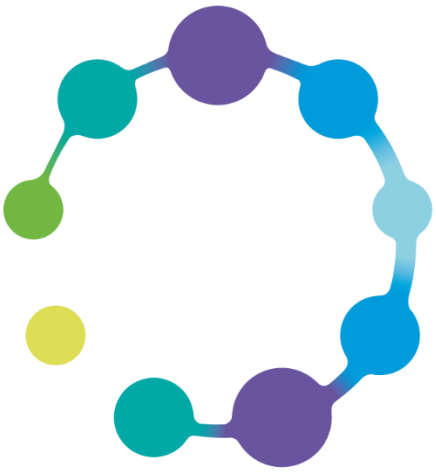

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D2.3 REPORT ON THE CONSOLIDATED STAKEHOLDER FORUM

12/04/2024

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Organisation	Country	Abbreviation
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MERCEDES-BENZ AG	DE	MB-AG
HITACHI RAIL STS SPA	IT	HIR
POLIS Network	BE	POLIS
ERTICO – ITS Europe	BE	ERTICO
Fundación Valencia Port	ES	VPF
AKCIJU SABIEDRIBA TRANSPORTA UN SAKARU INSTITUTS	LV	TTI
TRAINOSE	GR	TOSE
Six Seconds	US	6S
BOARD OF REGENTS OF NEVADA SYSTEM OF HIGHER EDUCATION	US	UNLV
FERROVIE DELLO STATO ITALIANE SPA	IT	FS
AUSTRIATECH	AT	ATECH
FUNDACJA ROZWOJU LOGISTYKI I ZARZADZANIA	PL	CILT
TAMPEREEN KAUPUNKISEUDUN ELINKEINOJA KEHITYSYHTIO BUSINESS TAMPERE OY	FI	BT
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v0.5	11/04/2024	ERTICO	Final version ready for submission	Finalisation according to the peer review
v0.6	12/04/2024	POLITO	Final quality check	Final version

ABBREVIATIONS:

Abbreviation	Definition
AB	Advisory Board
AD	Automated Driving
CAD	Connected Automated Driving
CCAM	Connected, Cooperative and Automated Mobility
CI	Collective Intelligence
D	Deliverable
EC	European Commission
PPs	Project Partners
R&D	Research and development
SC	WE-TRANSFORM Steering Committee
SF	WE-TRANSFORM Stakeholder Forum
TA	Thematic Area
WP	Work package

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EXECUTIVE SUMMARY

The EC-funded WE-TRANSFORM project aims to generate an action-oriented agenda, co-created with relevant stakeholders, leveraging their expertise and experiences, to tackle the challenges that the increasing automation in the transport sector places on labour force.

The report provides a summary of the activities and outcomes of the project Stakeholder Forum and Living Hub. It describes the activities, including workshops, focus groups, survey, and interviews, organised to engage stakeholders, and gather their contributions. The report also highlights the thematic areas that have been used as a red thread across stakeholder engagement activities and provided structure for the discussions and knowledge co-creation.

The Stakeholder Forum is a key element of the project Living Hub, bringing together stakeholders from various sectors and modes of transport to exchange knowledge, validate findings, and co-create the policy agenda. The Stakeholder Forum has expanded over time, namely through the networks of its constitutive members, i.e. Consortium partners and Advisory Board members, and through the various engagement activities.

Six workshops have been held in different locations across Europe to engage local stakeholders and have focused on specific topics related to the project's objectives. The survey and interviews carried out with around 100 participants have provided valuable insights from stakeholders on the impacts of automation on the transport workforce and have contributed to the development of scenarios and the policy agenda. 24 focus group events (including 5 dedicated ones with workers) have allowed for in-depth discussions, co-creation and validation of the final policies within the agenda.

WE-TRANSFORM Stakeholder Forum and Living Hub provide added-value services compared to existing platform and channels for knowledge sharing, capacity building, and networking, which e.g., lack the dedicated focus on the impact of automation on transport labour or are not fully inclusive with limited representation of workers.

The Stakeholder Forum is composed a wide range of organisations including user associations, workforce associations, trade unions, R&D, public institutions, transport operators and service providers, vehicle manufacturers, dealers and repairers, technology providers, networks, partnerships, and platforms related to mobility and innovation.

The engagement activities of the Living Hub have ensured a collaborative and inclusive approach during the project lifetime and have also highlighted the importance of such collaboration and engagement of various perspectives to address the challenges of automation in the transport sector.

WE-TRANSFORM Living Hub has established a durable dialogue between stakeholders, which should be continued beyond the end of the project. Established as a proof-of-concept platform with selected stakeholders and a memorandum of understanding at first, the Living Hub should continue to disseminate information and foster collaboration and exchange among stakeholders.

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1. INTRODUCTION

WE-TRANSFORM aims to apply a participatory approach, using Collective Intelligence (CI) methods to generate an evidence-based and action-oriented agenda to tackle the challenges that the increasing automation in the transport sector places on labour force. WE-TRANSFORM, by leveraging existing data and people's expertise, is creating a cross-national Living Hub that would also serve as a knowledge and prioritisation agenda-creation platform. This is offering a path forward for smarter decisions, more innovative as well as evidence-based policymaking, through accountable and informed governance.

The approach of WE-TRANSFORM is highly collaborative, promoting discovery, debate, and prioritisation of themes by a representative body of stakeholders, using state-of-the-art data collection and analysis tools. The project draws information and themes for the collectively constructed agenda from wide-ranging environments, starting from transport-chains' stakeholders across a variety of transport modes and extending to workers. At the heart of the project, social debates within a living hub environment allow the dialogue and ultimately the agenda formation to be enriched with collective and co-created knowledge, providing a solid basis for decision and policymaking.

2. PURPOSE AND AUDIENCE OF THE DOCUMENT

The goal of this document is to describe the co-creation activities organised to engage stakeholders worldwide in the work of the WE-TRANSFORM project towards the formulation of the policy agenda.

The deliverable also reports on the definition and adaptation of the thematic areas defined and adapted throughout the project, driving how stakeholders were brought together in the Living Hub and stakeholder forum, as the project advances, for the stakeholder concertation, knowledge analysis and agenda development.

This deliverable is intended to the European Commission (for reporting purposes), to the WET consortium and external audience (for information purposes).

The report documents the work of WP2, which is responsible for setting up the cross-national Living Hub and Stakeholder Forum, as well as for providing the methodology to organise them into different thematic areas. The Stakeholder Forum and Living Hub were involved in and contributed to all activities in the project, i.e., the creation and validation of knowledge (WP3), the assessment of impacts of automation on the transport labour force (WP4), the development of the action-oriented agenda (WP5) and the Knowledge Base (WP6).

3. CONSOLIDATED STAKEHOLDER FORUM

This chapter presents the Stakeholder Forum consolidation, from the initial creation and recruitment to the continuous expansions, namely through engagement activities, up until its final composition by the end of the project.

3.1 Living Hub

The Living Hub is the ecosystem including the Stakeholder Forum and organised through a precise methodology to make it operational along the project and sustainable beyond project end (see deliverable D5.2 reporting on the sustainability strategy for the network of stakeholders, the methodology for exchanges and knowledge creation process, as part of the Living Hub).

The concept of Living Hub derives from that of Living Labs, i.e. innovation platforms to exchange ideas or testbeds where companies test their prototypes with users. Thus, a Living Lab is a "user-centred, open innovation ecosystem, operating in a territorial context, integrating concurrent research and innovation processes with a private-public-people partnership"[1]. We started from this concept to create a Living Hub that represents a network of "living labs" formalised as a "single virtual place" where the network interacts.

Overall, the key aspect of the Living Hub-based methodological approach is the formative and collaborative learning process that takes place among stakeholders (Figure 1).

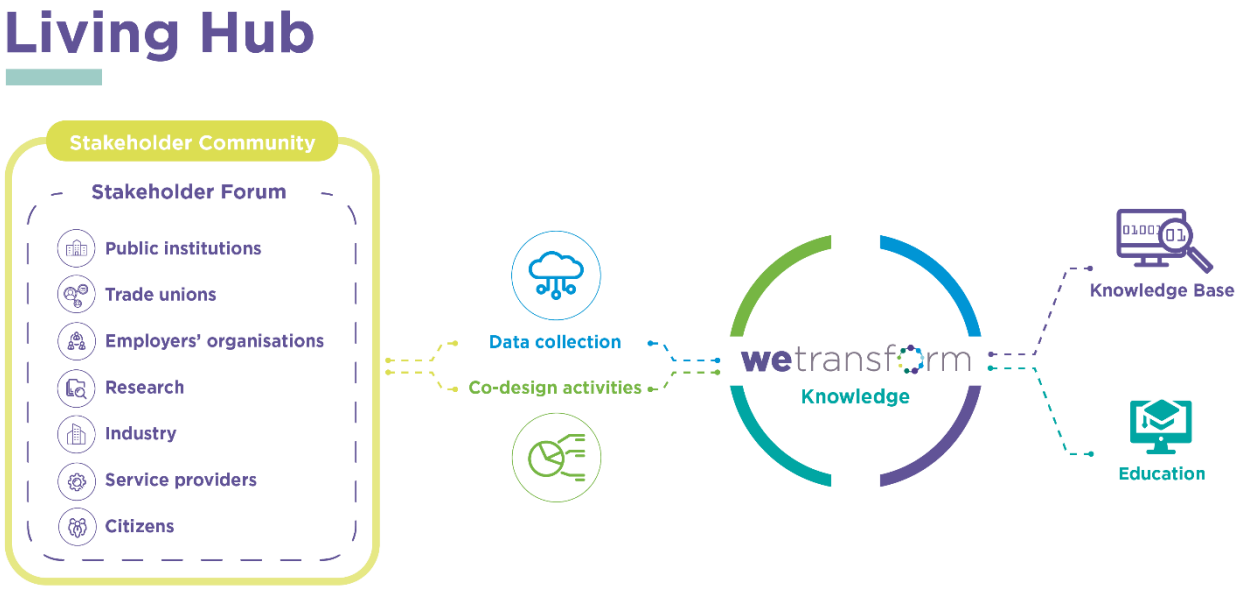

Figure 1: Graphical representation of the Living Hub

The objectives of the Living Hub are as follows:

- exchange experiences and gather knowledge on expected impact of digitisation/ digitalisation and automation processes on the future of jobs and working conditions across all existing and evolving transport modes;
- addressing related future skills, future potentialities, and challenges (social, economic, environmental, legal, ethical, emotional, equity, gender);
- gaining insights into the factors that contrast the negative aspects of automation: e.g., how transport automation can become an opportunity to make labour market more inclusive for

[1] Deliverable D2.1 Report of the Stakeholder Forum establishment

women and people with disabilities; how it will generate new opportunities for different businesses, which will require new skills;

- gaining insights into the barriers and issues that must be solved to enhance these positive effects of automation: e.g., reluctance to up/reskilling by aged workers, absence of a shared regulatory framework;
- capitalising on best practices and results from previous automation-driven transitions, past and ongoing initiatives related to transport automation and impacts on labour;
- generate a policy agenda, including a concrete set of implementation actions, monitoring methods, clearly defined roles and responsibilities and time-horizons, to minimise the potential negative effects of automation on labour force by preparing well the transition;
- enable a durable dialogue on innovation and the reality of workforce requirements and conditions beyond the project end.

The Community brought together through the Stakeholder Forum and through its activities, where knowledge is exchanged and co-designed, and eventually shared in the Knowledge Base, constitutes the WE-TRANSFORM Living Hub.

3.2 Stakeholder Forum

One of the core elements for realising the objectives of the Living Hub is the Stakeholder Forum.

The Stakeholder Forum is a group of stakeholders identified from all transport sectors and modes that contribute and actively follow all project activities and provide useful feedback and co-create new knowledge during workshops and other events or activities of the Living Hub that ensure the engagement of all concerned actors.

In the long run, Stakeholder Forum members raise awareness of the project results, encourage their implementation, and facilitate their uptake in European and non-EU administrations. In exchange, SF members are able to access the knowledge generated through the WE-TRANSFORM activities and benefit from the engagement / networking process itself.

The SF was formed on the basis of the several typologies of stakeholders (Table 1) identified at project start in relation with the project objectives (each (sub-)category implies the inclusion of organisations of different sizes, e.g., multinationals, SMEs, and within these organisations, of both employees and employers).

Table 1: Stakeholder categories and typologies identified for the Stakeholder Forum.

Stakeholder Category	Sub-categories	Relevance to WE-TRANSFORM objectives
Citizens	Workers	Non-experts and non-organised in any kind of associations, with no preliminary knowledge or expertise of the topic (non-biased and non-polarised views)
Users	User associations (incl. informal civil associations). Consumer associations. Transport user association (including Passengers)	Societal/ consumer views (through their associations, with some interest / knowledge of mobility issues) Transport user associations representing all transport modes and their workers.
Social dialogue partners	Trade Unions. Workforce associations (or Workforce Development Associations). Employers' organisations.	Organisations representing the two sides of industry (employers and workers) with a key role in the employment governance and working conditions (assess policy needs and contribute to designing and implementing the project policy agenda).
Public institutions	EU institutions. National, regional (ministries, etc.) and local institutions (cities).	Policy makers' and transport authorities steering the development of policies and regulations, the implementation of transport strategies (support the development of the agenda and facilitate its uptake)

	Unions of cities. Transport Authorities or Public Transport Authority.	
Research organisations	Universities. Research centres. Industrial laboratories. Research associations.	State-of-the-art knowledge as well as new developments and innovation in transport automation; including all levels of education that prepare the work forces needed in the future.
Transport industry	Manufacturers (OEM). Automotive suppliers. Car dealers (including maintenance and repair). Road operators and associations. Passenger transport operators and associations. Freight transport operators and associations. Infrastructure Managers. Transport Service Providers. Transport industry associations.	Manufacturers of new technologies requiring new skills with experience in training programmes development; transport sectors and modes (and their workers) transitioning to automation; sectors (e.g. freight and logistics) impacted by the advent of automated driving technology.
Industry (others)	Tourism, banking and finance, agriculture, energy, construction sectors. Telecom operators.	Input and best practices as forerunners in automation-driven transitions.
Technology provider	Technology developers. ITS associations.	Suppliers of technologies and services for all transport vehicles.
Other	Consulting firms. Expert platforms. Individual Experts.	Carried out work related to impacts of digitalisation and/or automation on workforce; expert groups related to workforce within transport/mobility/automation-related platforms/partnerships supporting authorities and/or defining strategic research agendas.

3.2.1 Evolution of the Stakeholder Forum

Organisations within these categories were then identified by consortium partners to be targeted for recruitment in the initial setup of the SF, including the 34 “associated partners” that already expressed interest at proposal stage (cf. Letters of Interest) and the selected Advisory Board members.

