STUDY

Requested by the TRAN committee

European Parliament

Research for TRAN Committee - Transport and tourism for persons with disabilities and persons with reduced mobility

Policy Department for Structural and Cohesion Policies
Directorate General for Internal Policies of the Union
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DIRECTORATE-GENERAL FOR INTERNAL POLICIES

Policy Department for Structural and Cohesion Policies

TRANSPORT AND TOURISM

Research for TRAN Committee - Transport and tourism for persons with disabilities and persons with reduced mobility

STUDY

Abstract

This study has undertaken literature reviews, user and experts' questionnaires, interviews and workshop surveys, analysis of EU legislation, SWOT and Multi-Criteria Analysis, identification of best practices and analyses of case studies. This has led to a mapping of accessibility across the EU Member States (identifying relevant state clusters) for three different sectors: local transport, long-distance transport, and tourism. Specific policies, research priorities and recommendations are made per state clusters and for the EU, which can enhance accessibility in each of the three sectors.

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This document was requested by the European Parliament's Committee on Transport and Tourism.

AUTHORS

CERTH/HIT: Dr. Evangelos BEKIARIS, Matina LOUKEA, Pavlos SPANIDIS
EDF: Saskia EWING, Marie DENNINGHAUS
ENAT: Ivor AMBROSE, Katerina PAPAMICHAIL, Roberto CASTIGLIONI, Chris VEITCH
Graphic design: John Alertas (CERTH/HIT)
Linguistic diligence: Elisabeth Mestheneos (50+, f. AGE President)

Research manager: Christina RATCLIFF
Project and publication assistance: Adrienn BORKA
Policy Department for Structural and Cohesion Policies, European Parliament

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ABOUT THE PUBLISHER

To contact the Policy Department or to subscribe to updates on our work for TRAN Committee please write to: Poldep-cohesion@ep.europa.eu

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DISCLAIMER

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LIST OF ABBREVIATIONS

ACAA Air Carriers Access Act
ACI Airport Council International
ADA Americans with Disabilities Act
AI Artificial Intelligence
AIS Accessibility Information Schemes
ALDE Group of the Alliance of Liberals and Democrats for Europe
AMA Accessibility for Manitobans Act
AODA Accessibility for Ontarians with Disabilities Act
Art. Article
AT Assistive Technology
ATM Automatic Teller Machine
AVL Automatic Vehicle Location
BAS Brake-assist systems
BMVI Bundesministerium für Verkehr und digitale Infrastruktur (German: Federal Ministry of Transport, Building and Urban Development)
BTWG Technical Board Working Group
CAA Civil Aviation Authority
CBA Cost-benefit analysis
CEN Comité Européen de Normalisation (French: European Committee for Standardisation)
CENELEC European Committee for Electrotechnical Standardisation
COCEMFE Confederación Española de Personas con Discapacidad Física y Orgánica (Spanish: Spanish Confederation of People with Physical and Organic Disability)
CoR Committee of the Regions
COSME Europe's competitiveness programme for small and medium-sized enterprises.
CRPD Committee on the Rights of Persons with Disabilities
CULT European Parliament's Committee on Culture and Education
DGCA Directorate General of Civil Aviation
DMO Destination Management Organisation
DoT Department of Transportation
DOTCOM The Disability Online Tool of the Commission
DPO Disabled Persons' Organisation
DRT Demand Responsive Transportation
DSM Digital Single Market

E	European (recommendation)
EAA	European Accessibility Act
EASA	European Aviation Safety Agency
EC	European Commission
ECAC	European Civil Aviation Conference
ECOSOC	Economic and Social Committee
EMA	Electric Mobility Aids
ENAC	Ente Nazionale per l'Aviazione Civile (Italian: National Agency for Civil Aviation, also known as the Italian Civil Aviation Authority)
EP	European Parliament
epayment	Electronic payment
EPP-ED	Group of the European People's Party and European Democrats
ERA	European Railway Agency
ETSI	European Telecommunications Standards Institute
EU	European Union
FCC	Federal Communications Commission
FPS	Frontal protection systems
FRA	EU Agency for Fundamental Rights
FTA	Federal Transit Administration
G	Generic (recommendation)
GDP	Gross Domestic Product
Greens/EFA	Group of the Greens/European Free Alliance
GUE/NGL	Confederal Group of the European United Left - Nordic Green Left
HMI	Human-Machine Interface
HRLSC	Human Rights Legal Support Centre
HRTO	Human Rights Tribunal of Ontario
IATA	International Air Transport Association
ICE	Inter-City-Express
ICF	International Classification of Functioning, Disability and Health
ICT	Information and Communication Technology
IND/DEM	Independence/Democracy Group
IPDA	Integration of Persons with Disabilities Act
ISO	International Organisation for Standardisation
ISTO	International Social Tourism Organisation
IT	Information Technology
ITS	Intelligent Transportation Systems
KPIs	Key Performance Indicators
LBA	Luftfahrt-Bundesamt (German: Federal Aviation Office)

LD	Long-distance
LO	Local
MaaS	Mobility as a Service
MAMCA	Multi-Actor Multi-Criteria Analysis
MCA	Multi-Criteria Analysis
MEDIF	Medical Information Sheet
MFF	Multiannual Financial Framework
MMTIPs	Multimodal Travel Information and Planning Services
mpayment	Mobile payment
N	National (recommendation)
NEB	National Enforcement Body
NGO	Non-governmental organisation
NIP	National Implementation Plan [of UNCRPD]
NTO	National Tourism Organisation
OITS-ISTO	International Social Tourism Organisation
PPP	Public-Private Partnerships
PRM	Person with Reduced Mobility
PRR	Passengers' Rights
PSO	Public Service Obligation
PT	Public Transport
PwD	Person with Disabilities
QoS	Quality of Service
R	Research priority
RICA	Research Institute for Consumer Affairs
R&D	Research & Development
RoI	Return on Investment
SAE	Society of Automotive Engineers
SCPs	Special Categories Passengers
SDI	Special Declaration of Interest
SDR	Special Drawing Rights
SENT	Slovensko združenje za duševno zdravje (Slovenian: Slovenian Association for Mental Health)
SMEs	Small and medium-sized enterprises
SUMP	Sustainable Urban Mobility Plan
SWOT	Strengths, Weaknesses, Opportunities, Threats
TAP	Telematics applications for passenger service
TAP-TSI	Technical specification for interoperability relating to the subsystem telematics applications for passenger services

TARDEC	Tank Automotive Research, Development and Engineering Center
TEN-T	Trans-European Transport Network
TFEU	Treaty on the Functioning of the European Union
TGV	Train à Grande Vitesse (French: high-speed train)
TO	Tourism
TR	Technical Report
TRAN	European Parliament's Committee on Transport and Tourism
TRB	Transport Research Boards
TSI	Technical specifications for interoperability
TSI-PRM	Technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility.
TV	Television
UI	User Interface
UN	United Nations
UNCRPD	UN Convention on the Rights of Persons with Disabilities
UNWTO	United Nations World Tourism Organisation
WCAG	Web Content Accessibility Guidelines (W3C Web Accessibility Initiative, Web Content Guidelines)
WHO	World Health Organisation

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PRESENTATION OF THE STUDY TEAM

The Research Study "Transport & Tourism for Persons with Disabilities & Persons with Reduced Mobility is produced in 2017-2018 by the Hellenic Institute of Transport of the Centre for Research & Technology Hellas (CERTH/HIT), with the support of 2 sub-contractors, namely the European Disability Forum (EDF) and the European Network for Accessible Tourism (ENAT).

The Centre for Research & Technology Hellas/Hellenic Institute of Transport (CERTH/HIT) (Lead Contractor)

CERTH is one of the largest Research Centres in Greece, with its mission to carry out basic and applied research.

The Hellenic Institute of Transport (HIT) is one of CERTH's five research institutes. It focuses on applied research in all fields and modes of transport, providing input for policy formulation, documentation of major trends and impacts, as well as improvement of the operation and management in the field of transport. HIT has great expertise in transport accessibility issues, in terms of the development of web services, mobile applications, assessment, training and certification schemes and tools. It also has strong activity in R&D concerning the touristic sector, and especially accessible tourism, often combining work on accessible transport and tourism in the form of accessible destinations.

HIT website

The European Disability Forum (EDF) (Sub-contractor)

The European Disability Forum (EDF) is an independent NGO that represents the interests of 80 million Europeans with disabilities. EDF is a platform which brings together representative organisations of persons with disabilities from across Europe. EDF is run by persons with disabilities and their families and one of its areas of action (amongst others such as human rights or social policy) is transport accessibility and mobility.

European Disability Forum website

The European Network for Accessible Tourism (ENAT) (Sub-contractor)

ENAT is a non-profit association for organisations that aim to be 'front-runners' in the study, promotion and practice of accessible tourism. By leveraging the knowledge and experience of the network, ENAT members are improving the accessibility of tourist information, transport, infrastructure, design and service for visitors with all kinds of access needs, providing models of excellence in accessible tourism for the whole of the tourism industry. ENAT has 19 Full Members from more than 10 European countries and over 50 Associate Members from 30 countries in Europe and overseas.

European Network for Accessible Tourism website

EXECUTIVE SUMMARY

Background

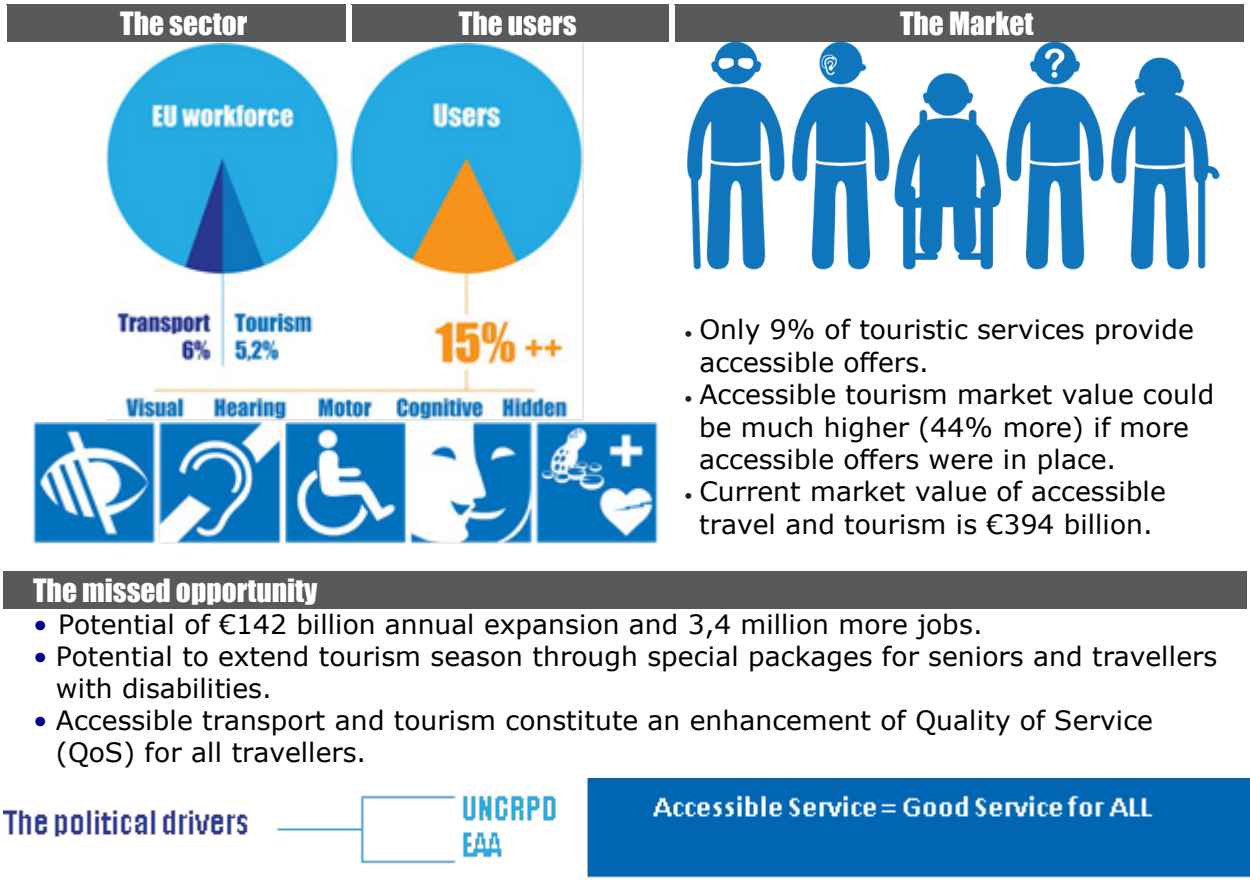
Evidence from the EU Agency for Fundamental Rights consistently demonstrates that persons with disabilities face discrimination and barriers to exercising their rights on an equal basis with others. This is despite the fact that, in the European Union (EU), persons with reduced mobility (PRMs), whether caused by disability, age or any other factor, are accorded the same rights as all citizens to free movement, freedom of choice and non-discrimination. Against this background, this study examines the problems of accessibility in transportation and tourism, covering the EU as a whole and providing relevant analysis from a number of individual EU Member States.

Aim

The aim of this study is to provide Members of the European Parliament's Committee on Transport and Tourism (TRAN) with clear recommendations on what could be done, in particular at the EU policy level, to support accessibility in the transport and tourism sectors. The distinction is made in this study between:

- Local transport (which includes mainly public transport services such as buses, trams, metro, and short-distance rail transport, but also the use of personal cars and personal mobility aids).
- Long-distance transport (including road, rail, air, and maritime transport).
- Tourism.

