leaflet.

The content of this material will encompass 5 key points:

- Project description: Providing an overview of the project's scope and purpose.
- Vision and objectives: Presenting the project's vision and key objectives.
- Methodology: Outlining the approach and methodology employed within the project.
- Contact information: Including relevant contact details for further inquiries or collaboration opportunities.
- Consortium members: Listing the organizations and entities that form the consortium involved in the ESCALATE project.

5.5.2 Project Brochure

The primary objective of the project brochure is to effectively disseminate key aspects of the ESCALATE project, encompassing its objectives, applications, and associated benefits, while also highlighting its progress and relevance to the sector. The brochure serves as a comprehensive tool for conveying pertinent information to a wide audience. Additionally, it is anticipated that periodic updates of this material will be produced throughout the course of the project to ensure its alignment with the evolving nature of the project itself.

5.5.3 Project Poster

The project poster is to effectively disseminate ESCALATE's key aspects, while also highlighting the main elements of the project. The poster serves as a comprehensive tool for conveying pertinent information to a wide audience. Additionally, the print-ready digital version will be provided to all the partners to ensure good visibility of the project at events, but also at the partners' workplace.

5.6 Networking and Events

5.6.1 Project Presentations at National / International Events

The ESCALATE project will be presented at pertinent external gatherings taking place in Europe and elsewhere. These include the major events of the network partners involved in the project, such as the POLIS Annual Conference, as well as other relevant events such as ITS World Congress, the International Conference on Electric Vehicle and Vehicle Engineering, 2Zero events, and others. The project's findings will be presented at forums, conferences, workshops, and other gatherings that industry stakeholders and potential users will attend. Papers from ESCALATE will be submitted to be presented at a few prestigious international conferences and workshops.

Conferences and Events		
Aachen Colloquium Sustainable Mobility	Colloquium in Information Science and Technology (CIST)	Fleet & Mobility Live
International Congress Drivetrain for Vehicles (Dritev)	European Photovoltaic Solar Energy Conference and Exhibition (EU PVSEC)	Transport Research Arena Conference

E-MOTIVE Conference	North American Int. Auto Show	World Automotive Conference
Aachen Acoustics Colloquium	Internationale Automobil-Ausstellung (IAA)	Automotive Testing Expo
International Electric Vehicle Symposium & Exhibition	Int. Conf. on Intelligent Controller and Computing for Smart Power Power2Drive	ITS European Congress & ITS World Congress
IEEE Intersociety Conference on Thermal and Thermomechanical Phenomena in Electronic Systems	The European Association for Storage of Energy (EASE) events	The Society of Automotive Engineers of Japan
IEEE PES PowerTech	Batteries Europe	2Zero events
International Conference on Efficiency , Cost, Optimization, Simulation and Environmental Impact of Energy Systems	International Conference on Electric Vehicle and Vehicle Engineering (CEVVE)	The IEEE Vehicular Power and Propulsion (IEEE VPPC)
EARPA	ERTRAC events	ECS Event
CLEPA	International Congress ELIV (Electronics in Vehicles)	Hydrogen + Fuel Cells EUROPE

Table 4 : Preliminary List of Conferences and Events ESCALATE Partners Target.

5.6.2 Synergies with other European projects

ESCALATE and several other European projects share a common theme. It is crucial that both ESCALATE, and these programs profit from the outcomes, and that the initiatives cooperate to promote their outcomes to the appropriate target audiences. ESCALATE will liaise with projects through events, synergies and collaborations, and specially through the AEVETO cluster composed of the sister projects EMPOWER, ZEFES and NextEtruck.

5.7 Publications

Title	Partner	Authors	Status	Place	Year	Open Access
Zero-Emission Truck Powertrains for Regional And Long-Haul Missions	VTT Technical Research Centre of Finland	M. Pihlatie M. Ranta P. Hajduk P. Rakhola	Submitted	EVS36 Symposium, California, USA	2023	Yes
Short Review: Optimization Formulations for Enhancing Electric and Hybrid Electric	University of Surrey	J. Bushell, M. Ghazali, A. E. Hartavi	Submitted	TRA, 2024, Dublin, Ireland	2024	Yes

Powertrain Performance						
Integrating TCO and Sustainability Requirements: ESCALATE Pro-Active Design and Manufacturing Approach for Enhanced Electric Fleets	Aristotelio Panepistimio Thessalonikis, University of Surrey	Z. Samaras, A. E. Hartavi, S. Mamarikas-Itsios, D. Kontses, U. U. Turkan	Submitted	TRA, 2024, Dublin, Ireland	2024	Yes
Towards Harmonization: Overview of the Standardization Landscape for Electric Freight Transport	Deutsches Institut fuer Normung Ev (DIN), University of Surrey	C. Goroncya, A. E. Hartavi, M. Letza	Submitted	TRA, 2024, Dublin, Ireland	2024	Yes
A Versatile Flexible Electric Truck Platform for Long Haul Range-Extending Operations	VTT Technical Research Centre of Finland, Oy Sisu Auto, Rauanheimo Oy, Kempower Oy, University of Surrey	R. Åman, A. E. Hartavi, X. Huang, M. Pihlatie, M. Paakkinen, T. Puustinen, P. Salmelac, M. Jalonend	Submitted	TRA, 2024, Dublin, Ireland	2024	Yes
Unleashing the Potential: Analyzing Modularity Aspects for a 40-Ton Fuel-cell Powered Long Haul Truck	University of Surrey, BMC Otomotiv Sanayi ve Ticaret AS, TÜBİTAK Marmara Research Center, Fuel Cell and Hydrogen Technologies Research Group, FEV Turkey	M. Ghazali, M.M. Kucumen, B.E. Türk, H. Peker, A. Kuyumcu, T. Efe, E. Aydar, B. Akar, H. Tosun, F.G. Boyacı, S. Cakir, E. Okumus, A.E. Hartavi	Submitted	TRA, 2024, Dublin, Ireland	2024	Yes
Different Facets of Artificial Intelligence-Based Predictive Maintenance for Electric Powertrains	Ergtech Sp.z.o.o., AI4SEC OÜ, University of Surrey	A.S. Atalay, A.E. Hartavi, S.Ergün, A.Kanak	Submitted	TRA, 2024, Dublin, Ireland	2024	Yes