Advisory Board members (Table 2) brought much knowledge and experience in the field and supported in extending the Stakeholder Forum. Originating from Europe and the United States, and representing different profiles (from R&D, technology companies and logistics to transport policy, from consulting and public authorities to trade unions and labour psychology), they were active throughout the project, participating in or helping organise stakeholder events. Their experience provided a multifaceted perspective on the complex issue of digitisation and automation impacts on the transport workforce, and its many aspects: psychological, social, business, technological, political.

Table 2: WE-TRANSFORM Advisory Board members

Affiliation	First name	Last name	Country
UC Berkeley	Adam	Cohen	United Stated of America
JRC Ispra	Louison	Duboz	Italy

Guanxi, Sherpa42, 12Venture, European Innovation Council and SMEs Executive Agency (EISMEA)	Alberto	Giusti	Italy
Federal Ministry for Digital and Transport and Digital Infrastructures	Gabriele	Grimm	Germany
PriceWaterHouse&Coopers	Paolo	Guglielminetti	Italy
European Transport Workers' Federation (ETF)	Jedde	Hollewijn	Belgium
Bosch	Eman	Martin-Vignerte	United Kingdom
Advisor LAB Italy (former President of Assologistica)	Carlo	Mearelli	Italy
Trans FORMATION	Jean-François	Révah	France
Observatory of Transport Policies and Strategies in Europe (OPSTE); TDIE think tank; World Bank	Michel	Savy	France

The project consortium itself is part of the Stakeholder Forum, of course, as the organisations involved in the project work are already very representative of the targeted stakeholder categories, of all transport modes as well as, geographically speaking, of quite many countries in Europe and beyond (the US, Canada, Japan, and South Korea (Figure 2). All the partners involved in the WE-TRANSFORM project have experience in automation and workforce related matters in Europe and beyond. They are involved in multiple initiatives with industry, research, societal and policy actors. They are also active in several of the R&I initiatives with which WE-TRANSFORM aims to exchange knowledge and best practices.

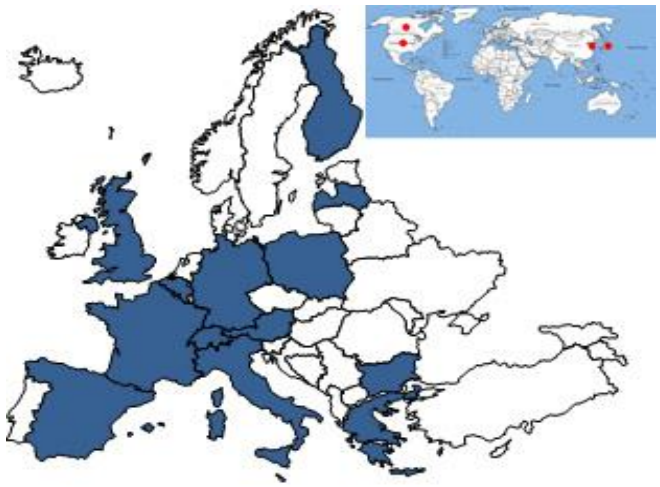

Figure 2: Graphical representativeness of the project consortium members

The networks of Consortium Partners and Advisory Board members were exploited for expansion of, and further recruitment of members for, the Stakeholder Forum, articulated around the different phases and milestones of the project (workshops and required task support).

Organisations within European networks as well as past and ongoing projects (see deliverable D6.3 reporting on the cooperation with other projects) were also invited to join the Stakeholder Forum for (state-of-the-art) knowledge exchange and cross-fertilisation. Especially in the context of the first stakeholder workshop, which

was specifically focused on collecting state-of-the-art, but also beyond and throughout the project, WE-TRANSFORM has explored synergies and capitalised on existing results from other networks, EU-funded R&D projects as well as national initiatives related to automation (and its impact on labour market).

Many consortium partners have close links with many of these networks, such as:

- ALICE (Alliance for Logistics Innovation through Collaboration in Europe) European Technology Platform
- European Transport Workers Federation (ETF)
- International Transport Federation (ITF)
- International Transport Forum at the Organisation for Economic Co-operation and Development (ITF-OECD)
- International Association of Public Transport (UITP)
- ERTICO – ITS Europe (project partner)
- POLIS (project partner)

An interesting collaboration was born also with Céreq (Accueil | Cereq), a public body whose mission is to improve knowledge and understanding of the links between training, work and employment.

International cooperation was also established with the Transportation Research Board (TRB), AJE35 - Research Innovation Implementation Management (RIIM) Committee, and the International Association of Transportation Regulators (IATR) - Multi-Modal Mobility Innovation For All.

The consortium partners have promoted the SF when meeting new relevant experts who could provide valuable contributions to the project. The SF also grew thanks to international cooperation activities, and contacts and mutual activities with related projects. Calls for experts were included in the different presentations, and communication and dissemination activities promoting the project, and the SF application was advertised and available through the website.

Finally, the WE-TRANSFORM workshops registration process allowed participants to express interest in being part of the SF, i.e. in being invited to subsequent activities of the Living Hubs.

3.2.2 Monitoring of the Stakeholder Forum

WP2 monitored the SF contacts, regularly reviewing the SF composition and evolution based on stakeholders' involvement in each workshop and activity of the Living Hub.

Given the consortium partners' geographical coverage, the project also managed to attract stakeholders from neighbouring countries, as well as other countries, where no workshop or other event was organised, and overall managed to ensure a balanced geographical representation.

By the end of the project, the WE-Transform Stakeholder Forum counts 940 members from over 500[2] different organisations in 45 countries across the world (Figures 3 and 4). The following graphics present these statistics per stakeholder categories and countries representativeness. The complete list of organisations registered within WE-TRANSFORM Stakeholder Forum is included in Annex B of this report.

[2] The count of organisations is not specific as for some Living Hub activities we only received their corresponding stakeholder category but not the organisations nor the participants names as the organisers didn't collect the consent to share that information and/or have it published in a public report.

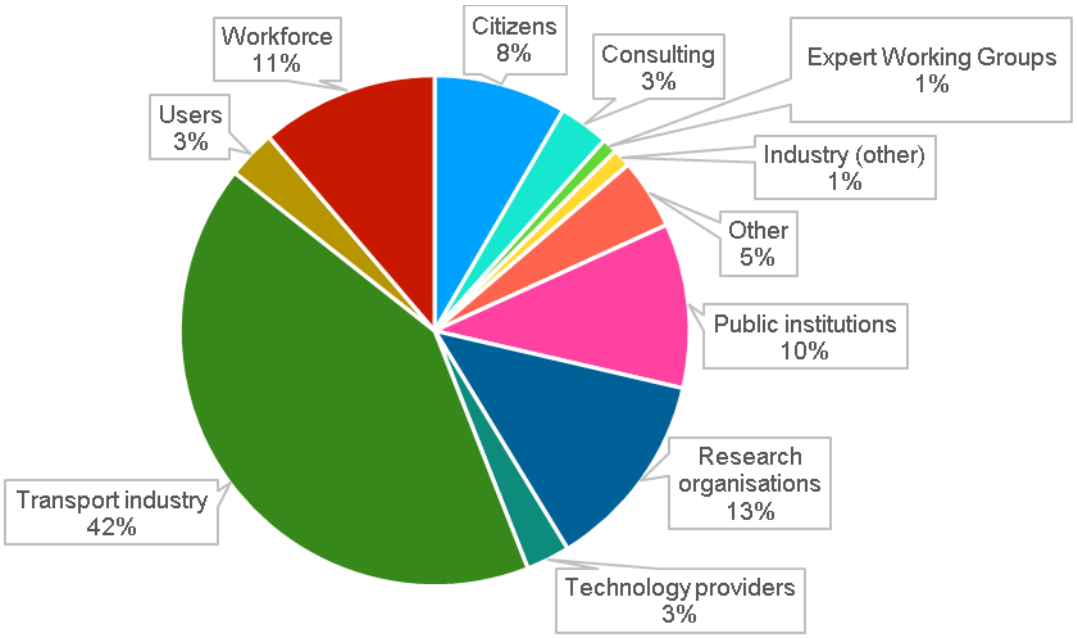

Figure 3: Stakeholder Forum analytics per stakeholder category

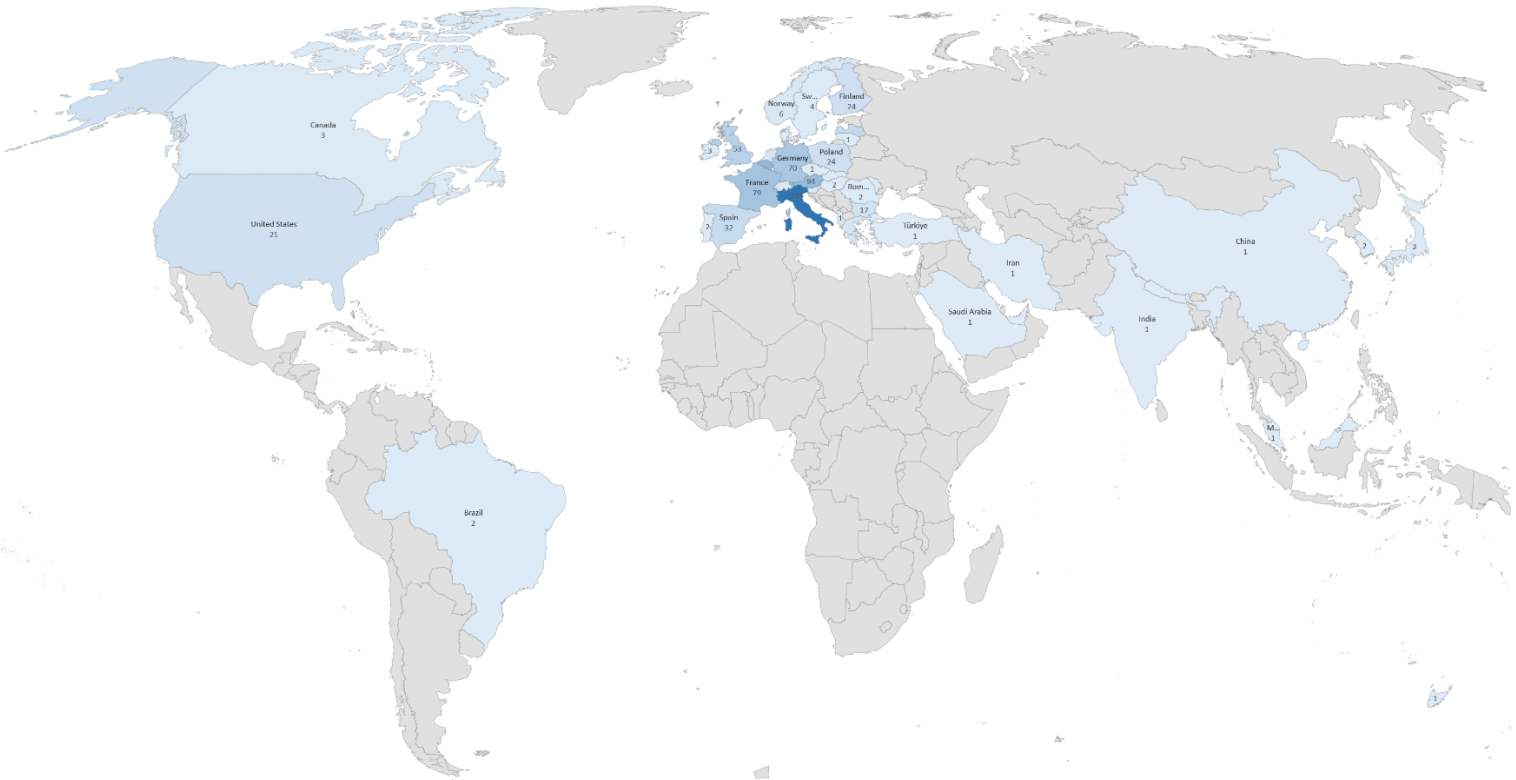

Figure 4: Stakeholder Forum analytics per country

4. LIVING HUB ACTIVITIES FOR STAKEHOLDER ENGAGEMENT

This chapter presents the different activities implemented as part the SF engagement strategy throughout the project, the approaches used to interact with SF members, keep them engaged in the activities of WE-TRANSFORM and support the knowledge creation for the different project tasks, towards the co-creation of the policy agenda.

In addition to and between workshops, stakeholders were kept engaged in regular activities throughout the project, from survey and webinars to targeted interviews and focus groups. In total, the project organised:

- 6 workshops
- 8 thematic area groups
- 1 survey (online)
- 83 interviews
- 23 Focus groups
- 5 dedicated focus groups with workers[3]

Major concerns such as digital divide, gender balance, inclusion of diverse age and socioeconomic groups, along with future training curriculum needs were addressed throughout the various activities.

Stakeholders involved were clearly informed at the end of workshops and other events about the next steps and how their contribution would be used, and the possibility to stay involved in further discussion and co-creation opportunities towards the policy agenda development and ultimately its uptake and implementation. The presentation of the Living Hub was repeated at the start of each event to explain how content, reports, deliverables, recommendations are produced and made available.

4.1 Workshops

Bi-annual workshops were organised as a tool for providing input to the work of other tasks in the project in creating knowledge according to the stakeholders' experience and opinions. The organisation of the workshops was foreseen from the start in different locations across Europe to allow engaging local stakeholders. On the other hand, these workshops were also opportunities for disseminating the project's progress and recruitment of new stakeholders for the Forum and subsequent activities of the Living Hub.

4.1.1 1st Stakeholder Forum Workshop

The first workshop on "Digital Transition Forerunners: Exploring the Impact of Automation on Labour Force" was held fully online on 30 June 2021, 13:30 – 17:30 CEST. The initial plan foresaw the organisation of the first workshop in Athens, Greece, but this was impossible due to the Covid-19 pandemic. There was no specific focus on Greek stakeholders as originally planned, and invitations were thus sent to initial members of the Stakeholder Forum and all stakeholders across Europe and beyond through the partners' networks. A focus was though on inviting R&I projects representatives as well as stakeholders from sectors other than transport (e.g. banking or tourism) and considered forerunners in the automation and digitalisation.

This first workshop was indeed associated with Task 3.1– Actions and initiatives related to transport automation, the main objective of which was to collect and analyse research actions and initiatives implemented by national, EU and non-EU projects, but also in other countries all over the world, related to transport automation for all modes of transport and sectors (both passenger and freight), and to other automation-driven transitions (e.g., construction, manufacturing, agriculture, etc.).

The purpose of the workshop was thus to introduce the project to the stakeholders and explain the working approach with them. It also aimed to collect additional input on the State-of-the-Art from similar activities related to impacts of automation and digitalisation in the transport as well as other sectors, and to find out about their best practices to understand if they were transferable to the WE-TRANSFORM focus.

[3] So-called "Citizens' events" in D2.1

The workshop programme included a panel discussion with invited representatives (see Table 3) from the different transport modes and other sectors such as tourism, finance, construction, to share findings, experiences and best practices. It was followed by discussion in break-out groups on challenges and issues that these sectors are currently facing, regarding workforce and the associated impacts of automation.