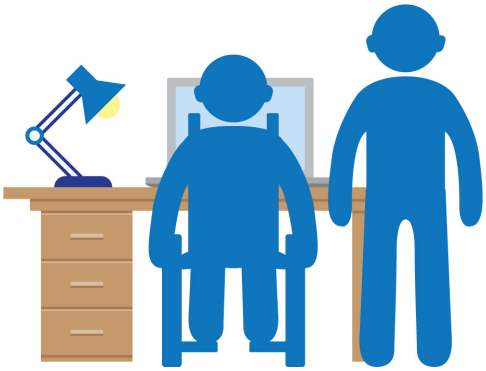
Meet the Users



Design and sources

The work has been organised around 2 axes:

1. The areas under examination, namely local transport, long-distance transport and tourism; and
2. The 3 distinct phases, namely Description of the current status, Assessment of needs, gaps and good practices, and Recommendations for future policy and development.



Realised through:

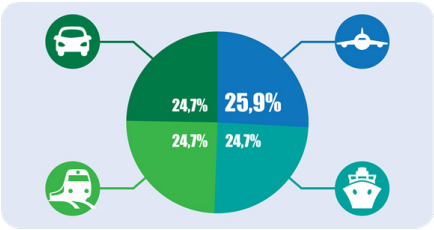
- More than 100 literature sources analysis.
- 23 experts and 36 user representatives' questionnaire feedback from 16 countries.
- NEBs input from 17 countries.
- 16 user representatives' interviews from 10 countries.
- 15 own experts.
- 3 workshops with 38 participants.
- 90 best practices (43 for local transport, 19 for long-distance transport and 24 for tourism) and case studies (5 for each area) from over 17 EU states and other countries (Australia, Norway, the USA).
- SWOT analysis performed in all 3 sectors.
- MAMCA (Multi-Criteria Analysis) on user needs prioritisation.

Results:

- Clustering of EU Member States in "models" according to their local transport, long-distance transport and tourism accessibility status, legislation and plans.
- Mapping of local transport, long-distance transport and tourism accessibility across all EU Member States and the European legislation.
- Recommendations on all three areas for all country clusters.
- EU Policy level recommendations for local transport (4), long-distance transport (5) and tourism (4).
- Research priorities recommendations for local transport (4), long-distance transport (3) and tourism (4).

The EU Legal Framework

Relevant EU regulations, standards and initiatives, have been thoroughly surveyed and comments provided, as appropriate.



The NEBs estimated that they receive, on average, 736 complaints from air passengers annually, 26 concerning maritime transport, 421 regarding the rail and 201 from the road. From them, only 1% of the complaints came from persons with disabilities and persons with reduced mobility. Nearly half of the NEBs (44%) admitted that most passengers, as well as the public in general, are not sufficiently aware of the existence and role of NEBs.

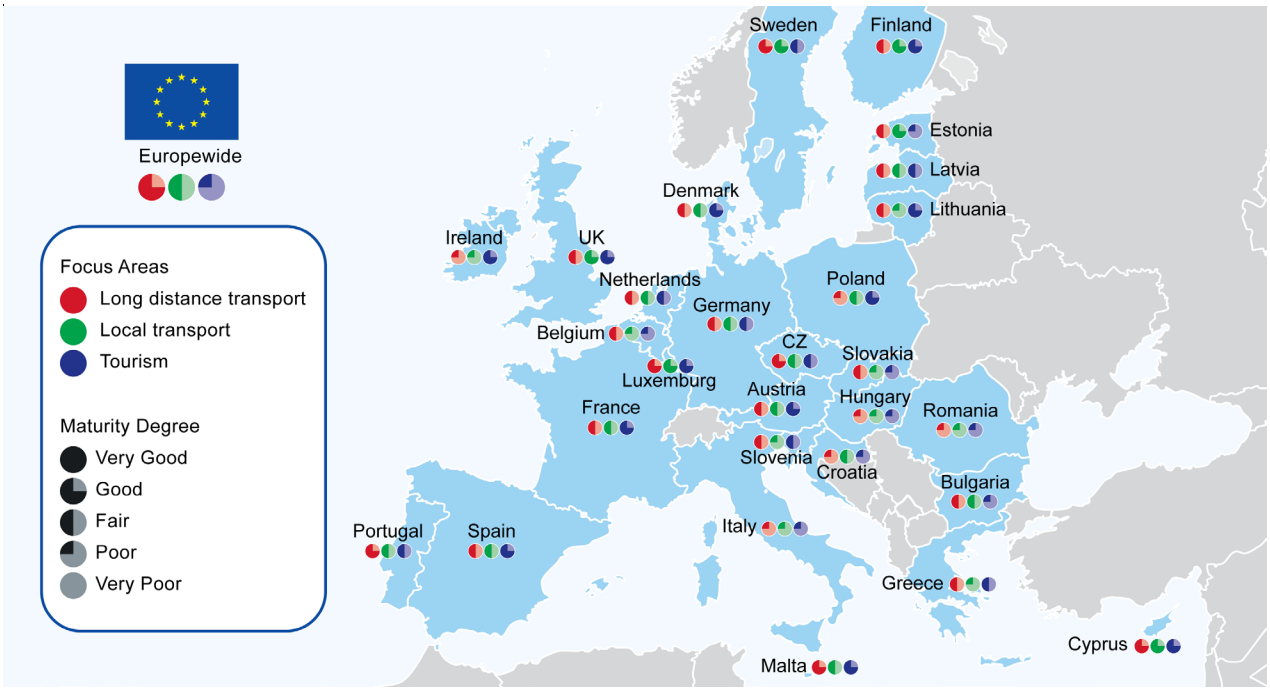
From the users' point of view, the majority of participants that replied to the relevant questionnaire of this study (59%) also stated that are not aware of the relevant NEBs that could help them with the enforcement of their rights.

Accessibility across Europe

The accessibility of the local and long-distance transport, as well as tourism, of each EU Member State has been evaluated and the various EU Member States have been clustered into the following "models":

- In accessible transport: front-runners, self-regulated, improvers, provincial, mixed, gap of implementation, late-starters and low-achievers.
- In accessible tourism: front-runners, improvers, starters, late-starters and low-achievers.

The relevant qualitatively assessed accessibility status of each Member State and the EU is graphically depicted below.



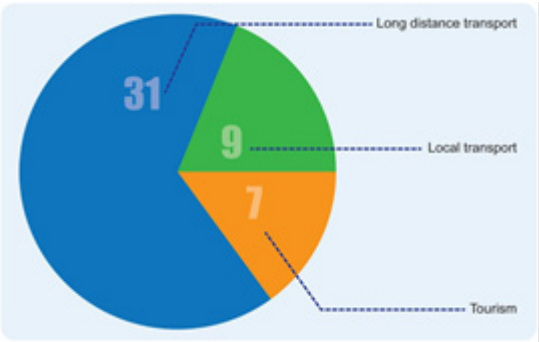
Main barriers

The main issues identified per area are briefly summarised below:

1 Local Transport

- No information on accessibility of local transport in accessible format, that is concise and reliable.
- Low use of mobile apps and social media in the sector.
- Low accessibility in suburban and rural areas.
- Major access barriers in interchanges and intermodal hubs.
- Low number/frequency of accessible city buses.

Figure 1: Existing digital tools in relation to each area/sector.



Source: Author's own elaboration

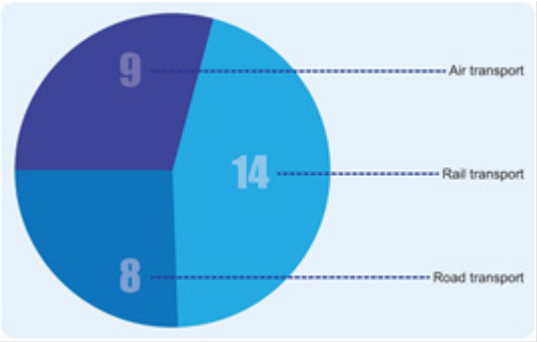
2 Long-distance Transport

- Slow implementation of relevant regulations.
- Need for more mobile ramps at stations.
- Need for better accessible equipment maintenance and redundancy.
- Need for incentives and policies to push operators to go beyond minimum legal requirements.
- Staff training and behavioural issues constitute a barrier.
- Need for accessible infomobility service tools (including cross-border and multimodal transport).
- More emphasis on use of modern Information & Communication Technology (ICT) for accessible ticketing replacement.

3 Tourism

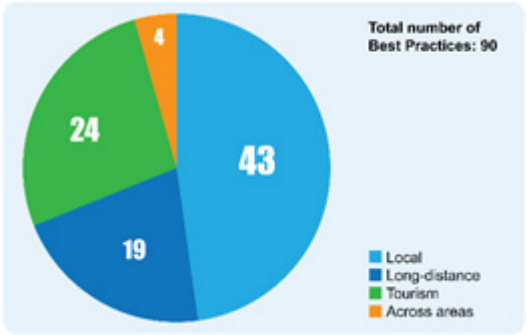
- Ensure overall accessibility at the destination, not only individual services.
- Successful accessible destinations have a clear "Top down" accessibility policy.
- Lack of strong business case remains a major barrier to business engagement.
- Individual Accessibility Information Schemes (AIS) lack harmonisation and often reliability.
- Staff knowledge and information is also an important barrier.
- Lack of accessible experiences, attractions and recreation opportunities.
- Inclusive conference organisation and events help promote accessibility in destinations.

Figure 2: Existing digital tools with accessible long-distance transport information clustered per transportation mean.



Source: Author's own elaboration

Figure 3: 90 best practices and 15 case studies (5 per area) have been analysed and are presented within this study.



Source: Author's own elaboration

Key recommendations

The main policy and research recommendations per area, at National level (N) and European level (E), are briefly summarised below:

Generic (G) & Research (R)

G1. Develop an "EU Access Board" or European Agency (like the one in the USA).

G2. Support of at least WACAG 2.0 accessibility level of the websites and apps.

R1. Research on a standardised clustering of disabilities for accessible transport and tourism.

R2. Research on the economic impact of substantially higher accessibility levels.

Local Transport (LO)

LO-N1: "Front-runners" to focus on overall state coverage of services, including rural and suburban areas.

LO-N2: "Gap of implementation" EU Member States to consider innovative business models to finance accessibility.

LO-N3: "Late-starters" to push through awareness campaigns the issue higher on the political agenda.
LO-E1: Standardise, in an accessible format, information on local transport accessibility across EU Member States.
LO-E2: At least 1/3 of local transport vehicles to be accessible. This should be included as quota at relevant future public procurements.
LO-E3: Harmonise local transport training staff across the EU.
LO-E4: Extend Regulation (EU) No 181/2011 to all bus and coach services, including local ones.
LO-R1: Research on holistic tools for accessibility inclusion in Sustainable Urban Mobility Plans (SUMPs).
LO-R2: Research on autonomous vehicles accessibility.
LO-R3: Research on emerging Mobility as a Service (MaaS) schemes accessibility.
LO-R4: Research on epayment/mpayment and contactless Information Technology Services (ITS) use for personalised accessibility.

Long-distance Transport (LD)

LD-N1: "Front-runners" to implement transport staff life-long training in accessibility nationwide and for all modes.
LD-N2: "Gap of implementation" EU Member States to adopt realistic targets and prioritise implementation in a modular manner.
LD-N3: "Late-starters" to regulate accessibility through national act and implementation plan for all modes.
LD-E1: Specify better safety reasons behind denial of carriage in the air sector and, if applied, the cost to be borne by the airline.
LD-E2: Reduce the maximum notice period to book assistance in the rail sector.
LD-E3: Define guidelines for staff training and include it in regulations for all modes.
LD-E4: Adopt a multimodal passenger's rights regulation.
LD-E5: Denominate an "accessibility coordinator" in multimodal terminals.
LD-R1: Provide personalised information for the required transport mode interchange time for each PRM group, according to mobility pace, speed and restrictions.
LD-R2: Research cost-efficient accessibility for domestic waterborne excursion boats.
LD-R3: Integrate the many digital tools across EU Member States on long-distance transport accessibility information.

Tourism (TO)

TO-N1: All EU Member States to develop statistics on national accessible tourism offer and demand.
TO-N2: "Front-runners" to consolidate actions to cover the whole territory.
TO-N3: "Improvers" and "late-starters" to liaise with "front-runners" to transfer know-how.
TO-E1: Accessible tourism market to be included in Eurostat statistics.
TO-E2: Return on Investment (RoI) of accessible tourism to be populated with "hard data" and business cases at European level.
TO-E3: Develop or adopt a common EU label on accessible tourism.
TO-E4: EU-wide utilisation of the European "Accessible Tourism Directory" database.
TO-R1: Research on barriers to small and medium-sized enterprises (SMEs) business development.
TO-R2: Research on communication channels for SMEs business advice and support.
TO-R3: Research on key communication channels to convince SMEs to invest in accessibility.
TO-R4: Research on possibilities of using Artificial Intelligence (AI), Robotics, Environmental Sensing and other new technologies and applications.

1 INTRODUCTION

KEY FINDINGS & RECOMMENDATIONS

- In the EU, 4,5% of the workforce works directly in the transport sector and another 1,5% in transport equipment manufacturing. Furthermore 5,2% of the workforce is occupied in the tourist sector. Thus, these two sectors employ over 11% of the European workforce.
- 15% of the world population (1 billion people) lives with some form of disability. This is expected to affect 1,2 billion people by 2020. Over 20% of the global population will be over 65 by 2050.
- In the EU Member States, alone, the demand from tourists with disabilities and older people is estimated at 780 million travels, resulting in €400 billion revenues per annum and it is expected to grow annually by 1% for the coming years.
- However, it is estimated that only 9% of touristic services in EU28 provide accessible offers (and even these have varying levels of accessibility, while operating without harmonised access standards).
- Estimates show a potential 44% increase in demand per year for accessible travel and tourism, which could be achieved if appropriate accessible services were put in place.
- In airports across the EU, the annual rate of increase in passengers requiring PRM assistance may be up to 6 times as fast as the growth rates for general passenger numbers. This is part of a general trend, which will impact the tourism and travel sectors in the coming years, due to the increasing numbers of older travellers.
- Accessibility is good for business and good for the local community. Accessible transportation and many of the services used by tourists with disabilities are also needed by locals. Access improvements for one group of users will give benefits for many.