<p>Integrated Design Flow Methodology for Open-Source Innovations in Smart Transportation: Empowering Accountable AI and Cybersecurity</p>	<p>Ergtech Sp.z.o.o., AI4SEC OÜ, University of Surrey, (Malardalen University, Ergünler R&D Co. Ltd)</p>	<p>A.Kanak, S.Ergün, A.S. Atalay, A.E. Hartavi, B.Curuklu</p>	<p>Submitted</p>	<p>TRA, 2024, Dublin, Ireland</p>	<p>2024</p>	<p>Yes</p>
---	--	---	------------------	-----------------------------------	-------------	------------

Table 5 : Completed and Planned Publications until January 2024

5.8 Communication and Dissemination KPIs

The ESCALATE project activities will be directed by the key performance indicators (KPIs) below. They will assist the consortium in monitoring and evaluating the project’s exposure on social media, in the press, in publications, and at events. A tracker was created and made available to all parties to register and keep track of these actions.

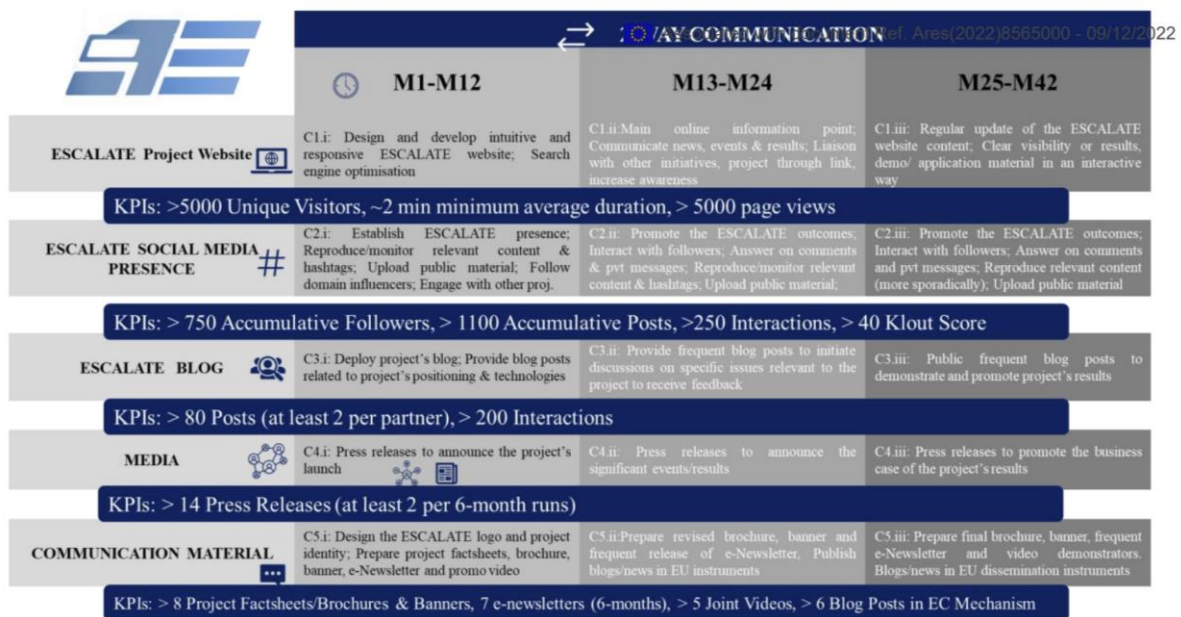


Figure 3 : Communication KPIs

	M1-M12	M13-M24	M25-M42
ORGANISATION OF PROJECT EVENTS	D1.i: Organisation of workshops in scientific conferences	D1.ii: Organisation of workshops in scientific conferences, industry events & fairs	D1.iii: Organisation of workshops in industry events & hackathons & demo events
KPIs: 3 Workshops, 5 Demo Events (per pilot) organised by ESCALATE			
PARTICIPATION TO CONFERENCES & WORKSHOPS	D2.i: Participation to events; Presentation of project scope; Interaction with Participation	D2.ii: Presentation of project's results to events; Representation in booths	D2.iii: Presentation of project's results and business case to events; Representation in demo sessions
KPIs: Participation to > 20 events, Presentation of results in > 20 events, Demonstration of results in booths in > 4 events			
SCIENTIFIC PUBLICATIONS	D3.i: Publication of positions papers/review papers in conferences	D3.ii: Publication of methodology papers in conferences	D3.iii: Publication of overall project's result in journals & including magazines
KPIs: > 30 Conference publications, > 5 Journal publications, > 8 articles in industry magazines			
COMMUNITY BUILDING/ENGAGEMENT WITH STAKEHOLDERS	D4.i: Establishment of contact points; Liaison with Industry communities and networks; Promotions of projects, comm. material	D4.ii: Result validation with key stakeholders in events/online; Interaction with industry communities & networks; Invitation to events	D4.iii: Creation of network of potential users; promotion of potential ESCALATE application stories; Initiation for demos; training webinars
KPIs: > 500 industry contact points & > 50 active industry stakeholder, > 10 industry committees informed about project, > 5 webinars			
COLLABORATIONS & SYNERGIES WITH PROJECTS	D5.i: Synergies identifications; establishment of contact points; exchange of ideas & intentions	D5.ii: Periodic bilateral exchange of news & results, joint presence in events	D5.iii: Joint engagement in events/demo days
KPIs: > 5 Project with synergies, >2 Projects funded in the same call with synergies (if funded) > 5 Joint activities			
INTERNAL DISSEMINATION (PARTNER'S NETWORKS)	D6.i: Project's link & news in partner's website, social media accounts, newsletter	D6.ii: Inclusion of project's results in partner's events	D6.iii: Demonstration of results in partner's premises; training; reuse of results
KPIs: > 8 Internal partner's events, > 10 links to the project's website, > 4 pilot training sessions			
STANDARDISATION CONTRIBUTIONS	D7.i: Registration/Participation to relevant working groups; alignment with existing standards	D7.ii: Participation to working groups telcos and events; presentation of project's outcomes	D7.iii: Participation to working groups telcos and events; presentation of project's demos
KPIs: Liaison with > 2 working groups, Presentation in 2 standardisation meetings, >3 technical reports			