Table 3: Confirmed speakers for the 1st Stakeholder Forum workshop panel.

Organisation	Name and position	Country
Det Norske Veritas (DNV GL)	George Dimopoulos Principal Research Engineer	GREECE
Interactive Fully Electrical Vehicles (I-FEVS)	Pietro Perlo, Director	ITALY
Ministry of Transport	Arturs Kokars, Director of Aviation department	LATVIA
NUGO, digital company for ticketing and multimodal travels owned by FS, and Federturismo Confindustria	Renzo Iorio, CEO of NUGO and Vice-President of Federturismo-Confindustria	ITALY
ABI (Association of Italian Banks)	Stefano Bottino, Director of Trade Union and Labour Directorate	ITALY
ENIT - National Agency for Tourism	Giuseppe Albeggiani, CEO	ITALY

The workshop was attended by 79 external stakeholders from 23 different countries (Figure 4).

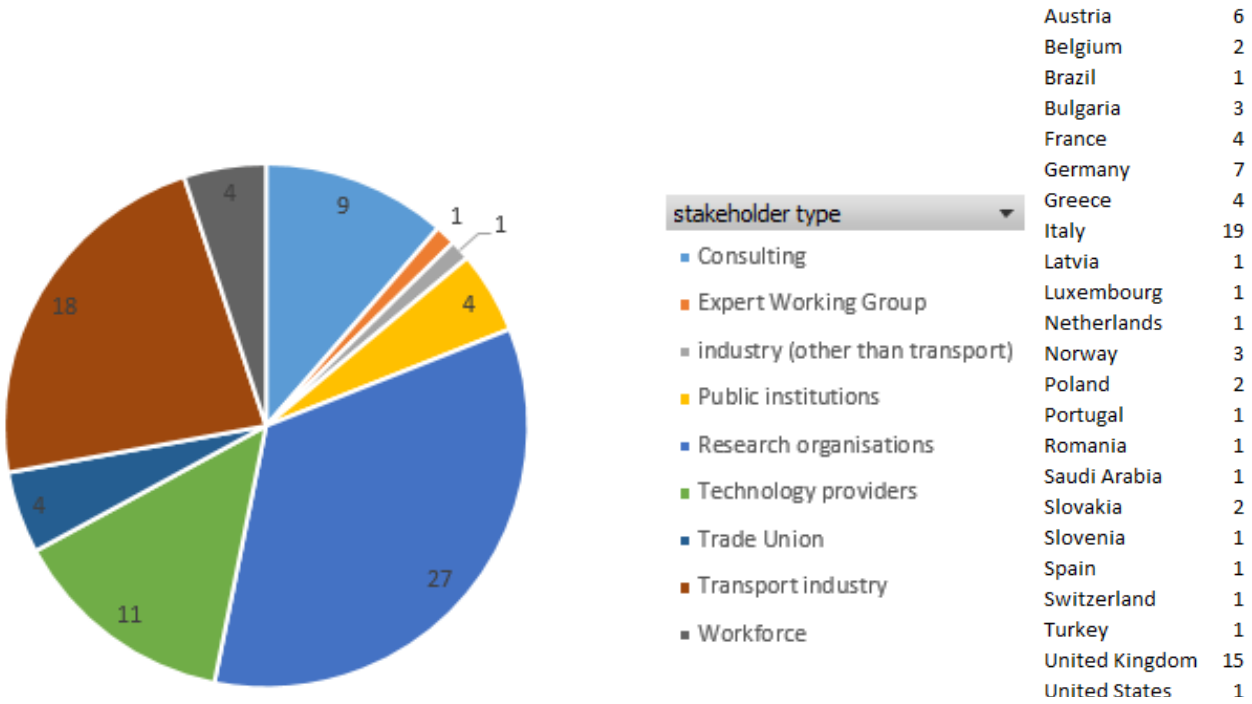

Figure 5: 1st Stakeholder Forum workshop analytics

4.1.2 2nd Stakeholder Forum Workshop

The second workshop on “Success and failure factors of automation on the transport workforce” was held both in Turin, Italy, and online, on 17 November 2021, 10:00 – 16:00. This workshop was originally foreseen to take place in Valencia, Spain, focusing on among others, local stakeholders from the maritime sector (e.g., stevedoring companies and port Employment Centres). However, COVID-19-related restrictions applicable in Spain at the time prevented from organising the event in-presence in Valencia and thus, in an effort to try and restart in-presence events, it was decided to organise it as a hybrid event in Turin, where it was possible to welcome participants willing to join the workshop physically.

The second workshop was intended to support Task 3.2 – Workforce barriers, needs, skills and challenges, analysing the barriers, gaps, opportunities, benchmarks, success, and failure factors of transport automation on the labour force.

The purpose of this workshop was twofold: (1) present and validate the preliminary results of the state-of-the-art analysis carried out in the first phase of the project; (2) discuss the barriers to be solved to mitigate the negative effects of automation; the new opportunities for different businesses and more equal access to the labour market, as well as the required new skills for the future transport workforce.

After a general overview presentation of the project, its methodology and the Living Hub, the preliminary findings of the inventory analysis of actions and initiatives related to transport digitalisation and automation were presented and the launch of the online survey on stakeholders’ perceptions of gaps, barriers and opportunities for transport workers related to automation / digitalisation, was announced. It includes questions on individual experiences and more general aspects.

In the second part of the workshop programme, participants were divided in smaller discussion groups. A total of five focus groups met in parallel, some hybrid, some fully online, including a dedicated one for Italian stakeholders and another for Greek stakeholders (Figure 5). All groups addressed the same points:

- barriers (regulatory, business, societal, technological) to the introduction and increase of digitalization or automation;
- gaps to be covered first in relation with ethics, economic concerns, meaningful work and the value of achievement, rising prosperity;
- skills and competences of workforce to meet the challenges of the future automated and digitalized work environment;
- success / failure factors of the future automated and digitalized work environment
- lessons learnt from past initiatives in transport or other automation-driven sectors regarding the effects of automation on the workforce.

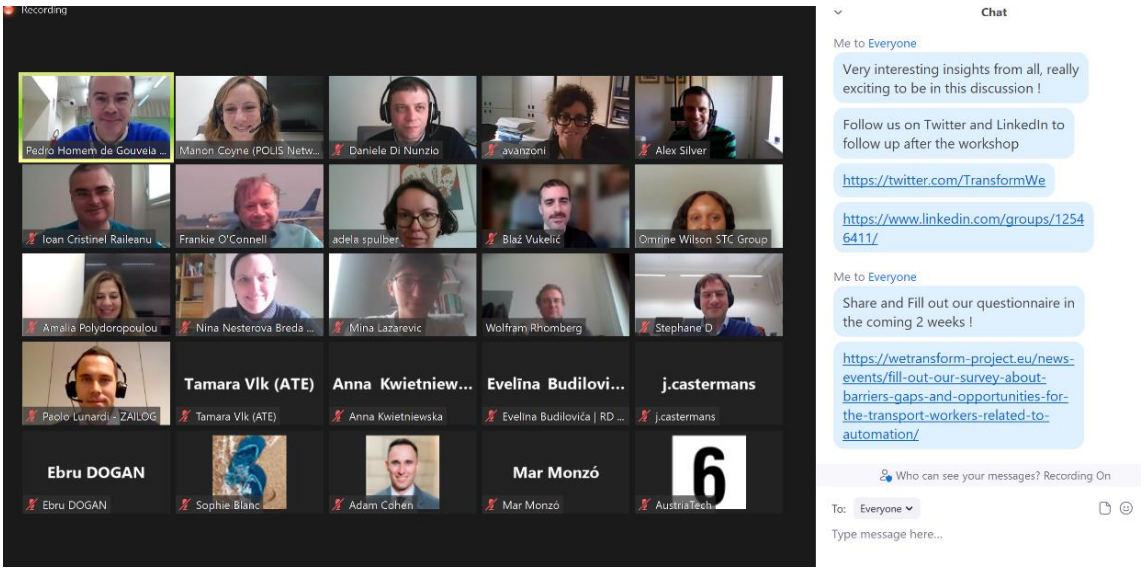

Figure 6: 2nd Stakeholder Forum workshop focus group

The final part of the programme was a discussion around the outcome of the focus groups, articulated around interactive polls to collect additional opinions.

The workshop was attended by 65 external[4] stakeholders from 18 different countries (Figure 6).

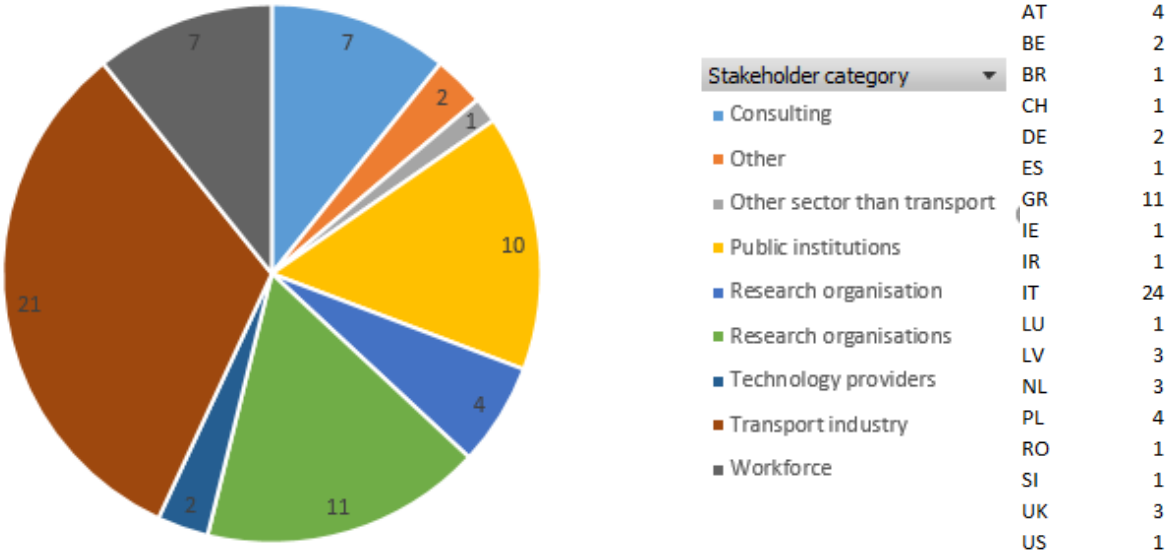

Figure 7: 2nd Stakeholder Forum workshop analytics

4.1.3 3rd Stakeholder Forum Workshop

The third workshop on "Impacts of digitalisation and automation on the transport workforce" was held in Riga (Latvia) and online on 15 June 2022, 09:00 – 18:00 (CEST+1), for which the host Transport and Telecommunication Institute (TSI) mobilised the local stakeholders' community (Figure 7).

The workshop was aimed to support Task 4.1 dealing with the assessment of the expected impacts of transport automation on the workforce. This workshop marked the start of the second phase, focusing on the analysis of transport automation impacts on the workforce, and the discussions in focus groups were structured according to the eight identified thematic areas (see Chapter 4 of this report).

Figure 8: 3rd Stakeholder Forum workshop focus group

[4] The participating consortium partners were only "tracked" from the third workshop on, when they were asked to register separately for both workshop and the General Assembly and preparation meeting typically organised on the day prior to the stakeholder workshop.

The workshop was attended by 43 external[5] stakeholders from 12 different countries (Figure 8).

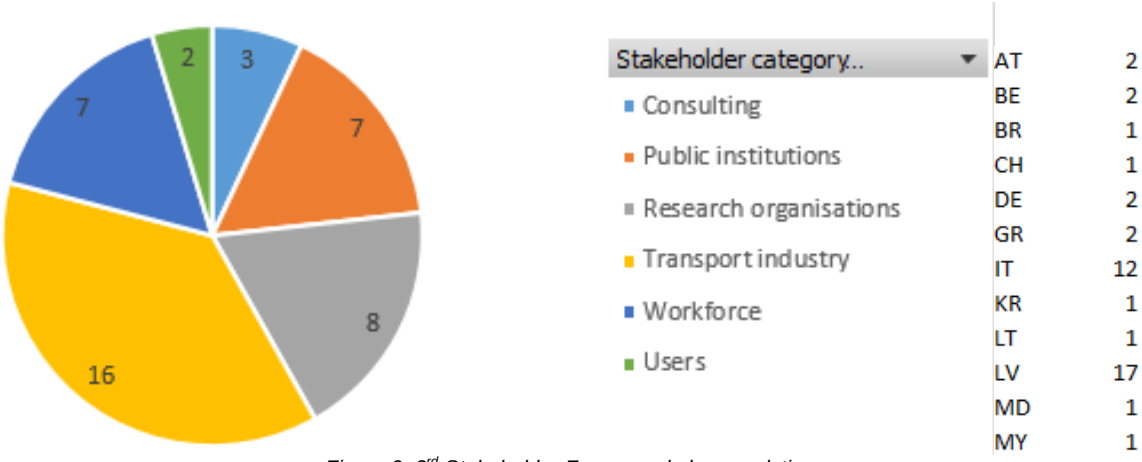

Figure 9: 3rd Stakeholder Forum workshop analytics

4.1.4 4th Stakeholder Forum Workshop

The fourth workshop on "Societal and Legal Implications on Workforce from the Automation and Digitalisation of Transport" took place in Brussels, Belgium, on 19 January 2023, 10:00 – 17:30 (CET). Brussels was initially selected as the location for one of the workshops as the headquarter of the European Commission and most EU-funding agencies, as well as EU-level networks and associations representing the targeted stakeholder categories (Figure 9).

The workshop aimed to support the Task 4.2 focusing on Legal aspects of the expected impacts of automation on the workforce, as well as Task 4.3 – Scenario consolidation and analysis for the workforce transformation and preparation for the automation transition. In addition, the workshop was also the opportunity to initiate discussions on the implications for the policy agenda definition. Participants were split in smaller discussion groups for each topic in turn.

Figure 10: 4th Stakeholder Forum workshop focus group

[5] In addition, 33 consortium partners also took part.

The workshop was attended by 41 external[6] stakeholders from 14 different countries (Figure 10).