1.1 Facts and figures

Transport plays a key part in the social and economic life of all EU Member States and it is vital that transport is developed to be inclusive, to maximise the benefit for everybody.

Tourism is a major industry within the European Union with the potential capacity to offer ever greater social and economic benefits. In a world where tourism is growing and becoming more competitive, if the EU is to have a successful industry in the future, it needs to understand the visitor trends and those factors, which can help improve the experience for all visitors, both domestic and overseas.

The transport industry directly employs more than 10 million people in the EU, accounting for 4,5% of total employment and represents 4,6% of Gross Domestic Product (GDP). Transport equipment manufacturing provides an additional 1,7% GDP and 1,5% employment. These facts, combined with continuous technological developments and the ongoing growth in the transport sector increases the need for continuous education, training and qualification of workers in this sector.

It is estimated that EU tourism industries comprise almost 2 million enterprises, mostly small and medium-sized ones, providing work for 5,2% of the total EU workforce. In 2013,

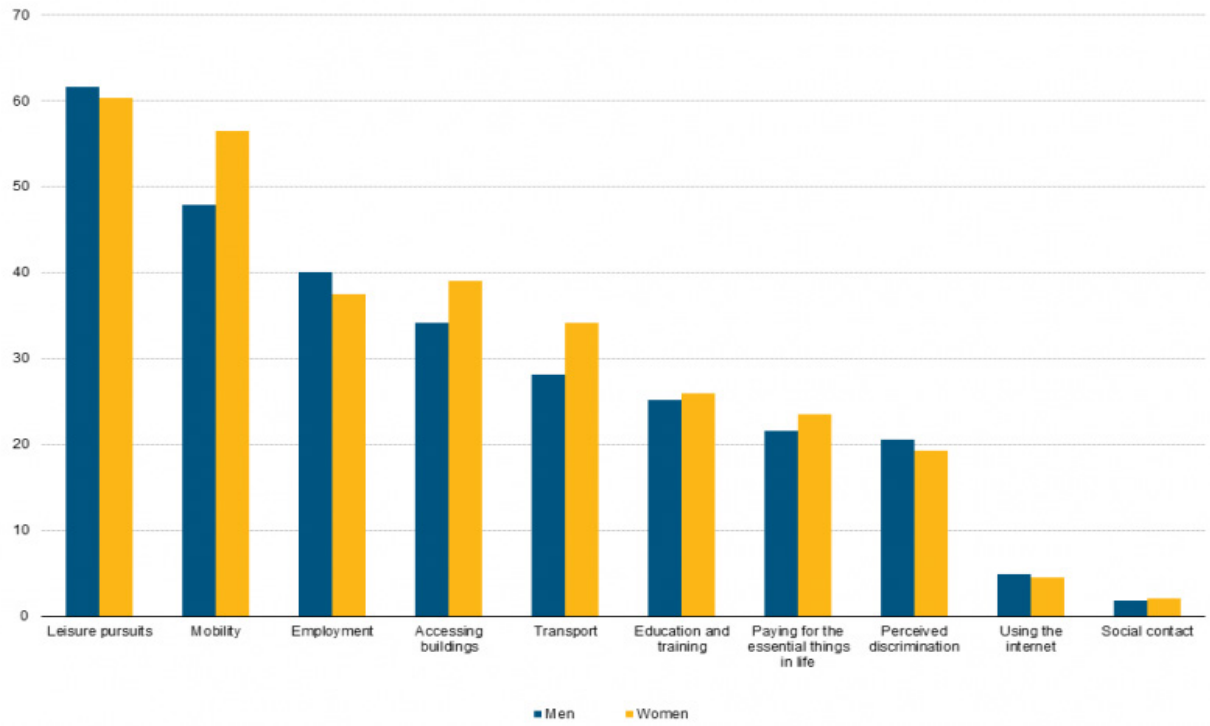
the accommodation and food services sector alone offered almost 10 million jobs (4% of total EU employment) [1].

Disability is a complex, evolving and multi-dimensional concept. Disabilities influence people's lives in many areas, for example in terms of:

- mobility and the use of transport equipment;
- access to buildings;
- the labour market and leisure pursuits; and
- social contacts and economic independence [2].

According to the World Health Organisation (WHO), over a billion people live with some form of disability, corresponding to approximately 15% of the world's population. Between 110 million (2,2%) and 190 million (3,8%) people 15 years and older have significant difficulties in functioning, while the rates of disability are increasing in part due to ageing populations, with a related increase in chronic health conditions [3]. Concerning the EU, one in six people has a disability (from mild to severe), translating into approximately 80 million citizens. Very often, due to physical and/or attitudinal barriers, these people are excluded from participating fully in society and in the economy [4].

Figure 4: Share of persons with disability aged 15 and over reporting a disability in the specified life areas, by sex, EU-27, 2012 (as a % of persons reporting a disability in at least one area).



Source: Eurostat (online data code: hlth_dsi090)

It should be noted that important steps towards improving accessibility have been taken throughout the EU, through coordination actions, research and Standardisation at European and at national levels. A few years ago many areas of European countries and their outstanding monuments were virtually inaccessible to persons with disabilities but in recent years public and private sector actors have been making greater efforts to make the

European cultural heritage open to everybody, including travellers with limited mobility. Nevertheless, much still needs to be done.

Inaccessible transport and tourism can prevent people with disabilities and/or reduced mobility from participating in society on equal terms. At present there are significant numbers of people with disabilities who face barriers to travel and this number is likely to increase in the near future with the significant growth of the ageing population in the EU. Given these changes, it is essential that all future policy and strategy initiatives relating to the development of transport and tourism in EU Member States have within them sustainability and accessibility requirements and a reliable framework of evaluation.

The EU itself as well as 27 out of its 28 EU Member States have ratified the UN Convention on the Rights of Persons with Disabilities (UNCRP), which obliges State Parties to make their transport systems accessible "on an equal basis with others" (Article 9, Committee on the Rights of Persons with Disabilities (CRPD)). Therefore, all new and revised EU and national legislation will have to mainstream accessibility, including all EU transport and tourism legislation, which is currently not the case.

Even though several legislative initiatives to improve accessibility of transport at EU level exist, the main focus is on a single sector, i.e. rail transport. While specific legislation regarding measures for ensuring access for persons with disabilities and reduced mobility exists for other transport modes, ***accessibility requirements need to be mainstreamed in all strategies, legislative proposals, projects, and other initiatives in order to have significant and long-lasting impact.***

With regard to tourism, the demand for accessible tourist services by individuals with disabilities and older persons within the EU has been estimated at 780 million travel journeys, resulting in €400 billion revenues per annum, while demand for accessible tourism is expected to grow annually by 1% in the coming three years.

According to research by Surrey University for the EC in 2014, **the lack of accessibility in the European tourism sector represents a loss of as much as €142 billion every year due to poor infrastructure, services and attitudes towards travellers with specific access requirements.** They found that travellers within the EU who required access (whether due to disability or age) undertook 783 million trips within the region in 2012, contributing €394 billion and 8.7 million jobs to the European economy. However, if European destinations were accessible to all visitors, this demand could increase by up to 44% a year – producing an additional €142 billion GDP and creating 3.4 million jobs [5].

However, an EC study on the supply of accessible tourism in 2015 estimated that only 9% of tourist services in the EU28 provided accessible offers, leaving a huge "gap" between supply and demand and a consequent lack of earnings from both domestic and foreign markets [5].

The Commission proposal for a Directive on the approximation of the laws, regulations and administrative provisions of the EU Member States as regards the accessibility requirements for products and services (***European Accessibility Act - EAA***)[1], aims at

[1] European Accessibility Act: COM(2015) 615, 2.12.2015, 2015/0278 (COD), Ordinary legislative procedure (COD) (Parliament and Council on equal footing – formerly 'co-decision'). On 15 June 2017, the Council took note of a third progress report on the proposal. A number of clarifications have been made, particularly as regards the scope of goods and services covered by the EAA. It stated that 'during the next semester, the Council preparatory bodies will continue discussions, with a view to agreeing a Council position and starting negotiations with the European Parliament'.

harmonizing the fragmented national laws on accessibility that are being passed in order to implement the UN Convention on the Rights of Persons with Disabilities (UNCRPD). The proposal intends to improve the EU Single Market for accessible products and services, while also creating new rights for citizens with disabilities, ensuring full access to services ranging from ICT products and services to banking, and, amongst others, transport. This has focused the debate about the policy framework for accessibility for persons with disabilities on the EU policy agenda [6].

This study on "Transport and Tourism for Persons with Disabilities and Persons with Reduced Mobility" contains findings concerning their inclusion in several areas of transportation and tourism. This study acknowledges the principles of equality and the concept of sustainability of solutions and measures, which can act as an important feedback and a trigger for improving accessibility in specific areas.

Reference has already been made above, to the UNCRPD as a driver of EU policy and legislative changes in the direction of equality, which can directly influence the experience of living with a condition of disability.

The pursuit of sustainable policies and practices, within the framework of the "circular economy" has been encouraged by the EU for a number of years [7] and is promoted through a range of measures and actions that are relevant to both transportation and tourism.

1.2 Study objectives

Evidence from the EU Agency for Fundamental Rights (FRA) consistently demonstrates that persons with disabilities face discrimination and barriers to exercising their rights on an equal basis with others [8]. This is despite the fact that, in the EU, persons with reduced mobility, whether caused by disability, age or any other factor, are accorded the same rights as all citizens to free movement, freedom of choice and non-discrimination.

While equal rights are accorded to persons with disabilities by virtue of the UNCRPD and European legislation, all EU citizens are entitled to access goods and services within the European Union Single Market. Where persons with disabilities are hindered in purchasing goods and services, due to lack of accessibility, this may also constitute discrimination on the part of the supplier.

Against this background, this study examines the problems of accessibility in transportation and tourism, covering the EU as a whole and providing relevant analysis from a number of individual EU Member States.

More particularly, the aim of this study is to provide Members of the European Parliament's Committee on Transport and Tourism with clear recommendations on what could be done, in particular at the EU policy level, to support accessibility in the transport and tourism sectors. The distinction is made in this study between:

- Local transport (which includes mainly public transport services such as buses, trams, metro, and short-distance rail transport, but also the use of personal cars).
- Long-distance transport (including road, rail, air and maritime transport).
- Tourism.

In this study, the following issues are covered:

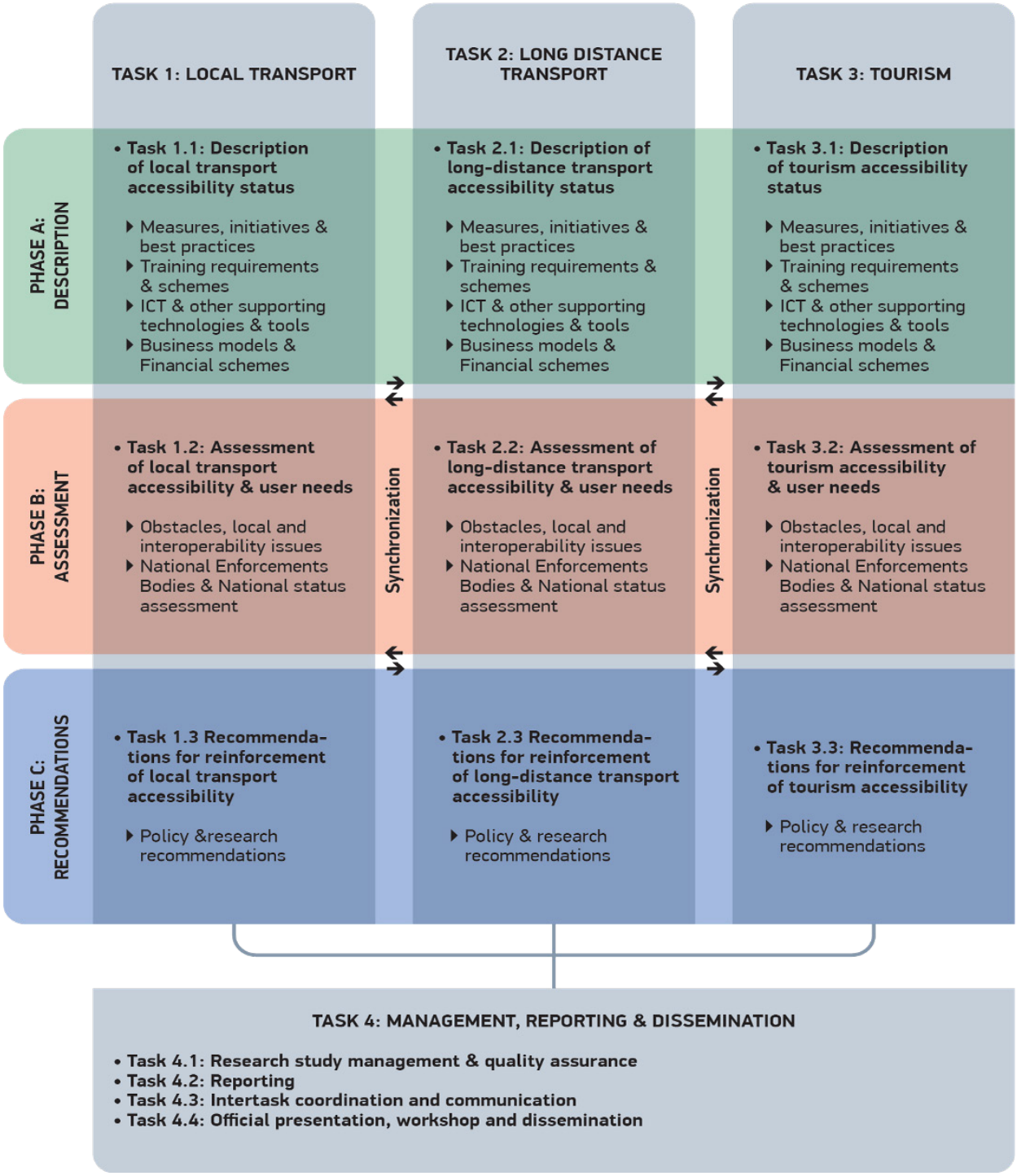
- Information about legislation concerning the accessibility of both the European transport and tourism systems, as well as the countries' legislative initiatives. Emphasis has been placed on whether these legislation initiatives are applied at European level or at national level and what changes may be required to fill in the existing gaps and the needs of persons with disabilities and persons with reduced mobility.
- Presentation of the needs of people with reduced mobility related to their access to transportation systems and tourism services in Europe, as reflected in the current systems.
- Information about the current accessibility status of the EU Member States' transport system (both at local and long-distance level), as well as of the status concerning all aspects of the tourism sector. Emphasis is placed on identifying the existing gaps and showing how these affect the social inclusion of persons with reduced mobility. This analysis is leading to recommendations for addressing the problems through, for example, greater use of Intelligent Transportation Systems (ITS), investment in Universally Designed infrastructure and skills related to disability awareness and accessibility as part of customer service training.
- Information about the role of the EU Member States' NEBs in the transportation sector and their effectiveness in enforcing the rights of persons with disabilities and PRMs.
- Presentation of case studies highlighting evidence of best practices related to the provision of unhindered access for PRMs in the transportation and tourism networks of Europe and which are connected to specific needs and gaps identified in this study.
- Formulation of evidence-led recommendations and suggestions for future research priorities, regarding all 3 examined areas (local, long-distance transport and tourism), again connected to particular needs and gaps.