Figure 4 : Dissemination KPIs

6 Management and Coordination of D&C&E activities

6.1 Responsibilities

The coordination of dissemination activities falls under the responsibility of POLIS as the lead for WP 8. Effective communication with external stakeholders is a collaborative effort between the WP8 lead, FEV and the other WP leaders. This entails handling external inquiries related to the project, maintaining contact with relevant projects, and actively engaging in communication about the project with the external world. Various means such as press releases, presentations, and articles are employed to facilitate this communication.

Dissemination is a matter of collective importance for all partners involved in the ESCALATE project, and every partner is encouraged to contribute to these efforts. The Steering Board (SB) Meetings serve as a platform for discussing issues related to dissemination, communication, and exploitation during each meeting. The identification of dissemination opportunities primarily lies with individual partners or at the WP level, as these opportunities are often specific to particular domains and markets. WP8 will provide support by facilitating the distribution of such information within the consortium through platforms like SharePoint, reporting in SB meetings, and reports presented during face-to-face meetings. This collaborative approach ensures that relevant dissemination opportunities are shared and effectively utilized to promote the project's objectives and outcomes.

6.2 Approval Process for Dissemination

The ESCALATE consortium has established an approval process for dissemination activities in. All project partners are encouraged to engage in dissemination activities, and to aid in this endeavor, WP8 provides general presentations and posters that can be utilized for ad-hoc project dissemination activities. When undertaking dissemination efforts, three crucial elements should be considered:

- **Inclusion of Acknowledgement:** All dissemination materials must prominently feature the following acknowledgment: "ESCALATE has received funding from the European Union's Horizon Europe research and innovation program under grant agreement No 101096598."
- **Display of the EU Emblem:** Any dissemination of project results, regardless of the format (including electronic dissemination), must display the EU emblem. In situations where the EU emblem is displayed alongside another logo, it should hold appropriate prominence.
- **Reporting on SharePoint:** It is essential to continually report dissemination activities on the designated SharePoint platform. This will greatly facilitate the generation of reports pertaining to dissemination activities. A dissemination and communication tracker has been created to that effect. All dissemination activities, including publications, must be thoroughly documented on this tool.

In compliance with Horizon Europe requirements, all ESCALATE partners are obligated to ensure open access to their scientific publications throughout the project. These publications will be made available as PDF files on the ESCALATE website, following self-archiving principles known as 'green' open access. If required, ESCALATE partners will receive support in selecting suitable publishers and ensuring compliance with open access guidelines. Access to research data will be determined on a case-by-case basis by partners. While ESCALATE actively promotes the open access model for data, it is crucial to acknowledge that full and unrestricted publication of all available data may not be feasible throughout the entire project and for all partners. This limitation arises from specific obligations, such as licensing agreements, trade secrets, and the need to consider external stakeholders.

ESCALATE recognizes the importance of upholding these obligations to protect the integrity and confidentiality of sensitive information. However, the project remains committed to transparency and the dissemination of research findings whenever possible. In cases where the aforementioned obligations do not hinder public access to the data, ESCALATE will ensure its availability through the official project website.

Although the project encourages open access principles, it is vital to strike a balance between the objectives of knowledge dissemination and the necessity to adhere to legal and contractual requirements. By navigating these complexities with care and consideration, ESCALATE endeavors to maximize the sharing of information while respecting the constraints imposed by licensing, trade secrets, and the involvement of external stakeholders. Through its conscientious approach to data management and intellectual property, ESCALATE remains committed to contributing to the collective body of knowledge while upholding its responsibilities to stakeholders and partners alike.

6.3 Activity Coordination

The WP8 leader assumes the primary responsibility for overseeing the communication and dissemination efforts of the ESCALATE project. However, the collaborative engagement of all consortium members is of paramount importance to ensure the effectiveness and success of these endeavours.

While the WP8 leader takes the lead in coordinating the communication and dissemination activities, the active participation and contribution of all consortium members are strongly encouraged. By collectively

engaging in this vital work, the consortium members can leverage their unique expertise and perspectives to enhance the reach and impact of the project's outcomes.

Recognizing the diverse knowledge and skills present within the consortium, collaborative efforts enable a more comprehensive and holistic approach to communication and dissemination. Each consortium member possesses valuable insights and connections that, when combined, contribute to a more robust and impactful dissemination strategy.