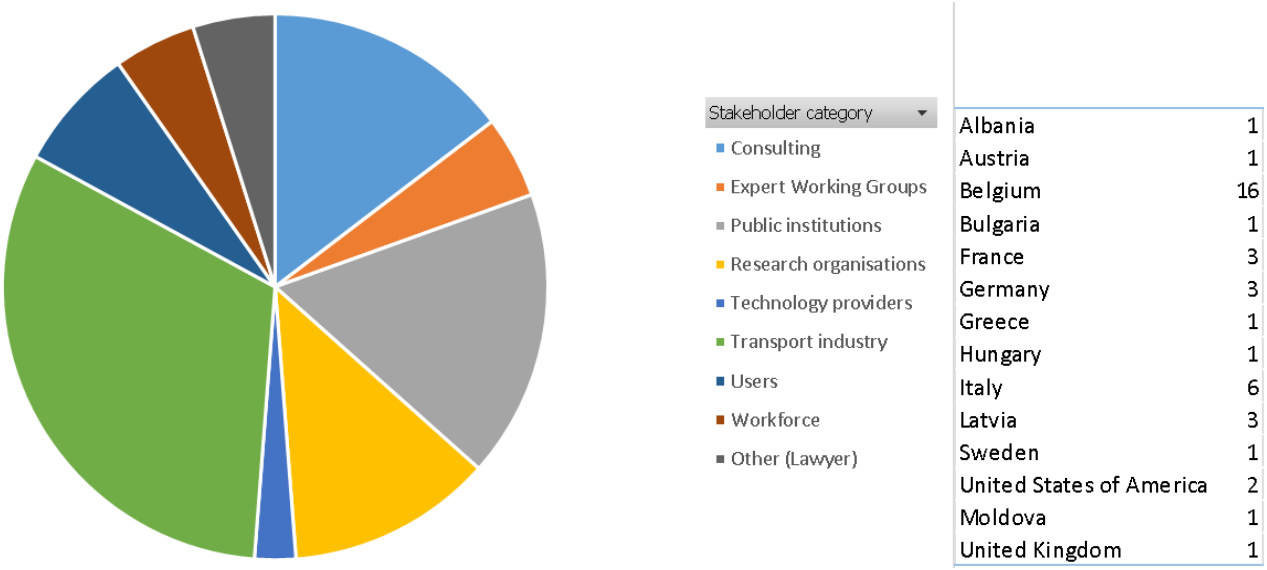

Figure 11: 4th Stakeholder Forum workshop analytics

4.1.5 5th Stakeholder Forum Workshop

The fifth workshop on "Policy Agenda for Workers Transition in Automated and Digital Transport Services" was hosted by Austriatech in Vienna, Austria, on 13-14 June 2023 (one full day + half a day), with key stakeholders in the branch of automation and workforce in Austria (Figure 11).

The workshop was organised to support Task 5.1, i.e., the formulation of the first draft of action-oriented agenda to tackle the identified challenges. The workshop presented the project progress so far, and included four topics for discussion and co-creation, namely: (1) public regulation and contractual bargaining; (2) industrial governance; (3) training and reskilling; and (4) minimisation of labour exclusion and exploitation.

The four topics were the refined (out of the initial 8) thematic areas (see Chapter 4 of this report), defined to categorise the policies proposed to address the emergent issues digitalisation and automation pose on the workforce. On the first day of the workshop, participants were split in smaller discussion groups for each topic in turn.

Figure 12: 5th Stakeholder Forum workshop focus group

[6] In addition, 36 consortium partners also took part.

On the second day, participants were divided into “hands-on” working groups to start concretely drafting the policies discussed on the first day of the workshop, formulating key elements needed (Figure 12).

Figure 13: 5th Stakeholder Forum workshop working groups output

The workshop was attended by 25 external[7] stakeholders from 9 different countries (Figure 13).

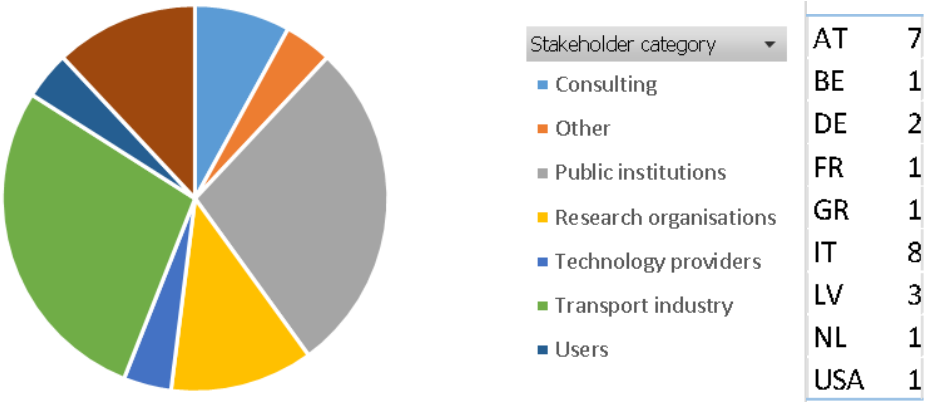

Figure 14: 5th Stakeholder Forum workshop analytics

4.1.6 6th Stakeholder Forum Workshop

The sixth and last workshop on “Policy Agenda for Workers Transition in Automated and Digital Transport Services” was held in Turin, Italy, on 27-28 September 2023 (two full days) (Figure 14).

The final workshop aimed at finalising the policy agenda (T5.2), checking significant discrepancies and broadening the consensus around workforce related topics.

Participants were asked at workshop start to rank the policies (see Chapter 4.6.2 of this report) by order of priority in their view. Participants were split in smaller discussion groups, and based on each group’s participants’ ranking, the two top selected policies across participants in the group were discussed more in depth in a first stage. In a second stage, participants were asked to describe more concretely each of the two policies discussed according to the following categories of information:

[7] In addition, 41 consortium partners also took part.

- **WHAT** (specific elements that should be contained in the policy)
- **HOW** the policy should be implemented (e.g., directive, law, regulation, etc.).
- **WHEN** (timeline for the policy implementation)
- **WHO** (roles and responsibilities in the policy implementation, including in relation with the related budget element).

Figure 15: 6th Stakeholder Forum workshop focus group

The workshop was attended by 44 external[8] stakeholders from 13 different countries (Figure 15).

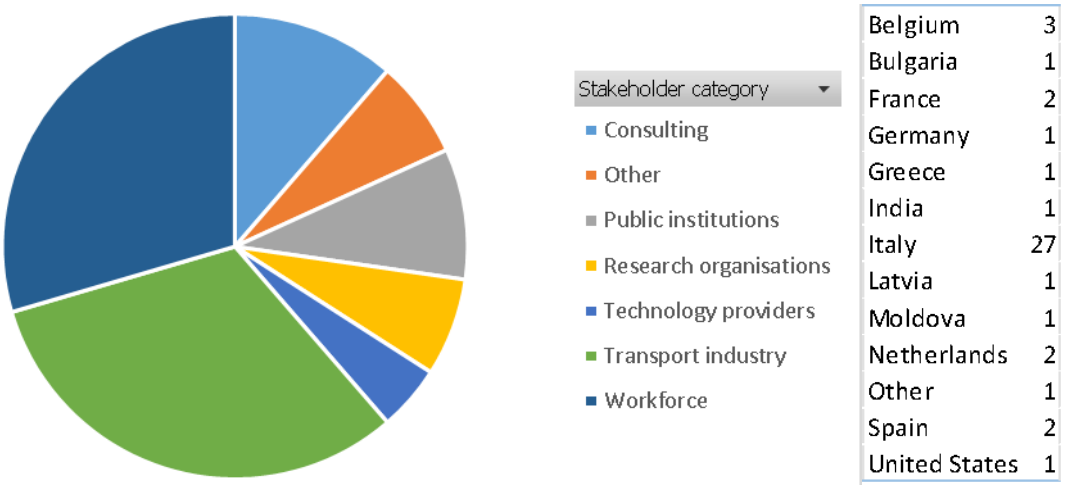

Figure 16: 6th Stakeholder Forum workshop analytics

4.2 Survey

The Delphi survey was launch during the 2nd Stakeholder Forum workshop in November 2021 to assess (using a 1–6 Likert scale of importance, where "1" denotes an action that is "Not important at all" and "6" an action that is "Absolutely important") potential actions to tackle the challenges connected to the effects of digitalisation

[8] In addition, 32 consortium partners also took part.

and automation on the transport labour force. In addition, an open option was included to allow for suggestions for additional actions to be included. Results of the survey were reported in deliverable D3.3.

The survey was organised in two rounds (where respondents to the first round were invited for the second-round questionnaire) in order to narrow down the list of the most significant actions with a larger consensus but also formulate a list of other interesting candidate actions for WP5 policy agenda.

Figure 16 shows the respondents' distribution per transport mode, as well as according to the 8 Thematic Areas (TA – see Chapter 4 of this report). The category "Other" mainly refers to stakeholders from Public Transport.

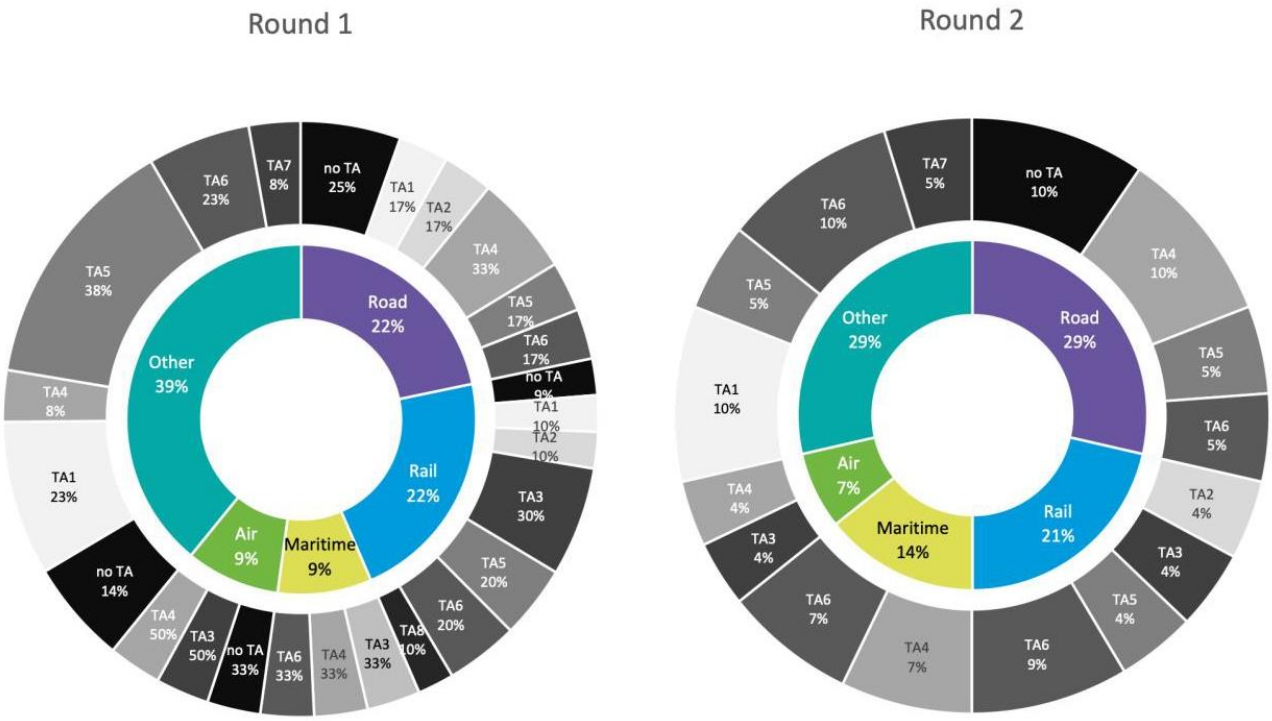

Figure 17: Survey participants' distribution per organisation type and TA

Figure 17 shows the 10 European countries represented in the respondents' sample.

Figure 18: Survey respondents' geographical distribution

Figure 18 shows respondents divided according to WE-TRANSFORM targeted stakeholder category.

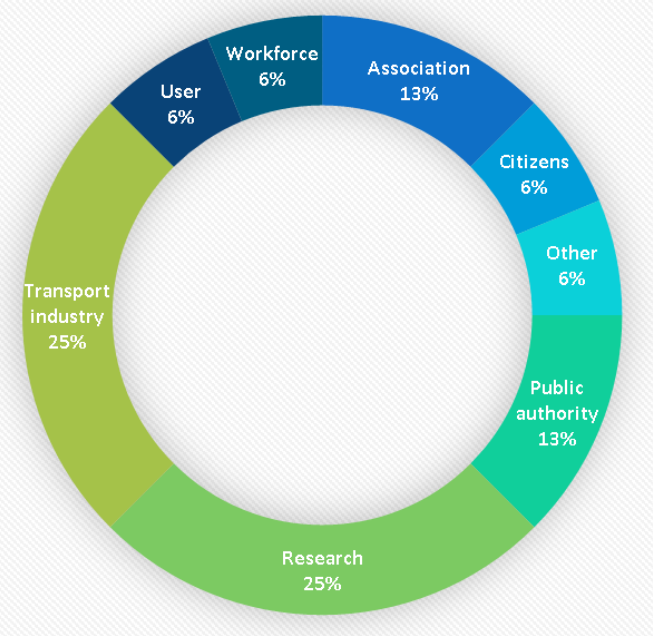

Figure 19: Survey respondents' distribution per stakeholder category

4.3 Interviews

Interviewed stakeholders were asked to assess the impacts of transport automation on their organisation's workforce for six main impact categories and offered the opportunity to expand on specific issues applicable to their organisation, current or planned practices, as well as to mention additional impacts, as applicable (Table 4).

Table 4: Impact categories

Name	Description
Business Transition	New processes introduced to business or organisational operations, e.g., updated business models, higher or lower recruitment costs, higher automated/digitalised equipment needs, faster or slower business transition due to diverse global policies about automation and digitalisation
Training Skills and Needs	Changes in the required competences which workers will be expected to possess to continue working at a similar role at the same organisation, e.g., need to re-skill or up-skill workers, the need for updated cognitive or soft skills, the provision of life-long learning support by organisations
Working Conditions	Positive or negative changes which will be introduced in the working context, routines and processes, e.g., health and safety changes due to transport automation
Social impact	Positive or negative changes imposed on the social context and interactions, both within and outside the workplace, e.g., a poorer work - life balance, social disconnection among workers, increased boredom and greater inequality among digitally and non-digitally skilled workers
Legal impact	Legal framework which will accompany transport automation and digitalisation, e.g., more atypical or unpaid work, new or exacerbated threats to privacy, lower wages or an increase in zero-hour contracts

Policy and Regulatory impact	Updated role of local, regional, national, international policies or regulations to enable or hinder organisational goals, e.g., policy and regulatory uncertainty resulting in lower innovation or investment, the obligation to provide additional worker training or increased co-ordination with local or international stakeholders, which affects workload and routines

The interviews sample represent:

- diverse countries and transport modes (Figures 19), relevant companies, associations, public authorities and civil society organisations of various sizes across Europe and beyond;
- managers (since all key decisions about future plans and activities are taken by them and lower-level employees (through trade unions) to ensure a more balanced approach;
- all transport modes, namely road, rail, air, maritime, multi-modal, as well as emerging forms of transport such as software-based transport services facilitated through automation and digitalisation e.g., Artificial Intelligence based transport services, Mobility-as-a-Service (MaaS) (Figure 20).