1.3 Methodology

This section presents the approach taken during the development of this study, which examines the accessibility status in EU Member States of both transport (local and long-distance) and tourist infrastructures and services accessible to persons with disabilities and persons with reduced mobility.

To better organise and process the work required for the implementation of this study and for the realisation of the desired outcomes, the activities have been organised around 2 axes: **1) The areas under examination,** namely **Local transport**, **Long-distance transport** and **Tourism; 2)** The **3 distinct cross-cutting phases**, namely **Description**, **Assessment** and **Recommendations**, as presented in the following figure.

Figure 5: Organisation of this study tasks and responsibilities.



Source: Author's own elaboration

Taking into consideration all the elements relevant to the areas under examination (i.e. measures, initiatives, best practices and lessons learnt, training requirements and schemes, ICT and other supporting technologies and tools, business models and financial schemes, etc.) information on the national and European status of accessibility in both transport and tourism domains has been collected and assessed. The analyses provide an overall picture of the status of accessibility as experienced by users, measures taken by the various authorities and operators, and the roles and activity of the NEBs in the transport sector, leading to the identification and recognition of existing gaps, obstacles and interoperability issues.

For the collection of all the information and material, the available knowledge resources of the partnership were exploited (i.e. use of databases on standards concerning eAccessibility and eInclusion, on independent living applications, on available accessibility solutions and resources, etc.). Literature survey from more than 100 sources was undertaken to complement the gap analysis and to identify the latest developments in the field.

In addition to the literature review, 23 experts and 36 users from 16 European countries, have been involved in questionnaire surveys (ANNEX 5) and interviews, providing supplementary data with more specific details about the accessibility status of European transport and tourism. A SWOT analysis has been also performed for all 3 sectors considered.

Furthermore, the study team carried out 3 workshops in order to obtain detailed information from key stakeholders and to validate the interim findings of this study. More specifically:

1. The first workshop was held on the 27th of September 2017, during the 8th International Congress on Transportation Research in Thessaloniki, Greece. During this workshop, the scope and aim of this study was presented to all the participating transport experts, operators and representatives from user organisations, and questionnaires were handed out for the transport part of this study.
2. The second workshop took place on the 8th of October 2017, on the occasion of the EDF Annual Meeting in Tallinn. Representatives of disability organisations and forums from all over Europe attended and provided very valuable feedback concerning mainly their needs regarding both transport and tourism areas, as well as best practices.
3. The third workshop was held on the 22nd of November 2017, on the occasion of the ENAT Annual Meeting of National and Regional/City Tourist Authorities in Paris, in the premises of VisitParisRegion Tourism Committee. Representatives of the tourism sector participated, providing overall feedback on both tourism and transport sectors.

Finally, and in order to obtain a widely supported and consensus–based prioritisation, the MAMCA methodology [9] was also applied, involving a broad stakeholder community representing the main accessibility actors of Europe. This stepwise and scientifically sound approach allowed us to evaluate and prioritise user needs, constraints and shortcomings in accessibility issues and thus prioritise recommendations accordingly.

The Key Performance Indicators (KPIs) of this study are summarised in Table 1 below, in relation to the targets originally set:

Table 1: Key Performance Indicators (KPIs) of this study.

METRIC	TARGET (PROPOSAL BASED)	RESULT
Geographical coverage	The information to be gathered, will come from at least 12 EU Member States, covering with good balance a cross-section of EU Member States.	Experts and users that participated in this study, represent 16 EU Members States (Austria, Belgium, Bulgaria, Croatia, Finland, France, Germany, Greece, Italy, Lithuania, Malta, The Netherlands, Slovakia, Spain, Sweden, the UK) and one other European country (Norway)
	Additional examples of non EU – countries.	Feedback from experts and literature review analysis has included Australia, Canada and the USA.
Literature review	Literature survey of at least 20 recent sources.	More than 100 reports, papers and relevant sources have been analysed
Participation of experts	At least 15 experts (10 internal and 5 external to the tender experts) will be involved the description phase of this study.	• 23 experts from transport and tourism areas participated in the surveys drawn from the following countries: Austria, Belgium, Croatia, Czech Republic, France, Germany, Greece, Italy, Spain, and the UK. • Participation of 20 NEBs and the Tourist Boards of 17 European countries (Belgium, Bulgaria Czech Republic, Croatia, Cyprus, Denmark, Greece, Hungary, Iceland, Ireland, Norway, Poland, Romania, Slovakia, Slovenia, Sweden, the UK). • Participation of 15 experts in the MAMCA analysis.
	Participation of at least 30 external experts in workshop for the assessment phase of this study.	3 workshops took place during the implementation of this study, as described above. In total 38 participants attended the Workshops (from the areas of tourism, transport and accessibility) from the following countries: Belgium, Croatia, Finland, France, Greece, Ireland, Italy, Lithuania, Malta, The Netherlands, Norway, Slovakia, Spain, Sweden, the UK. Minutes of all workshops can be found in ANNEX 6.

METRIC	TARGET (PROPOSAL BASED)	RESULT
Participation of user associations	Interviews will be conducted with at least 10 representatives of accessibility organisations and user associations across Europe (from at least 12 countries).	Group interviews of 16 users (from Belgium, Croatia, Finland, Greece, Ireland, Italy, Lithuania, Malta, Norway, Slovakia) were conducted in conjunction with the first and second study workshops, held in Thessaloniki and Tallinn.
Local and National policy recommendations.	Formulation and presentation of local and National policy recommendations. They will concern at least 12 EU countries, while the clustering between countries and/or regions experiencing common problems and shortcomings will be also provided.	Relevant recommendations are realised for all EU Member States, according to their clustering in several "models".
European level recommendations	Formulation and presentation of at least 3 policy – European level – recommendations, addressing the most critical and most commonly accessibility problems encountered in Europe (at least one per area examined – one for local transport accessibility issues, one for long-distance transport accessibility issues and one for tourism accessibility issues).	4 policy level recommendations were formulated for local transport, 5 for long-distance transport and 4 for tourism.
European Research Priorities	Recommendation of at least 9 European Research Priorities for further and in-depth consideration and analysis of some specific accessibility issues (at least three for each area examined).	4 research priority recommendations were formulated for local transport, 3 for long-distance transport and 3 for tourism.

Source: Author's own elaboration

2 USERS' CLUSTERING

KEY FINDINGS & RECOMMENDATIONS

- The World Health Organisation's International Classification on Functioning and Health (ICF) provides an authoritative and forward-looking framework for the understanding and, by extension, the management and delivery of services for people with disabilities.
- International and European regulations concerning transport of passengers with disabilities refer to persons with reduced mobility categories that indicate the functional abilities of the passenger and the respective types of support that are required when moving, seating, using toilets and other facilities during a journey.
- There is an abundance of clustering schemes for persons with reduced mobility and persons with disabilities. When they are matched with the 2 areas under consideration (transport and tourism) they substantially differ. This presents a limitation in providing recognisable and standardised information on accessibility and services per user group across the whole travel chain and destinations all over Europe. Thus, a basic user clustering across these sectors is required.
- This clustering, unique across the whole transport and tourism sectors of Europe, can be indicated by symbols that are based upon relevant functional requirements in a given situation for a given passenger or visitor, i.e. not the medical condition, the level of disability, or whether the disability is permanent or not.
- This study proposes such a clustering scheme, in Table 5 of this chapter, in order to identify certain commonalities, which exist for persons with reduced mobility and persons with disabilities and to extrapolate the findings to these user groups.

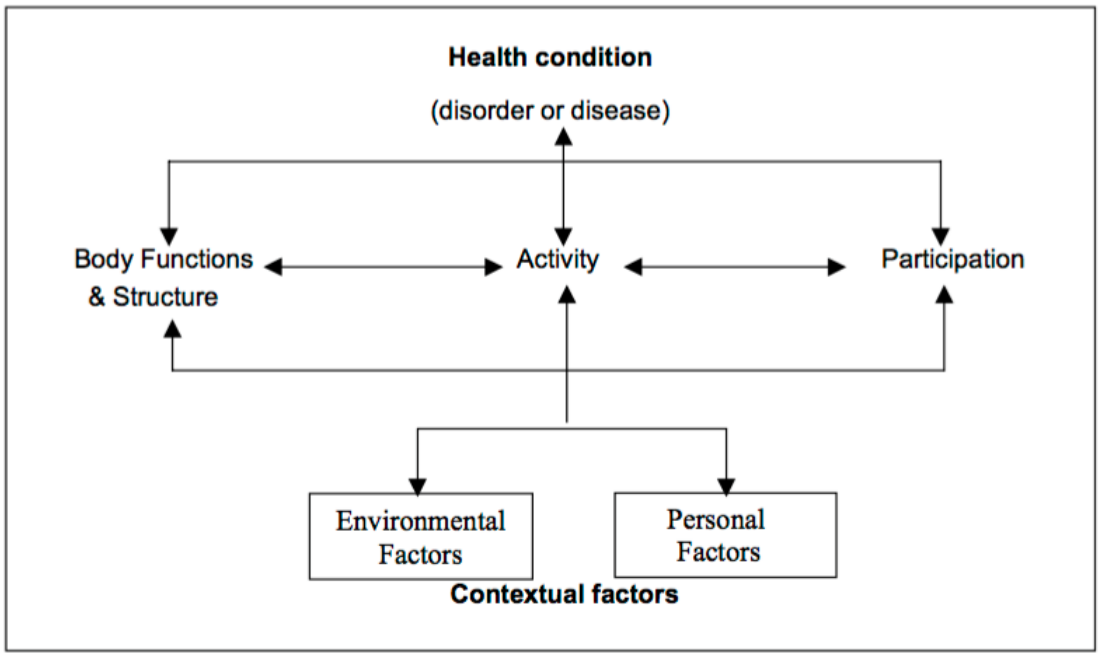
Disability is often regarded as a homogeneous concept. The common misconception is that the needs of all people with a disability are the same. The opposite is true. As with the general population ability is on a continuum.

This study addresses the needs of persons with disabilities (PwD) and persons with reduced mobility (PRMs) when travelling and when using touristic services.

According to the World Health Organisation (WHO) "Disabilities" is an umbrella term, covering impairments, activity limitations, and participation restrictions. An impairment is a problem in body function or structure; an activity limitation is a difficulty encountered by an individual in executing a task or action; while a participation restriction is a problem experienced by an individual in involvement in life situations.

The International Classification of Functioning, Disability and Health, known more commonly as ICF, is WHO's framework for health and disability. ICF puts the notions of 'health' and 'disability' in a new light. It acknowledges that every human being can experience a decrement in health and thereby experience some disability. This is not something that happens to only a minority of humanity. ICF thus 'mainstreams' the experience of disability and recognises it as a universal human experience. By shifting the focus from cause to impact, it places all health conditions on an equal footing, allowing them to be compared using a common metric – the ruler of health and disability.

Figure 6: Representation of the model of disability that is the basis for ICF.



Source: World Health organisation (2002) [10]

Disability therefore involves dysfunction at one or more of these same levels: impairments, activity limitations and participation restrictions. The formal definitions of these components of ICF are given as follows:

- **Body Functions** are physiological functions of body systems (including psychological functions).
- **Body Structures** are anatomical parts of the body such as organs, limbs and their components.
- **Impairments** are problems in body function or structure such as a significant deviation or loss.
- **Activity** is the execution of a task or action by an individual. Participation is involvement in a life situation.
- **Activity Limitations** are difficulties an individual may have in executing activities.
- **Participation Restrictions** are problems an individual may experience in involvement in life situations.
- **Environmental Factors** make up the physical, social and attitudinal environment in which people live and conduct their lives [10].