By fostering a culture of collaboration and shared responsibility, the ESCALATE consortium will effectively communicate the project's objectives, activities, and achievements to relevant stakeholders. Through collective efforts, the consortium members can amplify the project's visibility, maximize its impact, and foster the widespread adoption of ESCALATE's outcomes.

Therefore, while the WP8 leader holds the primary responsibility for communication and dissemination, the collaboration and engagement of all consortium members are essential to ensure the success and effectiveness of these vital activities.

6.4 Dissemination and Communication Monitoring and Reporting

The ESCALATE consortium recognizes the utmost importance of both dissemination and communication in achieving project objectives. To ensure effective oversight and evaluation of these activities, regular prioritization, review, and assessment will take place at the Steering Board meetings.

Given the inherent synergies between dissemination and external communication, a consolidated reporting approach will be adopted. A dissemination and communication tracker has been created and will be utilized to capture pertinent information, including:

- **Target groups and size of audience:** A clear delineation of the specific audiences or stakeholders that each dissemination or communication activity aims to reach. This facilitates targeted engagement and maximizes the impact of the project's messaging.
- **Detailed measure:** An elaboration of the specific measures employed within each activity to effectively disseminate or communicate project-related information. This includes the specific methods, tools, or channels utilized to engage with the identified target groups.
- **Description of event:** A detailed account of the event or publication, providing relevant information such as its name, location, date, or, in the case of publications, the title and volume. This description allows for traceability and contextual understanding of the dissemination or communication effort.
- **Partner level:** An indication of the level of involvement and contribution from each consortium partner in the respective dissemination or communication activity. This highlights the collaborative nature of the project and acknowledges the diverse contributions made by individual partners.

By employing this comprehensive reporting framework, ESCALATE ensures that both dissemination and communication efforts are systematically tracked, evaluated, and aligned with project objectives. This enables the consortium to make informed decisions, identify successful strategies, and continuously enhance the effectiveness of its engagement with target groups. Ultimately, this approach promotes transparency, accountability, and the optimization of project outcomes through efficient dissemination and impactful communication.

6.5 A Review of Planned and Completed Activities

ESCALATE has devised a comprehensive plan for the initial year of the project, building upon the aforementioned activities. This detailed plan encompasses various strategic elements aimed at ensuring a focused and productive start to the project's implementation: The below table are the list of the completed activities.

Table 6 : Planned and Completed Dissemination and Communication Activities until January 2024

Specific Measure	Description	Status
Project Website	Launch of Project Website	Done
Basic dissemination and communication material	Logo, QR Code, presentation templates, graphic charter	Done
Other dissemination and communication material	Poster, brochure, leaflet, video	In progress
E-newsletter	1st ESCALATE newsletter	In progress
Social media	Creation of LinkedIn and Twitter accounts	Done
Project presentation	General public presentation introducing ESCALATE	Done
Event	EVS36, USA	Done
Event	Munich Transport & Logistics Fair, Germany	Done
Workshop/Webinar	The E-Volution: Urban space solutions for passengers and freight	Done
Event	Hydrogen Ecosystem Collaboration Meeting, Turkey	Done
Event	Horizon Europe Cluster 5: National Information Day on Climate, Energy, and Mobility ESCALATE Success Story, Online	Done

7 Exploitation

One of the primary activities undertaken within the ESCALATE project involves the exploitation of anticipated outcomes. In close alignment with the project's dissemination strategy and activities, ESCALATE will adopt an effective, concrete, and dynamic exploitation strategy, subject to regular review and expansion as the project progresses and encounters new opportunities or obstacles. In order to ensure the long-term sustainability of project services and the dissemination scheme, an ESCALATE exploitation group will be established, comprising an Exploitation Manager responsible for addressing issues related to succession, long-term exploitation, and continuity.

The Exploitation Manager will assume responsibility for devising the exploitation strategy and preparing the necessary plans for IPR management, sustainability, and exploitation, ensuring coherence with the dissemination plan at milestone M06, with subsequent updates at M21 and M42.

1. These plans will outline the following key aspects:
2. the overarching exploitation strategy
3. the project's assets and primary avenues for potential exploitation
4. the target groups associated with each project asset.
5. exploitation plans for the consortium as a whole, groups of partners (if required), and individual partners.
6. a roadmap outlining the exploitation of the assets.

Each partner within the project will appoint qualified individuals to serve as exploitation managers, responsible for coordinating relevant activities and the overall scheme. The exploitation group will actively leverage the stakeholders' community both within and outside the consortium, as well as planned events and engagement activities, to promote the project within an active network. The aim is to establish robust working relationships with key individuals and organizations involved in or with an interest in the ESCALATE domain of relevance.

7.1 Strategy

The industrial partners involved in this project possess extensive expertise in the field of commercialization and exploitation. Leveraging this experience, the exploitation plan will focus on three key aspects:

1. Exploiting the outcomes generated by the project.
2. Advancing the Technology Readiness Levels (TRL) of the technologies involved to TRL9.
3. Securing funding for future development endeavors.

Aligned with the aforementioned exploitation strategy, ESCALATE will embark on three distinct stages of expansion, each with its own set of short-term, medium-term, and long-term objectives. The short-term objectives encompass the initial phase, commencing with the inception of ESCALATE activities and concluding parallel to the project. During this period, the primary aim is to validate and verify the quality and effectiveness of ESCALATE's outcomes, including hardware, software, data-driven models, fleet management, and predictive maintenance tools and services, through laboratory-scale and pilot validations.