The sample included stakeholders from the following sectors: air cargo, airlines, airports, automated tourism and travel services, Automated Vehicle operators, aviation analysts, aviation manufacturers, car insurance companies, car manufacturers, car and ride sharing providers, electric vehicle experts, lift sharing companies, MaaS, maritime shipping managers, maritime software developers, metro/underground operators, national transport managers, public transport providers, rail infrastructure managers, rail operators, regional transport managers, road construction and management companies, road toll operators, taxi and private car hire representatives, transport planners and designers, transport Research and Innovation managers, transport software developers.

The objective of having at least 5 stakeholders in at least two different countries interviewed in each geographical region of Europe (northern, southern, eastern, western) was met. All geographical regions included stakeholders representing all transport modes, aside Maritime transport which was only represented in Greece. Input by stakeholders representing organisations in Australia, Brazil, UAE, and the United States, covering all transport sectors, were also included to provide insight about impact assessment from regions which may have different levels of advancement compared to Europe regarding transport digitalisation and automation. Diverse Private, Public and Public-Private type of organisations were included in the sample (e.g. France, Greece, Italy, UK), operating at local, regional, national, international levels.

The identified impact (sub-)categories were also suitable information for the design of Task 4.3 scenarios (or pathways to support the workforce transformation and meet the challenges of the transport automation) as well as to define WP5 policy agenda. All related details are provided in deliverable D4.1.

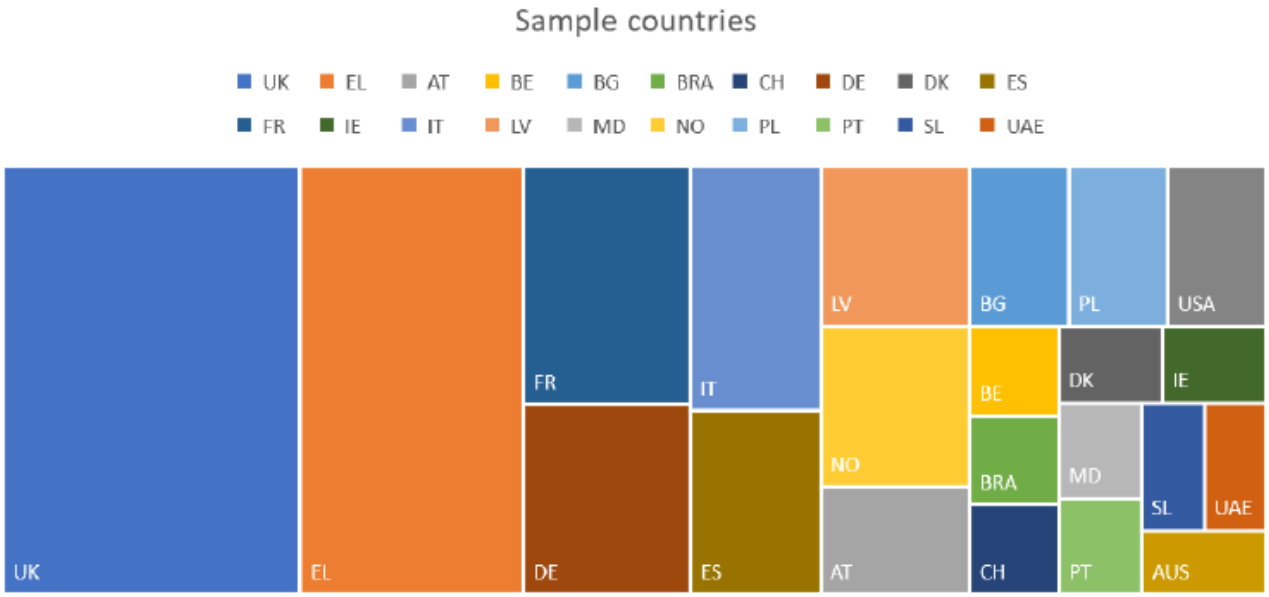

Figure 20: Interviews sample geographical distribution

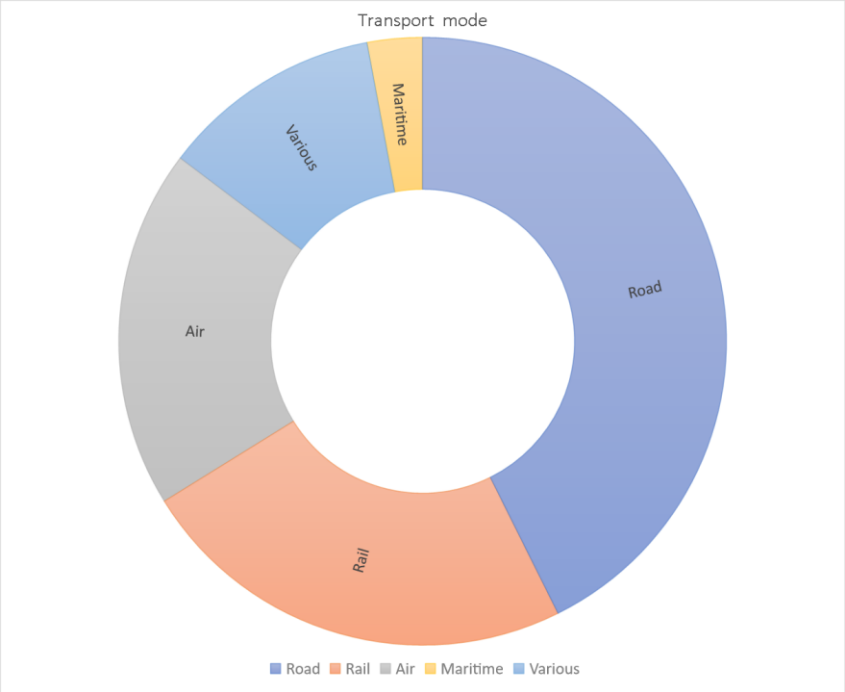

Figure 21: Interviews sample distribution per transport mode

An additional set of interviews were carried out in the framework of Task 4.2, which analysed from a legal perspective the expected impacts of transport digitalisation and automation on the labour force, future working conditions, and skills requirements.

These interviews aimed to identify the relevant impacts on legal aspects, as well as regulatory sources or the relevant legal and regulatory context, and actions and tools to deal with the critical points related to the legal challenges. The end goal was to build a knowledge base on the legal impacts and to formulate useful regulatory policies to manage the impacts of digitalisation and automation on the workforce.

These interviews involved legal department personnel (manager or other role), or senior managers (e.g. HR) from (internal and external) stakeholder organisations, including trade unions from Italy, Spain, France, UK, Latvia, USA, and Spain, covering different sectors, namely railways, public transport, platform-economy. All related details are provided in deliverable D4.2.

4.4 Focus groups[9]

Between workshops, and to increase geographical coverage and maximize alignment between stakeholders of different countries in Europe and beyond, focus group events were organised where to collect feedback on/validate intermediate results of the related activities/phase of the project, as well as co-create additional input.

A focus group is a research method used to collect opinions and feedback on a particular service or product, and as a meeting, it typically involves a relatively small number of participants to facilitate the exchange of viewpoints, information, and know-how upon a particular topic.

There were two series of focus groups events, one in the framework of WP4, for the definition and development of the scenarios (pathways), and another one for WP5, for the definition and development of the policy agenda.

4.4.1 WP4 focus group events

In WP4, three focus groups were held in the 1st round (before the Stakeholder Forum Workshop 4 in Brussels, while the second round (after the workshop) included six events (see Table 5). Their organisation was

[9] Standalone events organised separately from and between those within the Stakeholder Forum workshops.

undertaken by the local partners and the agenda in these meetings was alike.

Table 5: WP4 focus groups' series

	Purpose / agenda	Date	Location	N° of participants
1st round of events	Present and collect feedback on preliminary work: baseline analysis, approach for scenarios' development, formulation of desired future and visions, definition of policies to reach visions, and their implementation	19 December 2022	UK (online)	5
		21 December 2022	Athens, Greece	11
		22 December 2022	Italy (online)	7
2nd round of events	Validate and possibly modify the final draft scenarios (outcome from workshop), and assess the feasibility of their implementation	14 February 2023	Athens, Greece	8
		22 February 2023	Wroclaw, Poland	7
		23 February 2023	UK (online)	5
		28 February 2023	Paris, France	7
		7 March 2023	Riga, Latvia	13
		8 March 2023	Italy (online)	7

The stakeholders who participated in the two rounds of the above-mentioned events were the same with minor additions/subtractions and came from the transport industry, selected to cover all transport modes (maritime, aviation, public transport both on roads and railways, and highway operators), as well as trade unions. They were selected based on their background and relevant position in their organisation (senior management), to ensure their perspective on workers' future relies on concrete insights and supports comprehensive pathways and strategies. All related details are provided in deliverable D4.3 (Figures 21 and 22).

Figure 22: Focus group event in Athens in February 2023

Figure 23: Focus group event in Riga in March 2023

An additional focus group event was held in Italy with 17 representatives of the trade unions in the taxi sector to support Task 4.2 and deliverable D4.2.

4.4.2 WP5 focus group events

Focus group events were also organised for the development of the policy agenda, to strengthen its consistency and relevance.

The methodology applied through all WP5 focus groups were to ask participants to rank the policies listed in a form (21 resulting from the aggregation of the 30 policies proposed in D4.2 and the scenarios proposed in D4.3) circulated ahead of the event or at its start. Each event started with the presentation of the project and brief introduction to the policies in the form, each of them belonging to one of the four thematic areas (see Chapter 4 of this report). Participants could choose any number of policies, ranking them from 1 (most important) onwards, in relation with 1) their priorities, 2) the least important policies, 3) policies considered somehow controversial or counterproductive.

The second part of the discussion was using a more hands-on approach asking participants to draft the policies with the key elements needed, i.e. the content (What), the implementation (How), the timeframe (When) and the responsibilities (Who)[10].

WP5 focus groups included nine events in Valencia, Spain; Athens, Greece; Bologna, Italy; Paris, France; San Francisco, USA; Sofia, Bulgaria; Stuttgart, Germany; Brussels, Belgium and Washington, USA (Table 6). Their organisation was undertaken by the local partners and the agenda in these meetings was alike.

Table 6: WP5 focus groups' series

Location	Date	N° of participants	Involved sectors / stakeholder categories
Valencia	12 June 2023	17	Logistics, maritime transport, shipping, road transport, multimodal operator, public transport, employment centre, training company

[10] Approach also applied in the last Stakeholder Forum workshop (see Chapter 4.3.6 of this report).

San Francisco	12 July 2023	6	R&D, law companies, technology provider, coaching and training company, public transport association
Athens	6 September 2023	13	Maritime transport, railway transport, shipping, public transport, and training company
Bologna	21 September 2023	23	Trade unions, railway sector, environmental services, law companies, labour experts, labour psychologists, public transport, airport company, highway sector
Stuttgart	24 October 2023	9	Ministry of transport, automotive manufacturers, autonomous shuttle manufacturer, law companies, truck and bus manufacturer, automotive manufacturer worker´s council
Paris	15 November 2023	8	R&D, railway transport, policy expert, labour psychologist, training company, public transport, trade unions
Sofia	22 November 2023	10	R&D, technology providers, consultants, innovation managers, public transport
Brussels	4 December 2023	13	Federal Transport Ministry, European Parliament, World Employment Confederation, European Commission, European Automobile Manufacturers' Association, car lease company training academy, association of road transport companies, association vehicle dealers/repairers
Washington	9 January 2024	5	R&D, consultant

Overall, stakeholders involved in all above-mentioned focus groups were covering well the different sectors related to transport, as well as social dialogue partners and public authorities / policy makers (Figure 23).

Figure 24: Kaleidoscope of participants and locations from WP5 focus group events

4.4.3 Workers' events - the specificity of citizens' engagement

While transport users, represented in the SF through several associations, are also citizens, or workers/employees were also targeted to take part in the workshops and other Living Hub activities, it was clear that "citizens" or workers could not be engaged using the same approach as for the other stakeholder categories.

The involvement of "citizens", or rather "workers" from all mobility sectors, with no preliminary knowledge or expertise of the topic was necessary to gather non-biased and non-polarized views. To this end, several focus group events with workers were organized in five different EU Member States: Vienna, Austria; Turin, Italy; Hamburg, Germany; Tampere, Finland; Paris, France (Figures 24, 25 and 26).

Figure 25: Workers' event in Turin

Figure 26: Workers' event in Paris

All five events followed the same methodology, which was developed by Missions Publiques and WP5 Leader Politecnico di Torino, including an icebreaker, a reflection around good practices and gaps and a reflection around social justice impact. These events aimed at feeding the political agenda development process and were thus articulated around the four thematic areas (see Chapter 4 of this report) as guiding questions to support the discussion.

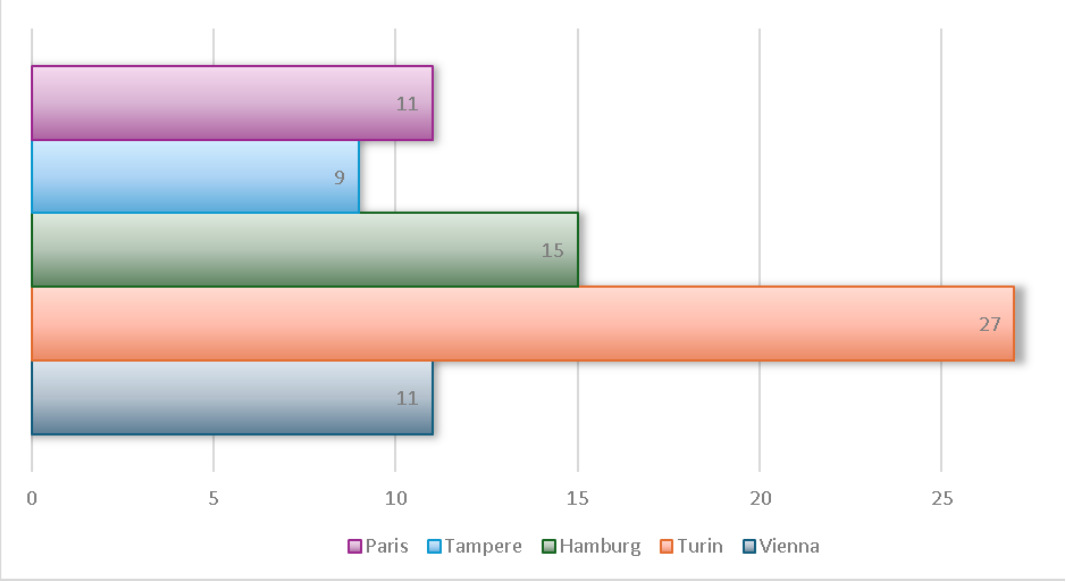

Figure 27: Workers' events sample per location

The full report presenting more detailed information on each event and summarising the contributions from all workers' events is reported in D5.1.

4.4.4 Other engagement activities

Bilateral exchanges with selected stakeholders have also taken place in the finalisation phase of the policy agenda, to validate the final 11 policies (see deliverable D5.1 on WE-TRANSFORM action-oriented policy agenda) in Italy, Spain, Greece, France, Germany, Finland, Latvia, Bulgaria, Turkey, South Korea, USA, and the UK.