According to the European Railway Agency, persons with reduced mobility are defined as follows:

> *"Person with disabilities and person with reduced mobility" means any person who has a permanent or temporary physical, mental, intellectual or sensory impairment which, in interaction with various barriers, may hinder their full and effective use of transport on an equal basis with other passengers or whose mobility when using transport is reduced due to age.*
>
> *The definition above is derived from the article 1 of the United Nations Convention on the Rights of Persons with Disabilities. It does not specifically include people with*

children, people with bulky luggage, and foreign people with lack of knowledge of the local language. It does not include automatically elderly people and pregnant women. Concerning those last two categories, they do not systematically lead to reduced mobility, but obviously old age can decrease the speed and ability with which passengers can move within the station or rolling stock environment. Therefore, elder passengers can be considered as persons with reduced mobility when compared with the average passenger. Similarly, pregnancy is not systematically a cause of reduced mobility. However, when a pregnant passenger's mobility is affected (for example preventing her from moving easily and quickly), then she may be considered a person with reduced mobility.

Consequently, the number of priority seats has not been affected by the change of definition. Also, the pictograms used to indicate priority seats have not been modified either: the symbols representing a pregnant woman and elder person are worldwide recognised [11].

Within the Air Passenger transport sector, a standardised list of persons with reduced mobility categories has been developed for identification of passenger types and their needs with regard to the assistance they require in the airport and when boarding or deplaning.

Airlines use an internationally recognised code system to identify the level of assistance that will need to provide for each person with reduced mobility:

Table 2: Types of passengers with reduced mobility used by airlines.

BLND	Passengers with impaired sight or blind, with or without guide-dog.
DEAF	Passengers with impaired hearing, deaf or deaf-mute.
DPNA	Passengers with some kind of intellectual or development disability.
WCHR	Passengers who can go up and down stairs, and also move around within the plane, but who need a wheelchair or other means for moving between the aircraft and the terminal, around the terminal itself or between airport arrival and departure points.
WCHS	Passengers who require help going up or down steps, who need a wheelchair or other means for moving between the aircraft and the terminal, around the terminal itself or between airport arrival and departure points, but who are self-sufficient for moving around inside the plane.
WCHC	Completely immobile passengers, who can only move around in a wheelchair or other similar means and who need assistance at all times from the moment they come to the airport until they are seated on the plane, even in seats that are specifically for their situation.
MAAS	Passengers who require assistance and are not included in any of the other categories.

Source: Author's own elaboration based on the ECAC policy statement in the field of civil aviation facilitation

In the case of passengers with disability, we find:

- Walkers, capable of getting onto, off or moving around inside the plane without help or with a little help from anybody (hearing, visual or intellectual impairments)
- Non-walkers, not capable of getting onto, off or moving around inside the plane without help.

The clustering of persons with disabilities within this study was initially based on various sources from literature and it aims to provide a categorisation of users according to their functional needs that affect their mobility, thus is directly related to transportation (both local and long-distance) and tourism, as it determines the needs of each group.

When surveying relevant clustering in the accessible tourism sector, the most thorough clustering includes [10], as modified for this study:

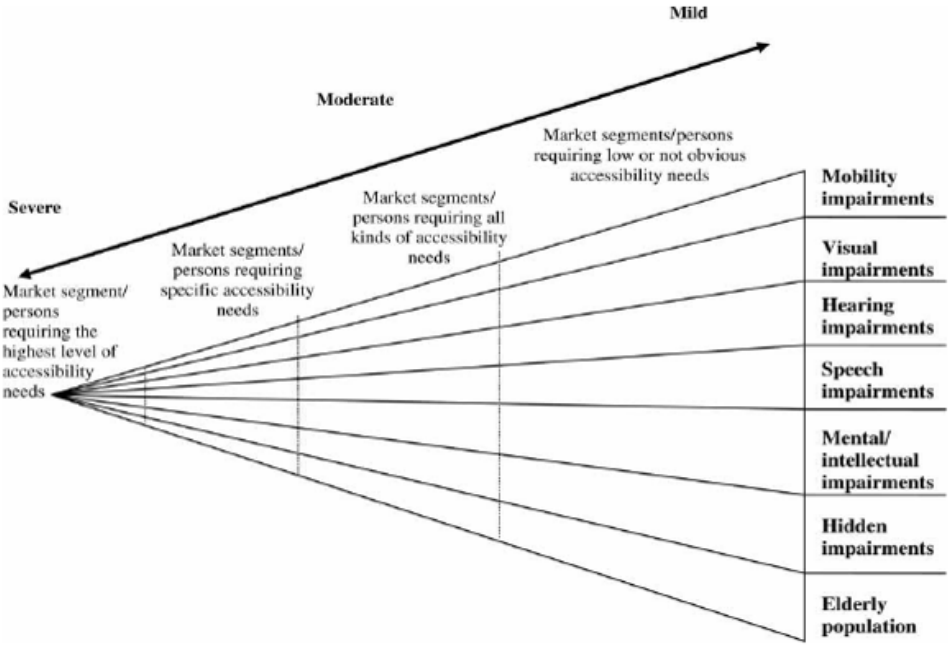
Table 3: Clustering of persons with disabilities.

Mobility impairment
- *Mobility: occurs when there is difficulty in maintaining and changing the different positions of the body as well as standing up, lying down, standing, sitting or moving. Those movements involving the use or transport of various mobility aids and objects are also included.*
Cognitive disabilities
- *Intellectual disability: resulting from difficulty recognising people, objects, orientation in space and time, recalling past events or understanding and executing simple or complex orders.* - *Autism: it affects how a person communicates with, and relates to, other people. It also affects how they make sense of the world around them.* - *Brain injury: Traumatic brain injury can lead to cognitive impairments.*
Psychosocial disabilities: persons experiencing mental ill-health
Sensory impairment
- *Visual: the individual may find it difficult to perceive any image, carry out visual tasks wholly or in detail, or other disabilities related to vision.* - *Hearing: the person may have trouble hearing any sound, hearing loud sounds or hearing speech.* - *Communication or speech: problems that arise when trying to communicate through speech, alternative languages, unsigned gestures or by conventional reading and writing.*
Hidden disabilities: several disabilities are hidden and as a result, it can be difficult to determine if someone has them. Here are a few examples:
- *Visceral: those caused by cardiovascular insufficiency and/or respiratory or kidney dysfunction or problems including enterostomies.* - *Chronic illnesses and allergies or similar conditions*
Multiple disabilities: when an individual has more than one disability simultaneously, such as a mobility impairment coupled with a hearing impairment. This is not uncommon, especially amongst older persons who often have reduced mobility, visual impairments, and hearing impairments at the same time.

Source: Author's own elaboration based on the World Health Organisation's International Classification on Functioning and Health (ICF)

Buhalis and Michopoulou (2010) [12] have created a 'Pyramid of demand types', as regards accessibility needs in the area of tourism, according to which persons with disabilities are clustered following the above categories but further divided, based upon their disability level (mild, moderate or severe).

Figure 7: Pyramid of demand types: the continuum of abilities.



Source: Buhalis, D., & Michopoulou, E. (2011) [13]

In the transport sector, a common term that is used to identify persons with difficulties in using public transport is People with Reduced Mobility. The difficulties of persons with reduced mobility can be due to the following impairments [14]: Walking - negotiating steps, standing - seating, gripping – holding, seeing – hearing, orientation – remembering.

According to this EU report [14], the whole range of persons with reduced mobility are divided into those with permanent and temporary mobility restrictions. The sub-categories of these two clusters are shown below:

Table 4: Categorisation of persons with reduced mobility.

I. People with physical, sensory or psychosocial disabilities
- *Physical disability (wheelchair user, mobility-impaired, difficulty in standing, gripping or holding)*
- *Sensory disability (blind, visually impaired, deaf, audibly impaired)*
- *Persons with speech impairments*
- *Persons with orientation difficulties*
- *Persons with small stature; large people*
- *Persons with psychosocial disabilities or mental ill-health*

I.	**People with physical, sensory or psychosocial disabilities**
II.	**People with physical, sensory or psychosocial disabilities**
III.	**Persons with age-related mobility restrictions**
-	*Small children (under 3 years old)*
IV.	**Persons with temporary mobility restrictions**
-	*Persons experiencing temporary injuries or illnesses*
-	*Expectant mothers*
-	*Persons with buggies or heavy luggage*

Source: Author's own elaboration based on the EC report "The accessibility of urban transport to people with reduced mobility"

For the purpose of this study, as well as of future legislation there is however the need for a more limited and yet concise users clustering – related to transport and tourism tasks. This is all the more important, as many transport operators and touristic businesses link disability with motor disability (sometimes even only to wheelchair users) and many of the requirements and needs of other categories get lost.

Thus, this study's proposal has been developed, based on the "Tourism & Handicap Labelling scheme of France" [15], enhancing it with 1 more category, and taking into account the following facts:

- A "disability level" (i.e. mild, moderate, severe) is difficult to estimate and is directly linked to the task at hand and the specifications of the operational environment; thus it is not practical to followed. It also has to be noted that there is no harmonised assessment of disability status in the EU and each Member State has its own distinct policy and practice. Therefore, it is difficult to compare "levels" of disability across the EU and draw clear conclusions from statistics.
- Whether a disability has a permanent or temporal level, is caused by an impairment, is age related to simply a temporary condition (i.e. carrying heavy luggage) is not significant to the final success of the task and can be discriminatory.
- Some pathological conditions and allergies are very relevant for tourist services (e.g. the need for special foods, close proximity to a hospital, good medical services at tourist venues or destinations, etc.) but not so much for the transport sector.
- Certain "Hidden impairments" are relevant both to the transport and tourism sectors, such as low stamina, balance problems, lack of speech, deafness and hearing impairment, visual impairments, allergies to contact with certain substances and airborne allergens. The lack of ability to read or understand spoken or written local languages also affects passengers and international visitors.

Table 5: Study proposed clustering for people with disabilities for accessible transport and tourism (logos for 4 & 5 are not standardised – proposed here).

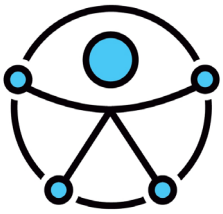
Disabilities types	Logo
1. Motor Disability	
2. Visual Disability	
3. Hearing Disability	
4. Cognitive Disability	
5. Hidden disability	

Source: Author's own elaboration based on the "Tourism & Handicap Labelling scheme of France"

The above "rough clustering" aims to service the needs for a limited a number of accessibility signage across the sector; whereas still highlighting that accessible transport and tourism should consider a much wider population and their needs than just wheelchairs user and/or blind persons.

It also needs to be noted that the United Nations (UN) has developed a new symbol of Disability which may be used to signify accessible services for persons with disabilities. This symbol is used at Heathrow Airport to indicate services for persons with reduced mobility.

Figure 8: New symbol of Disability (proposed by the United Nations).



Source: OneWorld (2018)

3 LEGISLATION, TECHNICAL STANDARDS AND GUIDELINES: STATUS, ASSESSMENT AND RECOMMENDATIONS - EUROPEAN LEVEL

3.1 Legislation, technical standards and guidelines

The internal market is a European area without frontiers where goods, services, persons and capital can move freely. Accessibility requirements for certain goods and services have already been defined in regulations in certain European countries (at European, national or regional level), but the type of obligation and the extent of the detail, differ from country to country and from one service or good to another. Accessibility requirements could be divided into three categories [16]:

- **General accessibility obligations** (stating that a product or service should be made accessible to persons with disabilities).
- **Specific accessibility requirements** (giving specific criteria for a product or service to make it more accessible to persons with disabilities).
- **Detailed technical specification** (giving detailed rules for the design of a product or service).

Some examples of European legal acts harmonising accessibility requirements for goods and services are:

- **Directive 95/16/EC**, regarding accessibility of lifts; this is currently being revised and is expected to be published soon.
- **Directive 2001/85/EC**, regarding the mandatory fitting of certain accessibility **features for vehicles carrying more than eight passengers;**
- **Directive (EU) 2016/2102** on the accessibility of websites and mobile applications of public sector bodies [17].

One of the most recent but also most important legislation initiatives of the European Commission (EC) concerning accessibility for persons with disabilities and the equal access to mainstream goods and services is the proposal for the **European Accessibility Act (EAA)** [6]. The Commission adopted the long-awaited proposal for this Directive in 2015 and if adopted, it would make many products and services in the EU more accessible for persons with disabilities. The proposal foresees that only certain products and services need to be accessible. These are mainly: (1) Smartphones, tablets and computers (2) Ticketing machines and check-in machines (3) Televisions and TV programmes (4) Banking and ATMs (5) E-books (6) Online shopping websites and mobile applications.

EAA is seen very positively by the community of persons with disabilities [18] and especially since it takes the form of a Directive and thus its implementation is mandatory. General objections are mainly related to its transposition time, which is considered to be very long.

The European Parliament's position on EAA is favourably seen, regarding accessible transport and tourism [19], as:

- The scope of transport services has been widened to include mobility and intermodal connection services, including public urban transport such as underground, rail,

tramway, trolleybus and buses. This also concerns vehicles, related infrastructure and the built environment as well as taxis and hire cars. This means that all modes of transport will now be covered and e.g. ticketing machines in metro stations also have to be accessible. The Parliament goes even further and also includes the vehicles themselves, e.g. the tram, to be accessible as well as the stations and stops. (Article. 1.2.c).

- The scope of tourism services has been also widened, including accommodation services. This means that e.g. hotels have to provide accessible websites and check-in procedures. (Article 1.2.f.a(new)).
- In transport services, payment terminals as well as mobility and tourism services are also covered by the requirements set out in this section. Specific requirements for services such as smart ticketing, electronic booking and reservation, real-time passengers' information about timetables, disruptions, connecting services, additional service information etc. are mentioned, as well as compatibility with assistive devices, which has to be guaranteed (Section V of the EAA).