Moving on to the medium-term objectives, the second stage unfolds after the conclusion of ESCALATE and lasts for approximately two to three years, depending on the maturity and completion of project results. The main objective of this stage involves the comprehensive deployment of the "to-date" outcomes and advancements, thereby enabling semi-commercial innovations and services. Additionally, this stage encompasses potential fine-tuning and expansion of the ESCALATE framework.

Lastly, the long-term objectives encompass the scaling up of the ESCALATE framework and services derived from the accomplishments of the first and second stages. Throughout the project duration, a list of exploitable assets was refined, while specific exploitable assets are already anticipated at the time of ESCALATE's preparation.

The results groups within the project have been assigned concise and easily reference able short names denoted as EoI_xx (Escalate Innovation). These short names are as follows:

1. zHDV prototypes (EoI_TP)
2. Digital Twin models (EoI_DT)
3. Open Specifications of interfaces and protocols (EoI_OS)
4. Evaluations and Lessons Learned (EoI_ELL)
5. Open research data (EoI_ORD)
6. Deployment Guidelines and Road Map(EoI_DR)
7. Business Models (EoI_BM)

These assets are in accordance with the ESCALATE objectives. All Key Exploitable Results (KERs) of the project will be categorized and officially recorded in table 7.

Exploitation Schedule / Target TRL				
KER	Description	End of Project	2 years after	5 years after

Table 7 : Key Exploitable Results

7.2 Exploitation Mechanism

Each work package includes a built-in mechanism for project exploitation to guarantee that the particular results are created with the needs of the intended audience in mind. The type of project partner will determine the strategy for pursuing exploitation potentials.

In addition, part of the activities of WP8 include a market watch update for the existing systems and a market potential analysis of ESCALATE innovations which will take place as a continuation to the early market study. Through applied methodologies like Boston Consultancy Group Matrix or Porter's the partners will identify access routes to the market, the intensity of the competitive landscape, threats of substitute products, the level of suppliers' power, and buyers' entry/exit costs. The aim is to set up a solid ground to produce tangible, beneficial and effective solutions which will be assessed against the targeted market potential (e.g., return on investment, TOC, etc.). This task in correlation with WP7, will provide a better understanding of the impact of the demonstrations and opportunities and competitiveness for the relevant market potentials addressed, but also on how the project can contribute to a more sustainable future, with its potential market players inside and outside the consortium.

Standardization is a key tool to deliver Horizon Europe objectives, ensuring the deployment and uptake of innovation by European and global markets. The ESCALATE project aims at standardization at European (CEN) and international (ISO) level. Currently, the identified relevant standardization committees are ISO/TC 22/SC 31 on Data communication and IEC/TC 69 Electric Road vehicles and electric industrial trucks.

7.3 Reporting of Exploitation Activities

Exploitation activities within the ESCALATE project necessitate the diligent reporting of crucial information through the dedicated D&C&E tracker in ESCALATE's SharePoint. It is imperative for each project partner

to regularly update the database by providing comprehensive details about exploitable foreground knowledge and any intellectual property protection measures undertaken, such as patents. This ongoing maintenance of the database serves two essential purposes: showcasing the impact of ESCALATE and ensuring compliance with the regulations outlined in the Consortium Agreement, while also generating the requisite lists for project reporting.

Recognizing the significance of publications as a vital component of exploitation endeavours, it is essential for all partners to report their publications on the D&C&E tracker. This centralized reporting mechanism ensures that the project accurately captures and documents the dissemination of research findings and outcomes through academic publications, thereby contributing to the overall exploitation efforts of the ESCALATE project.

By adhering to these reporting guidelines, the project partners actively contribute to a comprehensive and up-to-date record of exploitable foreground knowledge, intellectual property protection measures, and publications. This systematic approach ensures the proper management of project-related information, enhances transparency, and facilitates the efficient monitoring and assessment of the project's progress and impact.

7.4 Steering Responsibilities for Exploitation Activities

First and foremost, it has been unequivocally agreed among all ESCALATE project partners that the responsible handling of exploitation activities is paramount. To ensure effective communication and dissemination of the ESCALATE project, each partner is expected to utilize existing communication channels and platforms pertinent to their respective domains, such as conferences, publications, events, and more. Furthermore, focused efforts are directed towards exploitation at various levels, including OEMs, Tier suppliers, scientific institutions, and infrastructure providers.

The task of overseeing the preparatory stages of exploitation activities falls under the responsibility of the project coordinator, FEV. FEV will provide support to all consortium partners in their respective exploitation endeavours. In cases where significant changes to the exploitation strategy are proposed, approval from the General Assembly is required, ensuring a collective decision-making process.

To ensure the effective monitoring and coordination of exploitation activities, the ESCALATE Steering Board, comprising the leaders of individual work packages and the project coordinator, scientific and technical coordinator plays a pivotal role. Maintaining up-to-date information on exploitation efforts is a central focus during the monthly web meetings, enabling regular reporting and oversight by the Steering Board.

By adhering to these guidelines and fostering a collaborative approach, the ESCALATE project strives to optimize the exploitation of project outcomes and facilitate effective knowledge transfer within the consortium. This systematic approach ensures that exploitation activities are consistently monitored, supported, and aligned with the ESCALATE's overall objectives and milestones.

7.5 Intellectual Property Rights Management

All D&C&E activities within the ESCALATE project are conducted in strict adherence to applicable IPR restrictions, as stipulated in the Horizon Europe Grant Agreement and outlined in the project's Consortium Agreement.