5. THEMATIC AREAS

To provide structure and focus to the co-creation process with Stakeholder Forum members, a set of Thematic Areas was defined representing the identified main challenges that have to be solved to enhance the positive effects and mitigate the negative impacts of automation on employment and the workforce.

Based on the state-of-the-art review (D3.1) and the analysis of barriers, gaps, opportunities, success and failure factors related to automation and digitalisation (D3.2), as well as the feedback from stakeholders collected that far, the following Thematic Areas (TAs) were selected as the most important and crucial topics for discussion and knowledge co-creation in the second phase of the project (focusing on the impact assessment of transport automation on the workforce):

1. Governance of transition;
2. Common skills to develop between same-level workers in different sectors of the transport industry;
3. Minimisation of exclusion processes in the reskilling of the workforce;
4. Platforms for gig workers: implications on jobs production;
5. The role of local and regional authorities;
6. Role of workers in Automated Public Transport Settings;
7. Regulation of transition in the view of collective bargaining
8. Automation and sustainability.

A heterogeneous group of WE-TRANSFORM partners was formed around each of these Thematic Areas, covering the different transport modes (where applicable) and different typologies to ensure a multi-perspective approach and fulfil different needs in relation with the topic.

The different groups met online to explore, review, and discuss existing knowledge based on the material already collected, experience and concerns of participants, and prepared a report of the outcomes of their discussions in relation with the research questions around each thematic area (detailed descriptions and research questions under each TA are included in Annex A of this report).

The outcome of the group was the basis for the 3rd Stakeholder Workshop in Riga, which kicked off the second phase of the TA Working Groups, opening up to external stakeholders. The workshop was used to validate the results obtained as a base for discussion and knowledge co-creation around a list of points defined to be developed with external stakeholders.

Based on the reports' findings and stakeholder feedback, the TAs were adapted, merged and refined into four thematic areas that were used in the second phase of the project, and the Living Hub events organised during it, to categorise the policies proposed and guide the development of the policy agenda (all related details are provided in deliverable D5.1 on WE-TRANSFORM action-oriented policy agenda):

1. Public governance and regulation
2. Industrial governance
3. Training and reskilling
4. Minimisation of labour exclusion and exploitation

6. SUSTAINABILITY STRATEGY

Once established, the community of stakeholders represents a value of its own that needs to be preserved beyond the lifetime of the project. The approach to keep the SF and Living Hub alive after the end of the project was developed as part of Task 5.3 focusing on the sustainability and exploitation plan for these (see deliverable D5.2 defining business model options and an implementation roadmap for the sustainability of the Living Hub).

A gap analysis was carried out to identify any missing aspects in existing channels that would represent a benefit to stakeholders, and which WE-TRANSFORM Living Hub is well positioned to fulfil:

- lack of comprehensive content and analysis on the impact of automation on transport labour;
- insufficient data to understand the impact of automation on transport labour;
- underutilisation of the academic and research communities;
- limited inclusion of workers;
- lack of human-interest coverage on the impact of automation on transport labour;
- lack of accessible content for a multilingual audience;
- absence of a virtual community space to foster exchange and collaboration.

The value proposition offered by the Living Hub, including its potential value services and subservices, is: a dedicated (online or offline) “channel” (or platform) focused on the impact of digitalisation and automation on transport workforce, inclusive, encompassing a variety of stakeholder types, facilitating the dissemination of information and the exchange of best practices as well as enabling dialogue and collaboration. Its value services can be divided into three main categories, i.e. knowledge sharing, capacity building, and networking:

- information shared include technical knowledge, data, policies, trends, best practices, news articles, publications, through written content or during events;
- *data* (briefs and reports) implies a repository as well as data-driven content and analysis, which can be used e.g., in research projects, to gain a deeper understanding of sector trends, and to facilitate decision-making processes, shape new legislation and policies, etc.;
- capacity building services aim to provide participants with the necessary tools, skills, and insights to navigate current industry and societal challenges effectively; they foster a culture of continuous learning and adaptability, and typically include workshops, seminars, innovation labs, webinars, and trainings;
- networking tools and activities to facilitate user engagement and interaction, and thus create opportunities for connection, peer-to-peer learning and exchange, as well as cross-sectoral dialogue and collaboration amongst diverse stakeholders.

D5.2 also includes details of the possible business and funding models investigated. It also provides useful recommendations in relation with the gaps identified, which could support the Living Hub take-up:

- establish working groups (e.g., based on thematic areas) to delve deeper and develop knowledge;
- explore a potential collaboration with ECTRI, the European Conference of Transport Research Institutes, which unite the forces of the foremost multimodal transport research centres across Europe;
- integrate a virtual community space within the Living Hub and establish a community manager role to facilitate the moderation and develop the community;
- conduct a proof of concept of the platform with selected stakeholders and establish a memorandum of understanding;
- create the electronic environment of the platform with the freemium model (free access to basic core services, with additional paid features or services offering).

7. CONCLUSION

As the core element of the Living Hub, the WE-TRANSFORM Stakeholder Forum has supported the achievement of the project key objectives, i.e.:

- knowledge and experience sharing on expected impact of digitalisation and automation processes on the future of jobs and working conditions across all existing and evolving transport modes;
- co-created policy agenda to minimise the potential negative effects of automation on labour force by preparing the transition;
- durable dialogue established between relevant stakeholders.

The Stakeholder Forum members are representative of the different typologies of stakeholders identified in relation with the project objectives, with a good geographical balance. SF members were recruited by leveraging the networks of consortium partners, Advisory Board members, relevant networks, and related R&I projects, as well as through the different activities of the Living Hub organised throughout the project.

The Living Hub has organised workshops, survey, interviews, and focus group events to engage stakeholders and gather their feedback and input on various aspects related to the project's objectives, and towards the formulation of the policy agenda. The variety of activities organised with participants from different backgrounds and countries have allowed to bring more nuance in the final output of the project.

Workshops have been opportunities for participants to share their experiences at different level, then created debates that allow them to elaborate more nuanced proposition, closer to practical issues and considering differences among countries.

Finally, the established community of stakeholders and the Living Hub present added value “services” that should sustain beyond the lifetime of the project: a dedicated (online or offline) “channel” (or platform) focused on the challenges posed by digitalisation and automation on transport workforce, facilitating the dissemination of information and the exchange of best practices as well as enabling dialogue and collaboration between a variety of stakeholder types.

REFERENCES

WE-TRANSFORM. (2021). D2.1: Report of the Stakeholder Forum establishment. EU Commission.

WE-TRANSFORM. (2023). D3.3: Report on co-creation of knowledge. EU Commission.

WE-TRANSFORM. (2023). D4.1: Report of the expected impacts of transport automation on the workforce. EU Commission.

WE-TRANSFORM. (2023). D4.2: Report of the legal context related to the impacts of transport automation on the workforce. EU Commission.

WE-TRANSFORM. (2023). D4.3: Report with the scenario consolidation and analysis about the workforce transformation through automation across all transport modes. EU Commission.

WE-TRANSFORM. (2024). D5.1: Agenda to tackle the challenges of automation in the transport sector. EU Commission.

WE-TRANSFORM. (2024). D5.2: Business model options and implementation roadmap. EU Commission.

WE-TRANSFORM. (2024). D6.3: Report on cooperation activities with other projects. EU Commission.

ANNEX A - DESCRIPTION AND SCOPE OF THEMATIC AREAS

Eight thematic areas have been defined to cover the emergent issues automation and digitalisation pose on the workforce. The thematic areas are:

1. Governance of transition;
2. Common skills to develop between same-level workers in different sectors of the transport industry;
3. Minimisation of exclusion processes in the reskilling of the workforce;
4. Platforms for gig workers: implications on jobs production;
5. The role of local and regional authorities;
6. Role of workers in Automated Public Transport Settings;
7. Regulation of transition in the view of collective bargaining
8. Automation and sustainability.

1. Governance of transition

The shift in work due to automation is a challenge not only for workers, but first and foremost for management and companies' governance. Automation and digitalisation will have an enormous impact on job availability, tasks, and duties, and will require a partial reskill of the already available workforce. These processes are impossible to avoid. Public and private companies will observe this change and will have to adapt every part of their workforce, that will be impacted directly or indirectly by this change.

From this shift, some governance issues will arise: new objectives, KPIs and needs will question the nature of some workers, with implications currently unanswered by the current governance. For this, the transition of different categories of workers towards a more automated transport sector, from the management perspective, is essential. Moreover, every industry has a different reasoning behind automation, and a different approach to follow embracing it. This will require managers to follow different approaches per every industry.

Hence, on the company governance profile, the focus of the thematic area is:

- What will be the new responsibilities that will emerge from this shift?
- What changes will be observed in the responsibilities of current managers?
- Which actions will be necessary to address these new challenges?
- What forces will shape the future relationships between managers and reskilled workers?
- Which models will be followed to ensure the best possible outcome for the governance of a company affected by this transformation?
- What procedures will ensure the smooth transition inside a public or private company with the increase of automation?
- How can a new leadership drive towards a better automated future?

2. Common skills to develop between same-level workers in different sectors of the transport industry

Assuming as inevitable the increase in automation in the transport sector, and the sub-consequent necessary reskilling of workers, new learning and support programs will be necessary. The increase of automation will be adapted per each sector in the transport industry. However, given is wide nature, it is expected that some generic skills will be associated and common for the whole industry.

The demand for generic skills is rising across the worlds and across specific fields. These skills are usually high-order and easily transferrable, common to a wide range of contexts across specific fields; among these, communication, problem solving, the ability to understand the logics of information technology. In contrast, the demand for manual dexterity, strength and other tasks are already declining all over the world. The shift in

occupational structure towards these common generic skills in the transport sector is expected to rise even more with the increase of automation, thanks to their relationship with cognitive ability. The lack of these common skills has severe consequences on individuals, firms, and governments.

The involvement of workers in the creation and production of internal material is an important topic currently rising in public and private companies. This should not be surprising since workers are an important actor with a responsibility in the design and implementation of policies and programs, especially when these programs are meant for themselves.

Co-creation and co-production are defined as a joint effort of workers and Human Resources managers in the initiation, planning, design and implementation of learning materials and skillsets. Moreover, co-creation can enhance and grow the leadership ability of the workers, developing soft-skills useful in a co-creation environment. These frameworks have emerged with great success, fuelled by the open innovation drive in companies. This can also support workers retaining in the changing environment.

The focus of the thematic area is:

- What are already the common skills within the whole transport sector?
- It is possible to leverage those skills?
- What will be the common skills that are going to be necessarily developed within the whole transport sector?
- In which specific formation programmes the co-creation can be more profitable for companies and workers?
- Can workers perceive their empowerment through this co-creation?
- Can workers across different transport modes create common frameworks for skill acquirement?
- What KPIs could underline the efficacy of the co-creation program?

3. Minimisation of exclusion processes in the reskilling of the workforce

The transition to a more automated future is not a transition that will happen without hiccups. An important point, that will affect every company, private or public, regards equal treatment of workers, particularly considering the reskilling phase.

As it is well known, younger workers are usually more prone towards new technologies and work habits; however, automatization will be applied in each seniority level of every sector. This means that, to avoid a wide knowledge spread between older and younger workers, the reskilling and processes of upgrade should be arranged to reduce the distinction between categories of workers. Automation, moreover, should support the knowledge differentiation. It is not expected for all workers to gain the same set of skills, but to learn relevant skills leveraged to improve workers condition and perception.

Moreover, it is necessary to intervene to prevent any possibility of workers exclusion due to the increase in automation (e.g., a worker affected by a form of intellectual disability, currently employed at a port in a intensively physical environment; a worker with social function impairment that currently works at an airport isolated checkpoint). This is essential to maintain a good work environment.

The focus of thematic area is:

- How different skillsets are necessary for different workers to learn?
- How can all workers be treated equally and protected in the case of the increasing automation?
- Which essential skills are necessary for the less-digital age category?
- How can a company assess the digital knowledge of its workers to improve its reskilling programs?
- What are the workers protections strategies that should be adopted to avoid treatment differentiation in this reskilling?

4. Platforms for gig workers: implications on jobs production

Quality and safety of working conditions is a responsibility for all actors in the transport sector, both public and private. It is an ethical, legal and operational duty, that must address the quality of life and safety of the public in general, of those who are served, and of the workers providing the service.

Digitalization and Automation may end up in improving work quality conditions and safety, but recent experience shows that new problems can be generated, in creating new typologies of workers, even more exposed to a very low work quality and safety conditions. Exploring those problems in a specific, booming, type of service already enabled by automation and digitalization is relevant, but it can also be a way of exploring what issues may emerge in other services.

The growth of urban micro-deliveries (pizzas, groceries, books, and more) accelerated during the COVID-19 lockdowns. Most of these deliveries are operated by digital platforms (like Uber Eats, Deliveroo, Amazon, etc.) who rely on 'gig-workers'. These services pertain to the transport sector (logistics) and are enabled by digitalization (the whole service, except for the actual delivery, takes place in a digital setting) and automation (within this digital setting, algorithms automatically perform several tasks previously done by people, e.g., matching of requests with couriers, supervision, and evaluation of courier performance, etc.).

Paradoxically, the technology has created a new class of workers who are very low profiles and do not need any digital skill in performing the job created by digitalisation. All over Europe, many thousands of these workers are shuttling around, day and night, rain or shine, in city streets and suburban roads. They are treated as independent contractors (or freelancers), which limits the responsibility of the platforms are willing to hold, as well as the effectiveness of occupation health and safety policies (it has been reported that some operators avoid adopting fleet management procedures for safety to avoid the classification of workers as employees).

On the other side, the needs of companies have to be explored to try to find solutions matching both companies needs and workers protection.

Recent research points out several risk factors:

- the 'efficient service' expected by customers and engineered by platform algorithms encourages risky behaviours, which affect safety for service providers and others;
- how to match company needs with workers' protection;
- many tend to work long hours (which further encourages risky behaviour);
- most use bikes, e-bikes, and scooters, and are, thus, vulnerable road users, but with a higher degree of vulnerability, due to higher exposure, i.e., many more kilometres travelled in urban environments that, for their most part, remain car-centric;

All what mentioned above has serious implications for those workers as well as for vulnerable road users in our cities, and, furthermore, is a useful – albeit very specific – example of some of the consequences of automation and digitalization in transport labour. Finding solutions to match company and workers needs is key for a proper development of the sector.

The focus of the thematic area is:

- look at key factors behind this trend;
- discuss the implications for workers quality of work and safety in our cities and regions;
- define new practices, organisational approaches, etc.;
- define proposal for regulatory schemes, new rules, regulations, legislations, etc.