On the contrary, the Council's position on EAA is less favourably seen, regarding accessible transport and tourism [20], as:

- Transport services have been severely limited to only certain parts of the service (e.g. websites, mobile apps, electronic ticketing, etc. but not the accessibility of the vehicles or stations); they have also been restricted by definition since the definitions of the Passengers' Rights Regulations were used which means that urban transport (metros, trams, urban buses, light rail, etc.) is completely excluded and even certain local and regional train services are outside the scope. It also excludes self-service terminals that are an integrated part of a transport vehicle.

An open issue is the EAA proposal to use CE-markings as a means of ensuring compliance with EU rules. Although, this is positively seen, a new label could also be developed, to indicate compliance with accessibility requirements. It could be used for services to make sure customers can identify accessible services. Checks could be done on sample cases to encourage compliance by service providers. Furthermore, it should also be ensured that service providers receive the necessary training to be aware of the accessibility requirements for all persons with disabilities, including persons with intellectual disabilities or psychosocial disabilities. Such labelling schemes on accessible transport and tourism services are proposed within Section 2 of this study.

On 26 October 2016, the European Parliament approved the European Directive on making the websites and mobile apps of public sector bodies more accessible. This means that people with disabilities – especially persons with vision or hearing impairments – will have better access to the websites and mobile applications of public services.

> *"This Directive aims to ensure that the websites and mobile applications of public sector bodies are made more accessible on the basis of common accessibility requirements. The approximation of national measures at Union level, based on the agreed accessibility requirements for the websites and mobile applications of public sector bodies, is necessary in order to put an end to fragmentation of the internal market. It would reduce uncertainty for developers and would foster interoperability. The use of accessibility requirements which are technology-neutral will not hamper innovation, and may even stimulate it."* (Directive (EU) 2016/2102) OJ 2.12.2016.).

The implications of this Directive will first be evident from 2018, yet it may be anticipated that the introduction of agreed web accessibility requirements and reporting obligations on EU Member States will eventually lead to more accessible online information for citizens and visitors with disabilities, regarding services in both the transport and tourism sectors.

Finally, the **European Disability Strategy** [21], which indicates how the EU will implement the UNCRPD, although applying to no specific mode of transport, includes a number of important commitments, including legislative action, in the area of transport accessibility.

3.1.1 Transport

A number of initiatives, adopted by the EU, aim to improve the access of persons with reduced mobility to public transport. Such initiatives involve:

- legislation establishing technical standards applicable to means of transport and transport infrastructure;
- technical prescriptions for accessible vehicles to be used for urban passenger transport; requirements regarding disability accessible signs and information for maritime travellers; and
- compulsory training courses on disability awareness and the specific needs of persons with disabilities for drivers and other transport personnel [16].

Key generic policy documents and regulations include:

- **The White Paper "Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system"** (2011) [22] → a European strategy on the future of European transport, which specifically mentions improving the accessibility of transport for persons with disabilities. It's mentioned as one of the initiatives to be undertaken in the framework of the strategy with a number of relevant initiatives to be taken, such as adoption of the Connecting Europe Facility Regulation, completion of the Passengers' rights legislation and Trans-European Transport Network (TEN-T) guidelines.
- **The Communication on passenger rights in all transport modes** (2011) [23] → this communication sets out the vision for the definition and realisation of ten basic EU passenger rights, such as the right to non-discrimination in access to transport and the right to compensation, among others. The Commission recognised that the different rules applying to different modes of transport, make seamless travel difficult, mentioned clearly that the adoption of the proposal for a European Accessibility Act would be an opportunity for developing a general set of standards for the accessibility of transport infrastructure and services.
- **The Regulation on Union guidelines for the development of the trans-European transport network** [24] and **the Regulation on Connecting Europe Facility** [25] that fund initiatives in the transport, telecommunications and energy sector, including improved accessibility for elderly people, persons with disabilities and persons with reduced mobility.

The European legal framework regarding transport accessibility can be classified into (a) legislative acts that address the right to travel and assistance to passengers with reduced mobility, and (b) legislative acts for the improvement of accessibility of the transport infrastructure and services.

Air: Regulations (EU) No 1107/2006 and 261/2004

KEY FINDINGS & RECOMMENDATIONS

- The loophole in Regulation (EU) No 1107/2006 that allows airlines to deny boarding to persons with disabilities for "safety reasons" that are not sufficiently defined and have no common rules of assessment has to be closed.
- If an exemption of the right to travel for "safety reasons" has to remain, those reasons need to be clearly defined, limiting the right to travel of persons with disabilities as little as possible. Moreover, this should not be at the financial expense of the passenger but should be borne by the airline which imposes the restrictions.
- Airlines and manufacturers shall improve their efforts to develop more accessible aircrafts, as well as boarding and storage solutions.
- In relation to training, and considering the diverse requirements of the travelling public, it would be useful to implement EU-wide guidance on hidden disabilities. Such an example is the one published by the UK Civil Aviation Authority (CAP 1411) to ensure airport staff is adequately trained to assist passengers with conditions such as autism, Alzheimer's, dementia, and learning difficulties.
- Regulation (EU) No 1107/2006 (Article 6) should be changed concerning damaged mobility equipment as the limit for mobility equipment under EU law are currently still capped by the Montreal Convention, an international treaty on air travel. The Montreal Convention does not distinguish between regular check-in luggage and mobility equipment so the maximum amount of compensation in the event of loss, damage or destruction of -for example- a wheelchair equals approximately €1260 (value of 12 August 2015). An electric wheelchair can of course be worth much more than that, not even counting the cost of not being able to go to work. There are many reasons that speak for the revision of this rule, not least because a wheelchair is not the same as a tennis racket or a suitcase – they are a person's legs and thus essentially a part of their body.

Regulation (EU) No 1107/2006 concerning the rights of disabled persons and persons with reduced mobility when travelling by air [27] covers the provision of assistance by airports and airlines, as well as the non-discrimination principle. It entered into force in 2008.

One of the most important provisions that this regulation introduced is the right to access to air travel without discrimination: An airline shall not refuse, on the ground of reduced mobility or disability, the reservation of a person or to embark a person (Article 3). The idea is that persons with disabilities shall have the same access to air travel as any other person (Article 1 (a)). This includes being provided with assistance from the designated point at the airport of departure, with the means of transport they have chosen to arrive, to the airport of arrival (Article 7). The assistance should be provided at no additional charge (Article 8) by a person who has undergone disability awareness and disability equality training (Article 11). Also, the regulation states in its Article 12 that passengers shall be entitled to compensation if their mobility equipment or assistive devices are damaged [27].

This regulation is viewed by persons with disabilities as a big step forward. However, concerns have emerged over the years regarding interpretation of legal obligations, as well as loopholes within the legislation. The most important are:

- In spite of the right to non-discrimination in Article 3, persons with disabilities are still systematically denied access, even when they are holding a valid ticket. This is a cause for much frustration, especially because Regulation (EU) No 1107/2006 leaves a major loophole allowing airlines to decide for themselves whether a person with disability might be a "safety risk". If airline staff judges a passenger to be a "safety risk", even though there is no harmonised assessment procedure for this, they can deny the passenger boarding on the spot. An alternative is for the airline to demand the person with disability to travel with a "safety assistant" (i.e. an accompanying person) but the cost of this has to be borne by the passenger, not by the airline. This causes an immense obstacle to air travel for persons with disabilities, who are discriminated against by having to pay for two tickets instead of one. This definition of "safety risk" was attempted to be defined in European Aviation Safety Agency (EASA) decision 2016/004/R on Special Categories Passengers (SCPs) [28] but in the end only led to further limitations of access for persons with disabilities. It has to be added that the "safety risk" is mainly related to evacuation procedures which, with adequate improved design of aircrafts and more accessible information to persons with disabilities, could be remedied without restricting access to individual passengers.
- Furthermore, persons with disabilities can still be denied boarding/sale of tickets if the aircraft is physically not suitable to transport e.g. an electric wheelchair. This occurs regularly where the door of the aircraft hold is too small to fit the electric wheelchair. Such a problem could be remedied by researching better design solutions for aircrafts.
- Article 12 of Regulation (EU) No 1107/2006 delegates compensation for damaged or lost mobility devices to international, EU or national legislation. Commenting on the ruling Tony Hook v British Airways, the EU Commission stated that the services of the Commission agree that Regulation (EU) No 1107/2006 does not override the Montreal Convention [29]. The Montreal Convention forms an integral part of the Community legal order. Community institutions and EU Member States are bound by International treaties concluded by the Community and, consequently those agreements have primacy over secondary Community legislation such as Regulation (EU) No 1107/2006. The Montreal Convention limits air carriers' liability on damage or loss of checked luggage to 1.000 Special Drawing Rights (SDR), an amount insufficient to fully cover repairs or replacement of most bespoke Electric Mobility Aids (EMA). It should be noted that International Air Transport Association (IATA) reduced the cap of compensation from 1.131 SDR to 1.000 SDR without notice. The issue is that under the Montreal Convention, mobility equipment is considered luggage, which justifies their cap on repair or replacement costs. However, a wheelchair is not just a piece of luggage but an essential mobility item that the passengers require in their daily life and should therefore be considered in a different category. Attempts were made by the EC to revise Regulation (EU) No 261/2004 on air passengers' rights, which deals with this issue, but this proposal was never adopted and remains stuck over an unrelated issue in the Council. Applicability of Regulation (EU) No 1107/2006 to Non-EU carriers is also cause for confusion for passengers and airlines alike. Under the current framework, non-EU carriers must comply with Regulation (EU) No 1107/2006 for flights departing from the European Union; however, the regulation does not apply to Europe-bound flights operated by non-EU carriers departing from an airport located outside the Union. For example, contravening IATA Resolution 700 [30], Section 2.1

of the IATA, and the non-discriminatory framework of Regulation (EU) No 1107/2006, non-EU carrier Ethiopian Airlines require all wheelchair users to fill in a Medical Information Sheet (MEDIF). Still, said requirement is not in place for flights to and from the USA.

- Over the course of the years since Regulation (EU) No 1107/2006 came into force, Disabled Persons Organisations (DPOs), and accessible air travel experts expressed concerns about the content of Annex I of the regulation, which sets the parameters for assistance at airports. In 2012, the EC published Interpretative Guidelines on Regulation (EU) No 1107/2006. Whilst said guidelines helped improve the quality of assistance, their revision is now due to keep them current with the ever-evolving needs of the travelling public.

Rail: Regulations (EU) No 1371/2007, 454/2011, 1300/2014 and 2016/797

KEY FINDINGS & RECOMMENDATIONS

- The required maximum notice period to book assistance should be reduced from 48 to 24 hours for all stations regardless of their size and to 1 hour in major stations (which can be defined as stations welcoming over 5.000 passengers per day).
- Relevant assistance has to be provided throughout the operation time of each station, as it was proposed by the EC in its recast of Regulation (EU) No 1371/2007 at Article 22.4).
- Article 2.4 of the revised Rail Passengers' Rights Regulation (EU) No 1371/2007 provides that persons with reduced mobility cannot be exempt from the regulation, which is clearly positive.
- Pre-trip and on-trip accessible information on train operational issues (i.e. departure times and platforms) and accessibility attributes, as well as accessible payment booking, should be provided throughout the rail network, making use of standardised digital tools and info-mobility services. This does not occlude the requirement to enhance the accessibility of new or upgraded stations, which is still needed for those persons with reduced mobility without access to new technologies and services.
- Regulation (EU) No 1300/2014 (TSI-PRM) should also include provisions to tackle the different platform heights throughout the EU railway network to improve independent boarding for persons with disabilities
- Regulation (EU) No 1300/2014 (TSI-PRM) should be applied more consistently, not allow for exemptions, and also oblige EU Member States to improve access to all stations and rolling stock, not just when they are new or renewed.

Regulation (EU) No 1371/2007 on Rail Passengers' Rights (Rail PRR) [31] establishes rules for the provision of assistance at stations, transport of and liability for mobility equipment as well as passengers' rights in case of delay or cancellation. The EC published a report on the implementation of Regulation (EU) No 1371/2007 in 2013 and stated that there were in general no major problems. However, the following issues have been revealed in the literature, as well as through this study's surveys:

- Article 24 requires a maximum notice period to book assistance for persons with reduced mobility, which is defined at 48 hours. This actually prohibits spontaneous travel of persons with reduced mobility. In several European countries much shorter notice periods have been achieved and these are sometimes regulated. The following countries have reduced or completely abolished the pre-notification period:
    - Spain has completely abolished the pre-notification period at major stations and passengers can now just "turn up and go"[2].
    - The Netherlands have lowered pre-notification to 1 hour in at least 100 stations[3].

[2] List of Accessible Train Stations. Spanish railway operator (RENFE). Available at: http://www.renfe.com/viajeros/atendo/estaciones.html

[3] Requesting travel assistance. Dutch National Railway Operator (NS). Available at: https://www.ns.nl/en/travel-information/traveling-with-a-functional-disability/assistance-while-travelling.html

  - In Belgium, it has been lowered to 3 hour at selected stations.
  - In Austria and Denmark, it has been reduced to 12 hours.
  - In Germany, the national operator Deutsch Bahn offers "spontaneous assistance" in selected stations[4]. They are listed on the website, along with all stations where assistance must be booked the day before travelling, before 8pm. The booking can be done online through a form or on the phone, however it must be noted that this service charges passengers between 20 and 60 cents per call[5].
- The regulation allows assistance to be provided during certain working hours. Thus, many stations have limited the provision of this service to working hours (typically 9.00-17.00), although the station maybe be in operation for much longer periods.