A cornerstone of ESCALATE approach is the establishment and maintenance of an IPR Directory, which provides comprehensive information for each item of intellectual property. This directory explicitly specifies the nature of the knowledge and its perceived potential for exploitation, along with the identification of the owner(s) of the intellectual property. In cases where multiple owners are involved, the percentage ownership

share of each party is clearly delineated. Moreover, the IPR Directory outlines the access rights, indicating who is entitled to use the intellectual property during and after the project and under what terms. Furthermore, measures required or already in place to safeguard the protection of intellectual property rights for each item will be documented.

The IPR Directory is strictly confidential and accessible solely to the members of the consortium. This ensures the secure management and controlled access to intellectual property within the project.

The project is underpinned by a set of knowledge management principles that encompass Background Knowledge, which refers to pre-existing knowledge and know-how agreed upon at the project's inception and registered in the IPR Directory. Additionally, Foreground Knowledge encompasses the new knowledge generated during the project, accompanied by details regarding ownership and any relevant IPR restrictions registered in the IPR Directory.

To maintain the accuracy and currency of the IPR Directory, regular updates and accuracy checks are conducted through workshops and other collaborative means, ensuring the full involvement of all project partners.

In line with our commitment to protecting intellectual property, ESCALATE will employ lightweight and effective processes to facilitate the dissemination of project results while upholding the necessary safeguards and protection mechanisms.

All project partners have reached a consensus on the main guidelines pertaining to IPR management and responsible bodies. These guidelines have been extensively outlined in the ESCALATE Consortium Agreement. They encompass access rights to background knowledge and results for implementation, exploitation purposes, and for affiliates. Moreover, specific limitations and/or conditions for implementation and exploitation are defined. The guidelines also address the joint ownership and transfer of results, as well as the procedures for the dissemination of results, research data, and open access publications.

By adhering to these established guidelines and implementing robust knowledge management practices, the ESCALATE project ensures the diligent management, protection, and responsible dissemination of intellectual property. This fosters collaboration, maximizes the impact of project outcomes, and upholds the highest standards of IPR governance.

7.6 Exploitation at Partner Level

The proposed unique value proposition of the ESCALATE project is closely aligned with the strategies of well-established industry partners. The project ensures a clear mapping between the value proposition and the capabilities and objectives of these partners. By leveraging their expertise, resources, and market presence, the ESCALATE project aims to deliver significant value and impact within the industry.

The industry partners participating in the project have a track record of successful implementation and execution, which further strengthens the alignment between the value proposition and their respective company strategies. Their extensive experience and knowledge in the field make them well-positioned to contribute to the project's goals and objectives.

FEV: As leading technology and service provider will exploit in the field of development, simulation and testing technology of e-powertrains. FEV Group GmbH currently has 6,476 total employees across all of its locations, and this is expected to grow (200 new jobs) due to the business opportunities related to ESCALATE in the short term.

MBT: Will use the innovations developed in ESCALATE to further develop the company's electrification strategy. In line with that, efficient technologies and modular components developed in ESCALATE will enable MBT to meet these targets and the requirements of its customers (DHL) asking for battery trucks fully capable of long-haul operation in real-world conditions without compromising range or payload before 2027.

SISU: Sees electric drive train technology as a major unique selling point to stay competitive in its core market regions in Northern Europe, where legislative measures towards lower CO2 emissions are even more ambitious than is demanded by joint European initiatives. This is especially true for deliveries in urban areas.

ELCT: In the UK in 2020 there were circa 117,000 HDVs, which fall into the category of vehicles suitable to benefit from extended range BEV technology. In the EU market, approx. 6.23m trucks, 24% fall into the heavy-duty category (1.49m). If there is a 5% take up, there could be 74,750 vehicles (circa 15,000 per year) able to benefit from ESCALATE project directly or indirectly. In conformity with this, ELCT will enlarge its 10% portfolio and market size (1-3 years) through the early adoption of ESCALATE innovations.

BMC: Is already manufacturing road and long-haul trucks for the EU market and aims to improve its competitiveness in this market by developing fuel cell-powered heavy-duty trucks. In addition, BMC has a strong ambition to transfer the technology developed under this project to other vehicle types and classes such as the Vecto group5. This project will accelerate the development of this new technology and improve BMC's knowledge of the zero-emission commercial vehicle market and its needs. BMC has also intended to mass-produce fuel cell trucks until the year 2030. In parallel with this, BMC will enlarge its portfolio to offer different power, fuel cells and battery capacity applications and this will generate new revenue and hundreds of jobs.

FORD: As a truck manufacturer, FORD will target industry suppliers and other market actors to exploit the results of the ESCALATE innovations. Extending the developments and know-how in zHDV FORD will be able to offer its customers solutions meeting their needs and requirements. By doing so, FORD will stay competitive with modular solutions in a constantly changing market and extend the product portfolio and will start series production in the short term.

BLRD: There is a relatively small number of existing PEM fuel cell system solutions for heavy vehicles, and Ballard fuel cell modules (FCVelocity85 and FCMove70) are the most widely deployed in Europe at present. In this context, to keep its competitiveness BLRD will enhance its portfolio to offer a new fuel cell product next-generation FCmove HD+ module for the heavy-duty truck market to support the expected 10% growth in truck market applications.

KEM: KEM is the fastest-growing company in the charging business. KEM chargers are already at the top of the industry. To ensure its chargers are the most intelligent and provide real business values to operators, KEM will benefit from the ESCALATE innovations.

PBX: Is willing to add R290 products (natural refrigerants) for real zero emissions transport both for battery-driven and FC-trucks in ESCALATE. Based on the ROI PBX is expecting to come out 15% increase due to the new business opportunities provided in ESCALATE by 2025 – 2030.