5. The role of local and regional authorities

Sooner or later, large shifts in the labour market challenge local and regional governments to act – either reactively, when a factory closes and large numbers of unemployed workers demand action from their closest elected officials, or proactively, because skills are needed to match local ambitions for economic development. Automation and digitalization in the transport sector bring several additional challenges to local and regional

authorities: these processes are advancing fast, they have complex and profound implications, and their relation to the scope and capacity of these authorities is not clear and direct.

Several emerging issues will question both the public and the private sector, and major implications may come from processes that are not focused on the labour domain. Consider, for example, that the local deployment of new automated mobility services always requires, in some measure, the regulatory intervention of local and regional authorities. These regulatory decisions will have an impact in the local transport market, and necessarily in its local jobs as well. In return, this expected impact, and its acceptance by local decision-makers (will jobs be threatened? What kind of jobs, and labour rights, will be created instead?) will have a growing importance in how these new mobility services are dealt with – and consequently, in their entry, growth and consolidation.

We stand before a Governance issue, where local and regional governments and transport authorities have an important role to play – which requires, on their part, an awareness and understanding of:

- how the increasing role of automation would lead to an imbalance in the job market which will be typified by unskilled or low skilled workers needing to be replaced by qualified engineers;
- the effects that the previous point will have upon the concentration of wealth and opportunities within the workforce which links in nicely to the political cost of doing so and whether this will disincentive governments from adopting automation;
- the transformations being brought to the transport sector by automation and digitalization;
- the impacts and implications they will have for the local workforce;
- what, in this context, should local and regional governments strive for;
- what can they do to pursue that role.

It is fair to assume that several local and regional governments are not aware, or active, on this issue. We do know, however, that some authorities are working or planning to work on at least part of this issue. What can we learn from them? In this thematic area, we will explore, with some of those authorities, what made them doing it? What are they doing, and what are they thinking of doing next? How are they doing it? What have they learned so far, and what more do they feel they need to learn? What advice do they have for other local and regional authorities, and for overall policy efforts on this front? How can they have a more complete approach of the issue?

6. Role of workers in Automated Public Transport Settings

Most discussions about the impact of digitalization and automation in Public Transport look at the jobs that machines will make redundant – e.g., buses will not need human drivers, ticketing systems will not need salespeople nor ticket inspectors, etc.

However, as much as we may digitalize and automate Public Transport, its main role will remain the same: physically carrying passengers. Perhaps machines will make several human operators redundant, but they will still have to serve human users, with their intrinsic functional and psychological needs. For example:

- digital services can be made highly usable, but they will not eradicate digital illiteracy (i.e., lack of ability and skills to create, evaluate, learn, find, and use information on online media and digital platforms), and the need to support users who are “digitally-challenged”;
- while the presence of cameras and the digital identification of users may discourage some types of criminal behaviour (specifically those for which anonymity is a determinant factor), they offer no guarantees regarding other types of threats (e.g., several forms of sexual harassment, assault, etc.), and they can hardly prevent fear (which must be taken as a psychological fact affecting user satisfaction and service performance);
- automation and digitalization require a solid foundation of clear, structured and well-established protocols, which, by their own nature, leave no space for ambiguity (e.g., unclear or conflicting wants or needs) or the unexpected, two things which are a basic element of human life, and have particular relevance for safety.

In this thematic area we will explore the following questions, to understand which profiles of workers would be needed:

- what needs should we expect passengers to have in these automated settings?
- what are the needs that cannot be satisfied by an automated or digitalized service and that (would) require human service?
- how would the companies be receptive of these measures and would they be able to accept them?

7. Regulation of transition in the view of collective bargaining

The rule of the labour relations with reference to automation transition: models, goals, links to the legislative context. Every major change - such as automation - requires an adaptation of the relevant rules. In this context, the role of collective bargaining becomes central because the role of social actors - entrepreneurs and workers - in identifying the needs and requirements, on the basis of which those rules can be built, is fundamental. Governments translate experiences into legal provisions that often have already been laid down in collective bargaining, which in many legal systems has the same value of law.

Therefore, it might be interesting to investigate, together with company representatives and trade unions, some aspects such as:

- main concerns regarding the application of automation processes respecting e.g.: existing regulations about worker rights, privacy, decent work; promoting decent work to meet individual, organisational, societal goals;
- whether, with respect to those processes, impact mitigation tools are already in place;
- what objectives are set to be achieved through automation processes, also in a positive way (e.g., not only with reference to the mitigation of the impact, but also to the possibility of becoming an opportunity, for example with reference to safety at work).

Concerning this point, see also the “White Paper On Artificial Intelligence - A European approach to excellence and trust” of the EU Commission, 19.02.2020, p. 6: “Beyond upskilling, workers and employers are directly affected by the design and use of AI systems in the workplace. The involvement of social partners will be a crucial factor in ensuring a human centred approach to AI at work”).

8. Automation and sustainability

Impact of automation on work force in the view of sustainability as a milestone of New possible models in governance: compliance with ESG principles social and Economics sustainability, rule of the management.
The connection between automation and sustainability goals is being studied and analysed and has become a crucial topic.

It could be interesting to investigate this aspect, starting from general principles, in order to identify in concrete terms the elements that connect the two, considering that:

- working conditions are crucial elements in building a sustainable business;
- automation is, or can be, a tool with a direct impact on the creation of adequate working conditions;
- especially in the transport sector, given its public relevance, good working conditions can be matched by good service conditions.

In this context, management is required to pay particular attention to these aspects, redesigning production processes in line with the new principles and directing its actions towards sustainability.

Concerning this point, see the “Agenda 2030 for Sustainable Development”, Goal 8.2. “Achieve higher levels of economic productivity through diversification, technological upgrading and innovation, including through a focus on high-value added and labour-intensive sectors”, and 8.3. “Promote development-oriented policies

that support productive activities, decent job creation, entrepreneurship, creativity and innovation, and encourage the formalization and growth of micro-, small- and medium-sized enterprises, including through access to financial services".

ANNEX B - STAKEHOLDER LIST

The following list presents the organisations and corresponding stakeholder categories of participants in the Living Hub activities or which the project partners have acted as ambassador to during the project[11].

Organisation	Stakeholder category	Country
3s	Research organisations	AT
6seconds	Other	US
a2z Autonomous	Technology providers	KR
AAL Austria	Expert Working Groups	AT
Accenture Baltics	Consulting	LV
ACEA	Transport industry	BE
ACI (Automobile Club d'Italia) (Automobile Club d'Italia)	Users	IT
ADAC - Allgemeine Deutsche Automobil-Club	Users	DE
Advanis, Inc	Research organisations	CA
AFT	Transport industry	FR
AIATP - Associazione Italiana Armatori Trasporto Passeggeri	Users	IT
AIRBUS Urban Mobility	Transport industry	DE
AIT Austrian Institute of Technology GmbH	Research organisations	AT
Albanian Bussines Cooperation Development' ABCD Ltd	Consulting	AL

[11] All organisations could not be listed here as "ambassadors" were not at liberty to share that information and/or did not receive the consent to have it published in a public report.

ALICE	Expert Working Groups	BE
ALSTOM	Transport industry	IT
Amazon Web Services	Transport industry	BE
ANAV (Associazione Nazionale Autotrasporto Viaggiatori)	Transport industry	IT
ANCI (Associazione Nazionale Comuni Italiani)	Public institutions	IT
ANITRAV (Associazione Noleggio Con Conducente NCC)	Transport industry	IT
Applied Autonomy	Technology providers	NO
APTA (American Public Transportation Association)	Transport industry	US
Arbeiterkammer Wien Abteilung Umwelt & Verkehr	Workforce	AT
ARBÖ	Users	AT
Arc Universities group	Research organisations	UK
Aristotle University of Thessaloniki	Research organisations	GR
ARRIVAL	Transport industry	UK
ARS Electronica Futurelab	Research organisations	AT
ASFINAG	Transport industry	AT
ASP (IT)	Transport industry	IT
Aspern.mobil LAB	Research organisations	AT
Assaeroporti (32 airport companies for 42 airports)	Transport industry	IT

Assagenti (ports, ships and passengers)	Transport industry	IT
Assiterminal	Transport industry	IT
Association for consumer information (VKI)	Users	AT
Association of Austrian Cities and Towns (staedtebund.gv)	Public institutions	AT
Association of Austrian Municipalities (gemeindebund.at)	Public institutions	AT
ASSTRA	Transport industry	DE
ASTI SERVIZI PUBBLICI S.p.A.	Transport industry	IT
ATAC (IT)	Transport industry	IT
Athena Innovation	Research organisations	GR
Athens Urban Transport Organization - OASA (focus group: automated buses)	Transport industry	GR
ATIVA (Highway Torino-Ivrea-Valle d'Aosta)	Transport industry	IT
Atlantic Bulk Carriers Management Ltd.	Transport industry	GR
ATM (IT)	Transport industry	IT
Attiko Metro	Transport industry	GR
Attorneys-at-Law Athens-Thessaloniki	Other	GR
AU5V (au5v)	Users	FR
Austria Tech	Public institutions	AT
Austrian Mobility Research	Research organisations	AT

Austrian Road Safety Board (KFV)	Research organisations	AT
Autoguidovie	Transport industry	IT
automated driving for vans OEM	Transport industry	DE
Automotive Cluster Bulgaria	Transport industry	BG
Automotive Skills Alliance	Other	BE
Autonomous shuttle manufacturer	Transport industry	DE
Autorità di sistema portuale livorno mts	Public institutions	IT
Autostrade per l'Italia	Transport industry	IT
AV Living Lab	Research organisations	SI
AVL	Technology providers	AT
BALLARE' BRUSTIA SPONGHINI E ASSOCIATI	Consulting	IT
BANCA DEL PIEMONTE	Industry (other)	IT
BASt (German Federal Highway Research Institute)	Transport industry	DE
Bauhaus-Universität Weimar	Research organisations	DE
Be mobile	Technology providers	BE
BEIA	Consulting	RO
Belgian Federal Ministry of Mobility	Public institutions	BE
BEUC	Users	BE
BMK - Austrian Federal Ministry Climate Action, Energy, Mobility, Innovation and Technology	Public institutions	AT

BMVi - Federal Ministry of Transport and Digital Infrastructure	Public institutions	DE
B-NK GmbH Büro für nachhaltige Kompetenz	Consulting	AT
BOKU Wien	Research organisations	AT
Breda University of Applied Sciences	Research organisations	NL
Bridgestone	Transport industry	JP
Buckinghamshire Business First	Consulting	UK
Budapest Közút Zrt.	Public institutions	HU
Business Tampere	Public institutions	FI
Business Upper Austria – OÖ Wirtschaftsagentur GmbH	Other	AT
BusinessEurope (formerly Union of Industrial and Employers' Confederations of Europe)	Workforce	BE
Busitalia - Sita Nord S.r.l.	Transport industry	IT
Buzzi, Notaro & Antonielli d'Oulx Legal firm	Other	IT
BVG (Berlin) – public transit operator	Transport industry	DE
Caritas (caritas.at)	Users	AT
Cavourese-Autoguidovie	Transport industry	IT
CCAM Partnership Cluster 6 (Societal aspects)	Expert Working Groups	BE
CCOO	Workforce	ES
CECRA (Conseil Européen du Commerce et de la Réparation Automobiles)	Transport industry	BE
CEDEFOP - European Centre for the development of vocational training	Workforce	GR

CEDR	Transport industry	BE
Center for Sustainability, Innovation and Good Governance	Research organisations	UK
Centro Portuario de Empleo of Valencia (the port employment centre)	Workforce	ES
ceraqua LLC	Consulting	SA
CESA (shipbuilding industry)	Transport industry	UK
Chamber of Labour (AK arbeiterkammer.at)	Workforce	AT
ChM.fam	Consulting	IT
CILT - Chartered Institute of Logistics and Transport	Research organisations	UK
City Brokers Investment Sp. z o.o.	Industry (other)	PL
City of Antwerp	Public institutions	BE
City of Antwerp	Public institutions	BE
City of Brussels	Public institutions	BE
City of Graz (not a workshop city)	Public institutions	AT
City of Turin	Public institutions	IT
City of Vienna	Public institutions	AT
Clara SpA	Transport industry	IT
Cleantech E-mobility	Other	BG
CLEPA (Automotive suppliers)	Transport industry	BE

Cluster Sofia Knowledge City	Other	BG
CNA-Fita Piemonte (NCC bus &car)	Transport industry	IT
Community of European Railway and Infrastructure Companies (CER)	Transport industry	BE
Confindustria Cuneo	Transport industry	IT
Conftrasporto (biggest business association of the road haulage sector in Italy)	Transport industry	IT
Conseil départemental des Yvelines	Public institutions	FR
Consigmar	Transport industry	ES
Continental	Transport industry	DE
Cosco Shipping Ports Logitren	Transport industry	ES
Council of European municipalities and regions	Public institutions	BE
CRF - FCA	Transport industry	IT
Cstyria Mobilitätscluster GmbH	Transport industry	AT
Czech Republic Ministry of Transport	Public institutions	CZ
Damen Logistik Club	Transport industry	AT
DANAOS Shipping co. ltd ship managers	Transport industry	GR
DB Schenker	Transport industry	AT
De Lijn	Transport industry	BE
Denso	Transport industry	DE

Deutsche Bahn	Transport industry	NL
DfT	Public institutions	UK
DGT - Dirrecion General de Traffico (Spain)	Public institutions	ES
DIGITALEUROPE	Other	BE
DigiTrans GmbH	Research organisations	AT
Aeroporto Bologna	Transport industry	IT
D'leteren	Transport industry	BE
DNV GL Maritime South East Europe, Middle East & Africa	Other	GR
ECORYS	Consulting	BE
ECTRI	Research organisations	BE
EIT Urban Mobility	Transport industry	DE
Ekol Logistics	Transport industry	PL
Elior	Transport industry	IT
EMIC - electric vehicles industrial cluster	Transport industry	BG
E-mobility	Transport industry	BG
EMT Valencia	Transport industry	ES
ENAV	Transport industry	IT
ENIT	Industry (other)	IT

ENPC (Ecole des Ponts-ParisTech)	Research organisations	FR
Enterprise Ireland	Consulting	IE
EPTO European Passenger Transport Operators Association	Users	BE
ERRAC	Expert Working Groups	BE
ERTICO	Technology providers	BE
ERTRAC	Expert Working Groups	BE
ETF Policy Officer for Railways	Workforce	BE
ETH Zurich	Research organisations	CH
EUCAR	Transport industry	BE
Eugenidis Foundation	Research organisations	GR
Eurnex	Research organisations	DE
EUROCITIES (Eurocities – Home)	Public institutions	BE
Eurofound	Workforce	IE
Euronav Ship Management	Transport industry	GR
European Business Aviation Association (EBAA)	Transport industry	BE
European Cockpit Association (ECA)	Transport industry	BE
European Commission	Public institutions	BE
European Community Shipowners' Associations (ECSA)	Transport industry	BE