Exemptions from the relevant regulation have been an important issue, as recognised in the European Parliament report of 2016 [32]. Although the provisions of the regulation demand the railway undertakings, EU Member States, and their NEBs to carry out various obligations, at the same time, the regulation allows EU Member States to temporarily opt out from a vast majority of these obligations. According to Article 2 of the regulation, EU Member States may grant exemptions from the application of the provisions of the regulation. The exemptions can be granted to domestic rail passenger services, but also to urban, suburban and regional passenger rail services. Exemptions for domestic rail passenger services can be granted for a period no longer than five years and can be renewed twice, up to a maximum of 15 years. The exemptions have to be granted in a transparent and non-discriminatory manner. The exemptions for urban, suburban, and regional services are not limited by the regulation and can be granted for an unlimited period of time. After 3 December 2024, EU Member States cannot grant any exemptions to the application of the regulation.

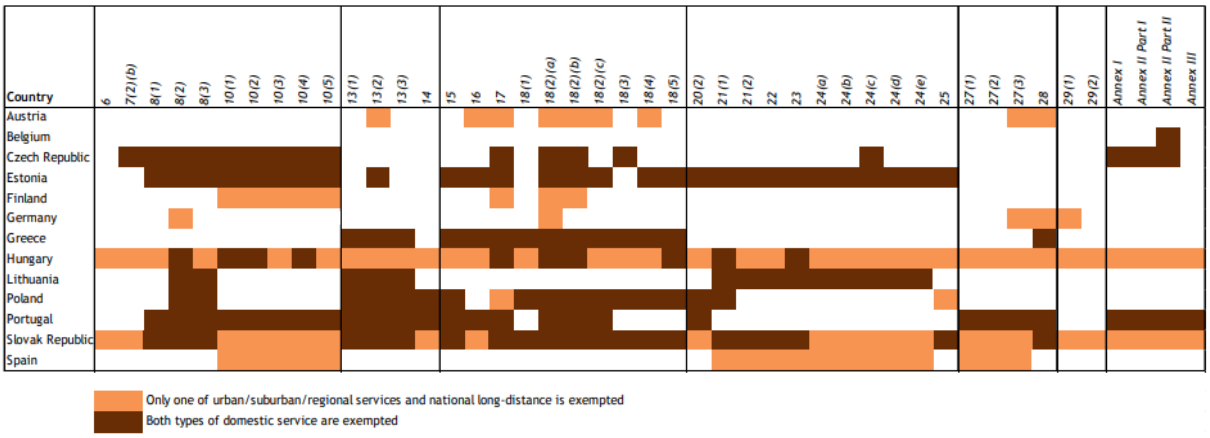
Only the application of Article 9 (Availability of tickets, through tickets and reservations), Article 11 (Liability for passengers and luggage), Article 12 (Insurance), Article 19 (Right to transport), Article 20(1) (Accessibility), and Article 26 (Personal security of passengers) of the regulation cannot be limited by EU Member State exemptions.

The latest evaluation regarding the application of Regulation (EC) No 1371/2007, both in European and national level, dates back to 14 August 2013 [33] focuses on 17 selected EU Member States and finally provides information on exemptions from 13 EU Member States. Relevant exemptions are mainly required for regional and suburban rail and far less for national long-distance ones. A short summary of the relevant findings is presented in Figure 9 below.

[4] List of stations with spontaneous assistance. German National Railway Operator (DB). Available at: https://www.bahn.de/p/view/mdb/bahnintern/zielgruppen_-_msc/handicap/zugangsregeln_leitfaden/mdb_240280_zugangsregeln_bahnhofsliste_2016.pdf

[5] Mobility service online. German National Railway Operator (DB). Available at: https://www.bahn.de/p/view/service/barrierefrei/mobilitaetsservice.shtml

Figure 9: Partial exemptions for domestic services.



Source: DG MOVE (Evaluation of Regulation (EU) No 1371/2007) [34]

However, despite the obligation in Article 31 to cooperate, there has been little contact between NEBs. Nevertheless, since only 6% of rail travel in the EU is international, the need for cooperation to resolve complaints was limited. Much more data per country and issue can be found in the referenced publication.

On **28 September 2017**, the EC published the **proposal for a recast of the Regulation on rail passengers' rights and obligations (Regulation (EU) No 1371/2007)** [35] following its 2015 Interpretative Guidelines and the 2013 report on the implementation of the regulation. It will be discussed in the European Parliament and in the Council of Europe and is currently awaiting the decision from the TRAN Committee in the European Parliament.

The new proposal strengthens the rights of persons with disabilities and of persons with reduced mobility, notably by aligning more closely with the UNCRPD. Concerning persons with disabilities in particular the introduction of the following points has been proposed:

- A clear reference to the UNCRPD has been introduced.
- There are no exemptions for disability-related provisions (Article 2).
- Assistance has to be available at all times when trains are operating (Articles 23-24).
- The competences of the National Enforcement Bodies (NEBs) are better defined and include specific tasks (Chapter VII).
- However, the issue of pre-notification still has not been solved in the proposal for the revision.

Regulation (EU) No 1300/2014 on technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility (TSI-PRM) [36] gives details about technical specifications in the design of rolling stock and stations, including wheelchair spaces. Each train carriage or "unit" has to have at least one accessible wheelchair space with an adjacent seat for an accompanying person [37]. Also, **Regulation (EU) No 454/2011** on the technical specification for interoperability relating to the sub-system "telematics applications for passengers' services" of the trans-European rail system (TAP-TSI) [38] defines the requirements for relevant digital and telematic application (i.e. booking and information to PRMs). However, Regulation (EU) No 454/2011 does not cover accessibility for all persons with disabilities but only specifically mentions persons with visual and hearing impairments. It also only

includes a general reference to the W3C Web Content Guidelines (WCAG) but does not specify to which level – ideally it should be AA. Last but not least, this regulation only refers to the official website of the railway undertaking whereas information and ticket sales may be provided also via other website, thus excluding access to persons with disabilities.

Regulation (EU) No 1300/2014 requirements also cover most required aspects for their rail service and rail vehicles and stations' accessibility, such as lifts, escalators, ramps, floor surface, boarding facilities, handrails, pictograms/signage, as well as visible information systems, marking, audio information systems, lighting and contrast.

Regulation (EU) No 2016/797 [39] sets out the conditions necessary to achieve interoperability of the European rail and will enter into force in 2020. It is the overarching Directive that also governs the Technical specifications for interoperability (TSIs). It defines the essential requirements for rail infrastructure and rolling stock when newly built, upgraded or renewed.

Under the TSIs relating to accessibility of the EU's rail system for persons with disabilities and persons with reduced mobility (Regulation (EU) No 1300/2014 (TSI-PRM)), EU Member States are obliged to apply the rules of Regulation (EU) No 1300/2014 on all new and renewed stations and rolling stock. This creates an issue because it means if no renovations are undertaken or no new rolling stock is purchased, theoretically the railway network of the given Member State can remain inaccessible indefinitely. This also applies to the prioritisation rule: if small stations are systematically given low priority, they will remain inaccessible for ever.

In the context of the revised Regulation (EU) No 1300/2014, each Member State had to prepare National Implementing Plans (NIPs), and send it to the Commission by 1 January 2017. Prioritisation rules define which station should be made accessible as a priority, based for instance on i) passengers per day ii) distance of the station from a structure specialised in disabled or older people iii) a line by line approach. The TSI-PRM Advisory Board of the European Commission, which gathers EU Member States, passengers' associations, the European Railway Agency (ERA) and railway representatives, meets regularly to oversee the implementation.

This however is related to the following problems:

- Older trains do not fulfil accessibility requirements.
- The problem of independent boarding is not even tackled under the TSI-PRM (Regulation (EU) No 1300/2014) because it is a problem of different target systems concerning the platform heights.
- Groups of persons with reduced mobility travelling together cannot typically travel together in the same compartment or even train, which goes against the principle of non-discrimination and the UNCRPD.
- Many services on board of the train (e.g. restaurant cars) remain inaccessible because they are not covered by the TSI-PRM.
- There is a lack of accessible information on train carriages, so as to allow for persons with reduced mobility to make properly informed choices.
- The "priority rule" in the regulation allows stations to remain inaccessible for an undetermined amount of time.
- Wheelchair space can sometimes be obstructed by other passengers.

Specifically for rail, there is an abundance of standards that aim to clarify the requirements (with clear and consistent terms and definitions) and to define the associated criteria and, where appropriate, indicate methodologies to allow a clear pass/fail assessment, such as:

- **European Standard EN 16584** is a standard that covers both infrastructure and rolling stock-Railway applications- Design for PRM Use – General requirements [40].
- **European Standard EN 16585** is a standard that covers Rolling Stock-Railway Applications - Design for PRM Use - Equipment and Components On Board Rolling Stock [41].
- **European Standard EN 16586** is a standard that covers rolling stock-Railway applications - Design for PRM Use - Accessibility of persons with reduced mobility rolling stock [42].
- **European Standard EN 16587** is a standard that covers infrastructure - Railway applications - Design for PRM Use - Requirements for obstacle free routes for infrastructure [43].

Maritime and Inland Waterways: Directive 98/18/EC, Regulation (EU) No 2008/0816 and Regulation (EU) No 1177/2010

KEY FINDINGS & RECOMMENDATIONS

- Fare discrimination policy should be abolished; the PRM should pay an equal fare for an accessible cabin and no additional fare should be charged if there is a need for a personal assistant or assistance dog.
- Accessibility for persons with disabilities of domestic excursion boats and cruise vessels regarding cross-border inland waterways in EU countries needs to be implemented and enforced. Full accessibility of ports and land-side installations that are used for cross-border voyages shall be ensured for persons with disabilities, independent of the relevant national rules.
- Gangways for boarding need to be technically specified for safety.
- Information during operation and emergencies needs to be offered also in accessible format.
- The training of personnel in disability-awareness, and on methods of assisting persons with disabilities should be designed and delivered in cooperation with the representative organisations of persons with disabilities.
- Ensure full access for passengers with disabilities to all the services provided to the public on board.
- Flexibility should be provided with regard to the pre-notification system for assistance on board.
- Limitations on the pieces of disabled equipment shall not exist in particular in particular to ships of a larger size.

The Regulation (EU) No 1177/2010 [44], which entered into force in December 2012, has a similar scope to the Regulation on Rail Passengers' Rights (1371/2007) [31]. It covers both the right to transport for persons with disabilities as well as right to accessible information, right to assistance, rights in cases of delay or cancellation and rights related to mobility equipment and assistive devices in the Maritime and Inland Waterways sector.

23 out of the 28 EU Member States are coastal countries, 4 of those are islands and eight others have archipelagos or large islands with big populations. In many of the countries inland waterways are included in the transport network and are the only way of moving around in a city or to access more directly villages or towns in a given area. It is acknowledged that persons with disabilities often are prevented from travelling by boat due to a lack of accessibility of these services and the failure of shipping companies to offer the necessary assistance.

As yet there are no publications on the functioning of this regulation. Some of the issues reported as still unresolved, gathered from the fieldwork for this study concern the following:

- When it comes to the design and refurbishment of passenger ships, the accessibility requirements of disabled passengers go beyond the scope of Directive 98/18/EC (on

safety rules and standards for passenger ships) [45], as this TSI-PRM Regulation only requires accessibility features that are linked to safety concerns. One must for example, according to this Directive, provide boarding access for wheelchair users, and some information for people with sensory impairments in accessible formats, etc., but there is not a requirement to ensure full access for passengers with disabilities to all the services provided to the public on board.

- Article 8 (1) of the Regulation (EU) No 2008/0816 [46] concerns the establishment of accessibility rules for passengers with disabilities or reduced mobility; there is no reference in the legal core text to European rules. The Article leaves the impression that every single carrier can establish its own access rules (in cooperation with organisations representing persons with disabilities, etc.).
- There is fare discrimination, as many cruise lines are charging an extra ticket for the personal assistant of a person with reduced mobility or even for the assistance dog. Also, some cruise lines demand a higher price for the wheelchair accessible cabins.
- There is a lack of accessibility, particularly in domestic excursion boats but also in European inland waterways on cruise vessels which ply routes between several EU Member States. Disabled passengers on continental river cruises can experience difficulties at some ports, which may not all have level access for wheelchair users.
- Passengers with balance or mobility impairments are affected if the gangway is not secured (i.e. through wobbles) or has inadequate rails (such as ropes, etc.).
- There is lack of information in accessible format before and during the journey, and also a lack of information on the accessibility on board and in the ports.
- Staff needs to arrange alternative means for relaying announcements, in particular to people who are blind, partially sighted, people with learning difficulties, people who are deaf or hard of hearing passengers in case of emergency, change of programme/itinerary/excursions, etc..
- The inclusion of an exception to transport or booking by persons with disabilities for safety reasons in maritime transport is unjustified. There are currently very few cases of denied boarding of disabled passengers due to safety concerns. The discrimination in access to maritime transport is rather due to the inaccessible design of the ships and boats or the port-side environment.
- Some flexibility as to the notification system for assistance on board needs to be permitted. When a person is using maritime transport on a regular basis or as their general mode of transport for going to the working place for example, it is not reasonable to expect the person to notify their needs for assistance 48 hours beforehand each and every time. For thousands of Europeans with disabilities, crossing a lake or a river would be part of their daily route in order to reach work or just to make their way around. This mode of travel does not require passengers to book in advance, even when they board with their car, and imposing an obligation for persons with disabilities to notify their need of assistance in advance would breach their right to equal treatment. Therefore a legal or regulatory distinction between the long-distance and short-distance journeys, or the type of boat/ship used for the transport would be required in order to make differentiated requirements for the respective types of transport.
- Article 12(f) of the Regulation (EU) No 2008/0816 [47] refers to "applicable national rules", regarding the obligation to establish assistance animals' access rules. However, in some countries there are no rules on assistance animals in place.

- There is a limitation on the number of pieces of mobility equipment that must be accepted on board, in particular if the ship is of a larger size. The mode of transport is different from air carriers and therefore it does not justify such a requirement. It puts disabled passengers in an unequal situation compared to other passengers.