DHL: As a logistic company will deploy 80.000 electric vehicles for its logistics by 2030. DHL is on the way toward the zero emissions target by 2050. The results of ESCALATE will allow DHL to drive forward the electrification of its vehicle fleet, achieving a 60 share of the company's global delivery fleet for logistics.

VIV: VIV has comprehensive experience in developing and modelling new powertrain concepts and thermal systems. Their knowledge will be used and extended in the fields of digital twins, FC-modelling, electric powertrain, and novel and advanced thermal management solutions.

INEGI: INEGI plans to exploit the outcome of ESCALATE digital twins models, tools and large life cycle dataset to at least two new battery manufacturers.

AEM: According to market research the current Magnet Free Motor market for HDVs is forecast to be less than 10,000 pa. However, the market is set to grow rapidly, doubling in 2023 and reaching 110,000 in 2027, reaching 400,000pa by 2032. The motor developments will also be suitable for medium and light-duty commercial vehicle applications and buses offering a total market opportunity of 3.71m systems pa. In line with this, AEM will enlarge its portfolio to introduce up to 4 new configurations based on 2 new designs of ESCALATE.

AI4: Has built its exploitation strategy based on the recommendations presented by the High-Level Expert Group on AI in the assessment list for trustworthy AI systems as a means to maximize its profits. Thus, AI4's investments and promotion strategy are to utilize its high performance computer and cloud service capabilities to entail ESCALATE digital twins in AI-powered tools for efficient zHDVs and intelligent fleet operations in the form of service-based promotion of AI services for OEMs, tiers, and fleet operators.

PRMF: has a fleet of 2,000 trucks equipped with the latest technology and with trailers that incorporate the most advanced refrigeration equipment that ensures the cold chain and the traceability of each transported product. For the care of the environment, PRMF aims to integrate new electric and propulsion units and refrigeration systems into its fleets as a result of ESCALATE project aligned with their CSR policy.

BSA: In ESCALATE, BSA aims to solidify its business and exploitation plan to improve the guidance, consultancy, data collection, TCO and feasibility services for OEMs, and investors of charging stations. BSA expects to engage in up to 10 new projects, 5 long-term consultancy and feasibility contracts (of size up to 40 M€) with OEMs and fleet managers.

ERG: ERG exploitation plan is based on making HDVs more trustworthy against cyber-physical attacks and improving their resilience by ESCALATE's innovative digital twin-enabled prognostic approach that can be promoted as service hiring, x-as-a-service or stand-alone sales to fleet operators, transportation authorities and OEMs starting from the Northern Europe, Balkan countries, Middle East and Caucasian countries.

ORT: ORT has determined its exploitation strategy to develop embedded solutions to improve the connectivity of HDVs by unleashing the company's network. ORT will use ESCALATE contacts to broaden its business portfolio and will benefit from a fast-growing field in intelligent logistics applications.

RSTER: will analyze the maintenance and probable failure rates based on the multi-domain models within the framework of the digital twin. Upon completion of the ESCALATE project, RSTER will provide engineering services to improve the performance, reliability, and safety of the key parts of the system over its life. Moreover, RSTER will design a standardized I/O signal architecture between the key components of the b-HDV and f-HDV systems. Afterwards, offer compatible internal and external interface specifications for the green HDV control system to the OEMs and suppliers in the market.

TEK: A total of 685 hydrogen refuelling stations are currently operating all over the world. All over the world, 33 countries now have hydrogen stations. TEK will benefit from this market through ESCALATE refuelling solutions for f-HDVs to increase its current revenue of 38,89 Million €.

RHM: As a port operator, which has wide geographical coverage throughout Finland and operations in 17 major ports and 12 industrial locations inland, they are planning to use ESCALATE modular and cost-effective r-HDVs and b-HDVs in their operations. The plan is to convert half of the fleet into electric and after 2 years of the expected time to market, with 7 years of RoI.

TRJ: will plan to convert its fleets into ESCALATE zHDV solutions and plan to implement some of the innovations (efficient cooling system) to reduce the total cost of operation as well as easily integration of zHDVs into its fleets for long hauls.

BRING: BRING will enlarge its portfolio to offer thermal management solutions and develop and demonstrate a modular battery system which has fast charging capability fitting in a sustainable and circular economy. The next step after ESCALATE product's market introduction, in close collaboration with ELCTR, BMC and Tier 1 and 2 suppliers a return-of-investment of 5 -7 M € is expected by 2025 – 2030.

DLR: DLR will offer the development and validation of a hydride refrigeration system as an output of ESCALATE project. Energy consumption for cooling refrigeration loads will be drastically reduced due to the usage of hydrogen pressure energy. With that TCO of use cases with refrigeration, loads can be reduced.

ENGIE: ENGIE's exploitation strategy is to focus on promoting fast refuelling and charging solutions and protocols demonstrated in ESCALATE through its contractors across the globe.

FEV TR: will enlarge its business portfolio to offer energy management solutions for f-HDVs and modular system solutions based on ESCALATE technologies.

POLIS: will offer capacity building programmes for zHDV value chain stakeholders in ESCALATE. POLIS will work with the stakeholders that are decisive in the uptake of ESCALATE results to embed ESCALATE findings in current approaches, making the transition to clean truck usage easy and seamless.