European Community Shipowners' Associations (ECSA)	Transport industry	BE
European Confederation of Independent Trade Unions (CESI)	Workforce	BE
European Cyclists' Federation (ECF)	Users	BE
European Metropolitan Transport Authorities	Public institutions	FR
European Parliament	Public institutions	BE
European Passenger Transport Operators - EPTO	Transport industry	UK
European Passengers' Federation	Users	BE
European Rail Freight Association (ERFA)	Transport industry	BE
European Trade Union Confederation (ETUC)	Workforce	BE
European Trade Union Institute	Workforce	BE
European Transport Workers' Federation (ETF)	Workforce	BE
EVIC - Electric Vehicles Industrial Cluster	Transport industry	BG
Evolit Consulting GmbH	Technology providers	AT
Fabrìque Avvocati Associati	Other	IT
FEB (Federation of Belgian Enterprises)	Workforce	BE
FEDERATION NATIONALE DES TRANSPORTS ROUTIERS (FNTR)	Transport industry	FR
FEDERMANAGER ITALIA	Consulting	IT
FEDERTRASPORTO (National Federation of Transport Systems and Modes and Related Activities)	Transport industry	IT
Federturismo Confidustria	Industry (other)	IT
FEHRL	Transport industry	BE

FEMA Federation of European Motorcyclists' Associations	Users	BE
FEPORT (The Federation of European Private Port Companies and Terminals)	Transport industry	BE
FER Emilia Romagna	Transport industry	IT
Ferrovie dello Stato Italiane	Transport industry	IT
FERSI (Forum of European Road Safety Research Institutes)	Research organisations	NL
FGTE-CFDT	Workforce	FR
FGTE-SNTU	Workforce	FR
FIA - Fédération Internationale de l'Automobile	Users	BE
FILT CGIL	Workforce	IT
Fiqsy	Transport industry	LV
FIT CISL	Workforce	IT
Flemish Government, Department of Mobility and Public Works,	Public institutions	BE
Floya	Transport industry	BE
FM Logistics	Transport industry	ES
FNST CGT	Workforce	FR
FNV	Workforce	NL
Fondazione Di Vittorio	Workforce	IT
Fondazione Marco Biagi	Research organisations	IT
Ford	Transport industry	DE
Fraunhofer-Institut für Arbeitswirtschaft und Organisation IAO	Research organisations	DE

Free port of Riga	Transport industry	LV
FS Italiane	Transport industry	IT
FTTUB (Federation of Transport Trade Unions in Bulgaria)	Workforce	BU
FUB (Fédération française des usagers de la bicyclette)	Users	FR
Fundacion Valenciaport	Research organisations	ES
GART - Groupement des autorités responsables de transport	Public institutions	FR
Gebrüder Weiss GmbH	Transport industry	AT
GEFCO Baltic	Transport industry	LV
General Motors	Transport industry	BE
Google Cloud	Technology providers	BE
Govia Thameslink Railway (GTR)	Transport industry	UK
Graz Linien	Transport industry	AT
Graz University of Technology	Research organisations	AT
Grupo Chema Ballester	Transport industry	ES
Grupo Romeu	Transport industry	ES
GRUPPO TORINESE TRASPORTI S.p.A.	Transport industry	IT
Guanxi	Consulting	IT
H.C.A.A	Transport industry	GR

Hegelmann	Transport industry	LV
Hellenic Train /TrainOSE	Transport industry	GR
Highways England	Public institutions	UK
HITACHI RAIL	Transport industry	IT
Honda	Transport industry	BE
htw saar	Research organisations	DE
Huawei	Transport industry	CN
Humanising Autonomy	Transport industry	UK
IAM RoadSmart	Transport industry	UK
IBI Group	Industry (other)	GR
I-FEVS	Transport industry	IT
industriAll	Industry (other)	BE
Infraestruturasdeportugal	Transport industry	PT
Institute for Technology and Society of Rio de Janeiro	Research organisations	BR
Institute of Transport and Telecommunications	Research organisations	LV
International Association of Public Transport (UITP)	Transport industry	BE
International Road Transport Union (IRU)	Users	BE
International Transport Workers' Federation (ITF)	Workforce	BE

Intract Innovation and Consultancy	Consulting	TR
IRU	Transport industry	BE
ITA Airways	Transport industry	IT
Itainnova	Research organisations	ES
IV.AT (Federation of Austrian Industries)	Transport industry	AT
Johannes Kepler University Linz	Research organisations	AT
JRC -Joint Research Centre	Public institutions	IT
JSC "Riga International Coach Terminal"	Transport industry	LV
Kaleido Logistics	Transport industry	UK
KEOLIS	Transport industry	FR
KEPKA - Consumers Protection Center	Users	GR
KFV - Austrian Road Safety Board	Transport industry	AT
KU Leuven	Research organisations	BE
KYUNGIL UNIVERSITY	Research organisations	KR
LATRAILNET	Transport industry	LV
Leonardo	Transport industry	IT
LGI consulting	Consulting	FR
Liedekerke	Consulting	BE
Linea Azzurra S.r.l.	Transport industry	IT

LISER - Luxembourg Institute of Socio-Economic Research	Research organisations	LU
Livorno & Piombino Port Authority	Transport industry	IT
Logistics and Management Development (CILT-Poland)	Transport industry	PL
LUXMobility	Transport industry	BE
MAGNA STEYR FAHRZEUGTECHNIK AG & CO KG	Transport industry	AT
Major Cities of Europe	Transport industry	FR
MAN Truck & Bus	Transport industry	AT
Management consultant	Consulting	BG
Mastra srl	Consulting	IT
Mediterranean Shipping Company Terminal Valencia	Transport industry	ES
Mercedes Benz	Transport industry	DE
Metro of Madrid	Transport industry	ES
Microsoft	Technology providers	BE
Mile Logistics	Transport industry	LV
Miles Legal	Other	BE
Ministère de la Transition écologique	Public institutions	FR
Ministry of Economics	Public institutions	LU
Ministry of Economy and Development	Public institutions	GR

Ministry of Innovation and digital transition - MID	Public institutions	IT
Ministry of Transport and Infrastructure – MIT	Public institutions	IT
Ministry of Transport of the Republic of Latvia	Public institutions	LV
Missions Publiques	Citizens	FR
Mitsubishi Electric	Transport industry	JP
MJC2	Technology providers	UK
MobiLab	Transport industry	AT
Monotch	Technology providers	BE
Morgan State University	Research organisations	US
MoverDB.com	Transport industry	UK
Movimento Consumatori Piemonte APS	Users	IT
MSC	Transport industry	ES
Municipality of Varna	Public institutions	BG
NAVYA	Transport industry	FR
NERVETECH - Ljubljana	Transport industry	SI
New Urban Mobility alliance (NUMO)	Users	UK
Noatum Logistics	Transport industry	ES
Nohup srl	Technology providers	IT

NORDREGIO	Research organisations	SE
Norwegian School of Economics	Research organisations	NO
NTUA	Research organisations	GR
ÖAMTC	Users	AT
OASA -Athens Urban Transport Organisation S.A.	Transport industry	GR
ÖBB	Transport industry	AT
OnLine Data SA	Technology providers	GR
OPTIMUM GROUP	Transport industry	GR
OSETh (Public Transport Authority of Thessaloniki)	Transport industry	GR
Österreichische Postbus AG	Public institutions	AT
Österreichischer Gemeindebund	Public institutions	AT
PANASONIC AUTOMOTIVE EUROPE	Transport industry	DE
Parifex	Research organisations	FR
Paris Telecom	Transport industry	FR
Paul Scherrer Institute (PSI)	Research organisations	CH
PAVE Europe	Citizens	BE
PEARL	Transport industry	GR
PELIXAR Advanced Drone Solutions	Transport industry	PL

PEPEN	Transport industry	GR
PISAMO SRL - COMUNE DI PISA	Public institutions	IT
POL-ABA Logistyka	Transport industry	PL
Pôle Véhicule du Futur	Transport industry	FR
POLIS Network	Public institutions	BE
Politecnico di Torino	Research organisations	IT
Polska Unia Transportu	Workforce	PL
Port Equipment Manufacturing Association (PEMA)	Transport industry	BE
Port of Trieste	Transport industry	IT
Port of Valencia	Transport industry	ES
PriceWaterHouse&Coopers	Consulting	IT
Province of Noord-Brabant	Public institutions	NL
PROW-Progressive Research Organisation Welfare	Research organisations	IN
Public Employment Service Austria (AMS.AT)	Workforce	AT
Public Transport association East-Region (VOR)	Transport industry	AT
Qualcomm	Technology providers	BE
Raben Latvia	Transport industry	LV
Radboud University	Research organisations	NL

Radlobby	Transport industry	AT
RAI - Islamic Republic of Iran Railways	Transport industry	IR
Rail Cargo Austria AG	Transport industry	AT
RATP	Transport industry	FR
Redrim s.c.	Consulting	Italy
Renault Group	Transport industry	FR
Renault Trucks SAS	Transport industry	FR
RIDE	Transport industry	LV
Riga City Council City	Public institutions	LV
Riga International Airport	Transport industry	LV
Riga International Coach Terminal	Transport industry	LV
Rijskwaterstaat - RWS (Dutch Ministry of Infrastructure)	Public institutions	NL
Robert Bosch	Transport industry	DE
SAFER / CHALMERS	Research organisations	SE
Salzburg Verkehr	Transport industry	AT
SARMED SA	Transport industry	GR
Sauder School of Business - Vancouver, B.C.	Research organisations	CA
SDT	Transport industry	UK

SGI Europe (formerly European Centre of Enterprises)	Workforce	BE
Siemens Software	Transport industry	DE
SITAF (Highway A32 Torino-Bardonecchia and Frejus tunnel T4)	Transport industry	IT
SMEunited (formerly UEAPME)	Workforce	BE
SOFIA DEVELOPMENT ASSOCIATION	Transport industry	BG
Sofia Lab	Research organisations	BG
Sofia mobility centre	Public institutions	BG
STASY S.A.	Transport industry	GR
STC Group	Other	NL
STIB	Transport industry	BE
STRADA	Public institutions	US
SUARDIAZ Logistics	Transport industry	ES
Surrey County Council	Public institutions	UK
Sustainable Prosperity for Europe programme (SPfE) of the European Policy Center (EPC)	Public institutions	BE
Swansea University - SPECIFIC	Research organisations	UK
Swarco	Technology providers	IT
Swedish Transport Administration - Trafikverket	Public institutions	SE
TDIE	Other	FR
Teesside University	Research organisations	UK

TERRA AVIA airline	Transport industry	MD
Thales	Transport industry	FR
The International University of Logistics and Transport in Wroclaw	Research organisations	PL
Thinkport Vienna	Transport industry	AT
TIC 4.0 – Terminal Industry Committee 4.0	Transport industry	BE
TNO	Research organisations	NL
Toyota Europe	Transport industry	BE
TPER (Trasporto Passeggeri Emilia-Romagna)	Users	IT
Tper spa	Transport industry	IT
Tractebel	Industry (other)	BE
trans/formation	Consulting	FR
TransBase Soler	Transport industry	ES
TRANSDANUBIA Speditions GmbH	Transport industry	DE
TRANSDEV (FR)	Transport industry	FR
Transformotion	Consulting	UK
TRB (Research Innovation Implementation Management Committee + International Coordinating Council – ICC (A0020C)	Expert Working Groups	US
Trenitalia s.p.a	Transport industry	IT
TRT Trasporti e Territorio	Transport industry	IT

Uber European Policy office	Transport industry	BE
UIC	Workforce	FR
UILTRASPORTI	Workforce	IT
UK Department for International Trade	Public institutions	UK
UML Salzburg	Transport industry	AT
UniCons (Unione Tutela cittadini e Consumatori)	Users	IT
UniKL Business School (UBIS), Universiti Kuala Lumpur	Research organisations	MY
Unite/UK	Transport industry	UK
Università degli studi di Bari Aldo Moro	Research organisations	IT
Université Gustave Eiffel	Research organisations	FR
University College London (UCL)	Research organisations	UK
University Leeds	Research organisations	UK
University Loughborough	Research organisations	UK
University of Aegean	Research organisations	GR
University of Berkeley	Research organisations	US
University of Budapest	Research organisations	HU
University of California, PATH	Research organisations	US
University of Deusto - DeustoTech	Research organisations	ES

University of Hertfordshire	Research organisations	UK
University of Maribor	Research organisations	SI
University of Michigan	Research organisations	US
University of Minnesota	Research organisations	US
University of Nagoya	Research organisations	JP
University of Nevada, Las Vegas	Research organisations	US
University of Surrey	Research organisations	UK
University of the West of England Bristol	Research organisations	UK
University of Vigo	Research organisations	ES
University of West Attica	Research organisations	GR
University of Zilina (UNIZA)	Research organisations	SK
UNSA Ferroviaire	Workforce	FR
Urban Innovation Vienna	Expert Working Groups	AT
USDOT (Volpe)	Public institutions	US
Usługi Transportowe Yevhenii & Paulina Ponomarov s.c.	Transport industry	PL
UTP (Union des Transports Publics et Ferroviaires)	Workforce	FR
Valencia Forwarders Association (ATEIA – OLTRA)	Transport industry	ES

Valencia Shipping and Terminals Agency (ANV)	Transport industry	ES
Valeo	Transport industry	FR
VBO/FEB	Workforce	BE
VCÖ	Users	AT
VEDECOM	Research organisations	FR
Vedogiovane coop. soc. a.r.l.	Other	IT
Verband der Automobilindustrie (VDA) / German Association of the Automotive Industry	Transport industry	DE
Verkehrsclub Deutschland e. V. (VCD)	Transport industry	DE
Verkehrsverbund Ostregion/ITS Vienna Region	Public institutions	AT
Vervo	Transport industry	LV
Via donau	Transport industry	DE
VIDA	Workforce	AT
Vilnius Gediminas Technical University	Research organisations	LT
Virtech	Technology providers	BG
VOKA	Workforce	BE
Volkswagen	Transport industry	DE
Volvo	Transport industry	SE
VTT	Research organisations	FI

Waabi – head of Policy & Public Affairs	Technology providers	US
WAMS Sp. z o.o.	Transport industry	PL
WATERBORNE (The European research and innovation platform for waterborne industries)	Transport industry	BE
Wiener Linien	Transport industry	AT
Windels Marx, Attorney at Law	Other	US
Women in Mobility - Hub Vienna	Expert Working Groups	AT
World Bank Group	Public institutions	IT
World Employment Confederatiion (WEC)	Workforce	BE
WSP	Consulting	UK
WSSE "INVEST-PARK" sp. z o.o.	Industry (other)	PL
WU Wien (Wirtschaftsuniversität Wien)	Research organisations	AT
Youth Innovation Lab	Other	NP
Zailog scarl	Transport industry	IT
Zentralverband Spedition & Logistik	Transport industry	AT

WE-TRANSFORM CONSORTIUM

The WE-TRANSFORM Consortium is composed by 34 partners from the whole globe, marking the interest in comprehending the topic from every point of view.

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