HEU: wishes to support the ambitious goals to decarbonise the transport sector. More specifically, they see ESCALATE, and in particular the development of the TCO model, as an opportunity for i) fostering a fact-based discussion about the potential of wide-scale deployment of hydrogen as a fuel in the heavy goods vehicle sector and possible policies and funding schemes aimed at facilitating that deployment; ii) using feedback received from other consortium partners and experts to continuously revise the mobility research and innovation agenda of the Fuel Cell and Hydrogen JU (and its successor – the Clean Hydrogen for Europe IPPP54) - to make sure the research topics are relevant to the actual needs of the sector; iii) communicating the results and conclusions to the HD Trucks Working Group at Hydrogen Europe. Based on the identified needs in the project

DIN: will publish standards that provide the opportunity that the ESCALATE results laid down in a standard that can be used by other stakeholders outside the project.

VTT: The introduction of the ESCALATE r-HDV powertrain and vehicular concept offers a new type of flexible vehicular solution to the market. Academic partners will acquire evidence-based knowledge and data from real pilots which will lead to scientific publications and, most importantly, to further exploitation of the project's assets via applied research.

Through collaboration among its partners, the ESCALATE project can benefit from their existing networks, end-user needs, and market insights. This strategic alignment enhances the project's potential to address industry needs and challenges effectively, ensuring that the proposed value proposition is relevant, practical, and aligned with market demands.

Overall, the close alignment between the unique value proposition of the ESCALATE project and the strategies of industry partners ensures a strong foundation for successful implementation and widespread adoption of the project's outcomes within the targeted industry sector.

8 Results and Discussion

With this deliverable a solid basis for D&C&E activities has been set up at the beginning of the ESCALATE project. This deliverable gives an overview of activities dedicated to information, engagement, awareness, and promotion of the project. With the existing set up of a database and the definition of all the relevant processes for management of the dissemination and exploitation activities, a sound basis for the implementation and further measures has been set already in the beginning of the project. The lists and databases used guarantee an optimal transfer of knowledge and information between all the project partners. All the processes also consider the requirements for documentation already in the beginning of the project – a fact that will save time and energy in later phases of the project. The described strategy as well as the implementation of dissemination and exploitation activities and their exact timing is in its beginning and will be reviewed and updated.

Deliverable Number	Deliverable Title	Lead Beneficiary	Dissemination Level	Due date (M)
D8.1	D&C&E Plan	BSA	Public	M6 – updated M21
D8.2	Market and Competitiveness Watch & Business Opportunities	BRING	Public	40
D8.3	D&C&E, Branding and IPR management	FEV	Public	42

Table 8 : Continuous Updates on D&C&E Reports

The described activities focusing on ESCALATE results clearly will support both overall EC goals, as well as delivering ESCALATE partners' results to the market. The next steps will start with actively involving all partners in developing the subsequent activities for the D&C&E strategy to ensure successful dissemination and exploitation of the project results. Due to the early stage of the project the current version of the D&C&E plan might be modified and will formally be update half-way through the project (M21). It can be expected that most partners will be more prepared to contribute to developing the dissemination, communication and exploitation strategy and plan towards the end of the project.

To encourage all partners to think in more detail and strategically about these topics, workshops where partners can reflect on their own input will take place. Questions to be discussed within the consortium will be: What are appropriate dissemination and exploitation activities and how can we scale them up? Who should be the principal target groups? What type of events and conferences should we participate in?

Results from these workshops will be validated and discussed in the monthly virtual meetings and written down in the D&C&E tracker. This will then be used as a checkpoint to see if the objectives were met. If required, corrective actions will be suggested and discussed in the Steering Board.

9 Conclusions

Deliverable 8.1 outlines a preliminary roadmap for the planned activities pertaining to Dissemination, Communication, and Exploitation. As of the current stage (Month 6), several initial steps have been successfully accomplished, including the establishment of a project internal SharePoint, development of a project website, creation of a LinkedIn profile, implementation of a corporate identity, preparation of dissemination and communication materials, and integration of regular meetings and reports of WP8 into Steering Board Meetings.

The planned activities are underway and will continue throughout the project's duration. A comprehensive evaluation of progress will be provided in an updated version of D8.1 in month 21 and in D8.3 D&C&E, Branding and IPR management, scheduled for month 42 of the project's execution. These deliverables will serve as significant milestones to assess the extent of goal attainment. If adjustments or improvements are required, the WP8 lead, and task leaders will propose and discuss appropriate corrective actions.

The upcoming reports will furnish a comprehensive analysis of the project's advancements thus far, acting as valuable reference points to guide future activities. By utilizing these evaluation checkpoints, the project aims to maintain a consistent focus on effective dissemination, communication, and exploitation practices, ensuring alignment with ESCALATE objectives.

The first D&C&E plan (after 6 months of the project) will evolve and become more precise and substantial during the lifespan of the project and will then reflect the exploitation of the generated results. The initial plans delivered in this document will be updated based on technical project progress and resulting new exploitable foreground.

Each partner of ESCALATE project has vital interest in exploiting ESCALATE results and achievements on individual level. Therefore, besides partners' plans and measures for exploitation, a) industrial research partners describe their relevant markets, market opportunities and competitors, and b) academic / research partners describe their relevant position in the academic environment, research, and educational opportunities. All partners clarify the target audience (potential users and stakeholder) of their exploitation activities on partner level.

In summary, the preliminary roadmap presented in Deliverable 8.1 lays a solid foundation for the planned D&C&E activities of the ESCALATE project. The achievements thus far, including the establishment of communication channels and the development of dissemination materials, demonstrate the project's commitment to effective knowledge transfer and engagement with stakeholders. With comprehensive evaluations scheduled for specific milestones and the ongoing refinement of the exploitation plan, ESCALATE is poised to maximize the impact of its results and achievements. Through collaborative efforts and a focus on aligning activities with project objectives, ESCALATE partners are well-positioned to leverage their collective expertise and drive the successful dissemination and exploitation of project outcomes.