Road: Regulation (EU) No 181/2011

KEY FINDINGS & RECOMMENDATIONS

- Regulation (EU) No 181/2011 should not only cover long-distance bus and coach services but all buses and coaches, including urban and regional services.
- Disabled Persons' Organisations (DPOs) should be involved more strategically and systematically by the national authorities but also by transport operators.
- The very good provision for training of staff within this regulation needs to be also included in all other relevant regulations, concerning the rest of the transport modes (as is already the case in Regulation (EU) No 1107/2006, regarding air travel in its Article 11).
- The EU Member States should provide a minimum harmonised percentage of accessible transport terminals, covering geographically the whole country and suggest means of verification of the information.
- Further exceptions of EU Member States from this regulation should not be allowed beyond the initially defined transition period.
- Concrete guidelines for staff training, similar to the European Civil Aviation Conference (ECAC) Document 30 in air travel, should be drawn up to facilitate the implementation of provision for staff training by EU Member States and minimal implementation. It is especially important to agree on minimum standards for a curriculum that ensures the same level of training everywhere. Many railway undertakings already organise such training and guidance document, with good practice examples, could be drawn up based on these existing training curricula.

The last regulation so far to enter into force is Regulation (EU) No 181/2011 concerning the rights of passengers in bus and coach transport in March 2013 [48]. An essential part of the regulation relates to Article 16(1), which stipulates that carriers must organise disability awareness training for their staff, including the drivers. The details are described in Annex II of the regulation on disability-related training [49]. Additionally, as stipulated under Article 12, the EU Member States has to provide the EC with a list of designated terminals that are accessible for persons with disabilities and reduced mobility (see Annex I of the regulation). This exercise has been completed.

Relevant problems in the application of this regulation relate to:

- An integral limitation of the regulation is that it only applies for bus and coach services of 250 km and above, therefore excluding the majority of urban and regional bus services which are of equal interest to passengers.
- The Bus and Coaches Regulation (EU) No 181/2011 provides in its Article 16(1) that carriers must organise disability awareness trainings for their personnel, including their drivers. Article 16(2) of the regulation allows EU Member States to grant exemption from the drivers' disability awareness training until 1 March 2018 maximum. This exemption cannot be renewed. Below is the list of the 11 countries that granted this exemption as of 2015, there have been no updates since. It should be noted that those exemptions have recently come to an end (1 March 2018), as

provided under the provisions of Article 16 (2). Those 11 countries are: Belgium, Croatia, Denmark, Finland, France, Germany, Hungary, Italy, The Netherlands, Slovenia and U.K The 4 countries that hadn't stated the application of any relevant training or making use of the exemption were: Austria, Greece, Luxembourg and Poland.

- A critical fact is that no standardised and certified training scheme exists across countries (in most cases, even within countries), in order to apply optimal this training. Thus, the efficiency of each may vary a lot and may therefore be open to question.
- The feedback of the EU Member States on designating accessible bus and coach terminals varies a lot. Some countries have either designated not enough terminals (i.e. Finland related to the Northern part of the country) or reported a disproportionally high number of terminals, which is in contradiction to user feedback from these countries (i.e. Bulgaria).

Multimodal: Directive 2010/40/EU

KEY FINDINGS & RECOMMENDATIONS

- The EU shall adopt as soon as possible the European Accessibility Act to include relevant provisions on transport accessibility (covering all transport modes, vehicles, stations, ICT, infrastructure, etc.).
- Research is needed to define and adapt the suggested interchange transfer time to the specific persons with reduced mobility's profile (i.e. slower travel speed for persons with motor and visual disabilities, as well as older people [52].
- Accessibility of multimodal terminals has to be regulated and ensured throughout their life cycle, from initial planning to construction, daily management and renewal/update/maintenance.
- Denominate an "accessibility coordinator", jointly for terminals of all involved modes. This new role will be also responsible for coordinating assistance to persons with reduced mobility in the terminal during their transfer.
- Persons with disabilities and their representative organisations shall be involved in the entire process, from the design and planning phase until the implementation and use of the service and terminal.
- The commission shall adopt a proposal on multimodal passenger rights, including accessibility of terminals.

Multimodal travel accessibility is not yet covered within a concise regulation and that leads to significant gaps, especially related to multimodal terminals accessibility.

One aspect that is covered, relates to Multimodal Travel Information and Planning Services (MMTIPs), which is covered within the Directive 2010/40/EU on Intelligent Transport Systems (ITS) [50], the enforcement of which is linked to the Digital Single Market strategy (DSM) [51]. They need to be accessible both in terms of format in which the information is presented (i.e. compatibility with assistive devices, adhering to web accessibility guidelines, supporting a variety of communication channels, etc.), as well as covering specific information on accessibility of the trip itself, which are relevant to the persons with reduced mobility (i.e. transfer times that are realistic and take into account the specific persons with reduced mobility residual abilities, the accessibility of interchange terminals, travel disruption, etc.)

- The provision of information on the journey through accessible web and mobile services needs to be of controlled quality, i.e. following WACAG2.1 guidelines of level A or even AA.
- Accessibility information needs to go beyond the design and implementation phase and extend to the management and maintenance of services, including various software and service upgrades.
- Information about the right to travel with a personal assistant, as well as at reduced (or free of charge) fares needs to be included in all information sites.

Regarding multimodal terminals' accessibility, the major issues relate to:

- Designing and planning accessible multimodal services and terminals involves many different actors and accessibility has to be taken into from the beginning.
- How to manage intermodal links under Public Service Obligation (PSO) contracts. There are mixed responsibilities between the different transport modes co-hosted in the terminal and thus in many cases there is no coordination of the accessibility issues among them.
- There is a need to extend accessibility beyond commissioning of the terminal, towards its management and maintenance. Again, this is difficult to be achieved without proper coordination among the co-hosted modes.

3.1.2 Tourism

Tourism: EU preparatory Action on Accessible Tourism for All

KEY FINDINGS & RECOMMENDATIONS

- Accessible tourism is not covered by EU law, as the Lisbon Treaty (Article 195) excludes any harmonisation at European level related to Tourism.
- A measurement system of Key Performance Indicators (KPIs) should be developed to measure success and guide future EU funding and actions. This could be linked across all funding programmes where projects involve accessible tourism measures, e.g. EU Regional Funds, Cohesion Funds, INTERREG, COSME, ERASMUS+, HORIZON 2020, etc.).
- There is a need to coordinate, combine and mainstream accessibility principles and practices across all areas of tourism policy and development, including destination management and the development of emerging touristic markets, "Accessible Tourism", "Age-friendly Tourism", "Medical Tourism", "City Breaks", "MICE Tourism", etc..
- Accessibility classification schemes for tourism are intended to make practical information about access more readily available to tourists with access needs. However, the enormous number and diversity of such schemes, combined with the lack of specific standards for accessible tourism services, presents an additional barrier for visitors when choosing a destination or tourism service.

Because of its transversal nature, tourism is impacted upon by various policies, at EU and national levels and, in some EU Member States at regional level. These include policies on transport, environment, consumer protection and regional development, as well as many areas of public and commercial activity including public procurement, employment and skills, building design and construction, and the Digital Single Market. Consequently, these policies are not always easy to coordinate [53].

Against this background, this section presents a summary review of European policies and actions related to tourism over the past 8 years, with particular focus on **accessible tourism studies, projects and initiatives** that have addressed the need to improve destinations, facilities and services, making them suitable and attractive for tourists with disabilities and others with access needs.

The adoption into law of the Lisbon Treaty on 1st December 2009 represented a very significant moment for Europe's tourism industry. For the very first time in its history, the EU was given specific powers to direct tourism activity across Europe. The EU was given legal support to develop a set of actions to respond to the many challenges and opportunities facing the tourism sector. Article 195 of the Treaty therefore provided a formal basis for the development of a coherent policy approach to tourism in order to make the sector more competitive. The Treaty also gave the EU Parliament new powers to influence tourism activity and, very importantly, directed that no new tourism policy decisions be taken without the assent of European Parliament. In short, the Treaty

equipped both the Parliament and the Council with new legal powers to develop a common European policy with respect to tourism [54].

As laid down by Article 195 of the Treaty, the EU can therefore:

- promote the competitiveness of undertakings in this sector and create an environment conducive to their development;
- encourage cooperation between the EU Member States, particularly through the exchange of good practice; and
- develop an integrated approach to tourism, ensuring that the sector is taken into account in its other policies.

However, while the EU has the competence to support the actions of EU Member States, it is worth noting that because ***Article 195 excludes any harmonisation at European level relating to tourism***, responsibility for the development of the sector ultimately still falls on national, regional and local authorities.

This legal framework offers, nevertheless, an opportunity to carry out actions with a high European added value which take into consideration a concern with reducing administrative burdens. These actions are intended to benefit all countries in the European Union, as each of them, to differing degrees, has an interest in developing its tourist potential.

Since 2007, the EC, in cooperation with EU Member States and associations representing the sector, implemented a series of actions intended to strengthen European tourism and its competitiveness [55]. In tandem, the EU has introduced the Directives on Rights of Passengers (as referred to in the previous sections), aiming to provide an integrated system to protect passengers and consumers, including those with disabilities or reduced mobility, on all means of transport.

In 2010, the European Commission published its Communication: Europe, the world's No 1 tourist destination – a new political framework for tourism in Europe, setting out an agenda for the next 10 years of tourism policy and actions. The Communication noted:
"[Another] significant challenge relates to the demographic trends observed in Europe and the new tourist behaviour or expectations which result. These changes require the industry to adapt quickly in order to retain its level of competitiveness. In particular, the number of persons aged over 65 is expected to reach 20% of the population in 2020. This population group, consisting of individuals with both purchasing power and leisure time, represents significant market potential but also requires changes in the sector to meet its particular needs. The same applies to accommodating the increasing number of tourists with reduced mobility (recently estimated at 127 million persons), who have specific needs and must be integrated into the tourist supply and service structure." [56]

No specific actions were proposed at this time in the area of tourism accessibility for persons with disabilities. However, the Commission proposed an Action to provide a "voluntary tourism exchange mechanism between EU Member States, enabling in particular certain key groups such as young or elderly people, people with reduced mobility and low-income families to travel, particularly during the low season". This led to the funding of the "Calypso" project, which developed an online platform for European "Social Tourism" actors and stakeholders. The online service did not gain traction with the tourism sector and it is now effectively dormant, although the website is still available, (Calypso EU project website).

In its 2011 resolution on 'Europe, the world's No 1 tourist destination – a new political framework for tourism in Europe' (rapporteur: Carlo Fidanza, EPP, Italy), the European Parliament made suggestions for achieving competitive modern and sustainable tourism. It deplored the lack of coherence within the EC with regard to tourism policy and considered it essential that the Commission should arrange for a coordinating and integrating approach among the directorates-general concerned. Furthermore, it suggested developing a long-term strategy for more coordinated and simplified visa procedures. Last but not least, it asked the EC to promote a specific initiative to gradually harmonise the accommodation classification systems (such as hotels, guesthouses, rented rooms), through the identification of common criteria and put in place actions to develop "accessible tourism for all" [53].

EU Preparatory Action on Accessible Tourism for All

In 2012, the European Parliament provided a €1 million budget to the European Commission for a 3-year "**Preparatory Action on 'Tourism and Accessibility for All'**". This led to the funding of three EC Mapping Studies of 1. Training/Skills Requirements, 2. Economic Impact and Travel Patterns and, 3. Supply of Accessible Tourism Services in Europe. These wide-ranging studies gathered evidence regarding the economic value, current and projected demand for accessible tourism; the state of skills and training in accessible tourism; and the degree of supply and performance of accessible tourism services in the EU Member States. The results and recommendations of these studies were presented at an EC Conference entitled, "Mind the Accessibility Gap" in June 2014 [57].

The studies were accompanied by three **Open Calls for Proposals** (2013, 2014, 2015) for projects fostering accessible itineraries, entrepreneurship, management and skills. The Commission's webpage notes:

"Accessible tourism is about making it easy for everyone to enjoy tourism experiences. Making tourism more accessible is not only a social responsibility – there is also a compelling business case for improving accessibility as it can boost the competitiveness of tourism in Europe.

"Evidence shows that making basic adjustments to a facility, providing accurate information, and understanding the needs of disabled people can result in increased visitor numbers.

"Improving the accessibility of tourism services increases their quality and the enjoyment of all tourists. It also improves the quality of life in local communities.

The European Commission is committed to increasing accessibility in tourism through a number of actions."

A total of 19 projects received EU funding under these calls [58]. The impact of these projects does not appear to have been systematically examined, although they may each have helped the development of Accessible Tourism within their respective geographical areas. Having committed resources at European level to enterprises there might have been a follow-up study to extract lessons learned and identify strategies for National Tourism Organisations (NTOs) and Destination Management Organisations (DMOs) in EU Member States to help them develop Accessible Tourism across a wider front.

In 2014 the Commission selected 7 tourism enterprises and public authorities for **"European Excellence Awards for Accessible Tourism"** under two categories: 1. Accommodation and Catering and 2. Nature, heritage, Culture, Entertainment and Leisure. The winners were proposed by EU Member States authorities with the support of and in accordance with guidelines of the European Commission. The winning enterprises offered a multitude of leisure activities, with special features for people with disabilities [59].

However, since 2015, under the current EU Parliament and Commission, the Preparatory Action on Tourism and Accessibility for All has not been followed by a dedicated long-term programme for the development of accessible tourism in Europe. The Commission webpage on Accessible Tourism holds no information since the year 2015 and there is no indication of continuing EU support for mainstreaming accessibility in the tourism sector.

The European Parliament's Committee on Transport and Tourism (TRAN) Tourism Task Force focuses on tourism-related issues. In April 2015, TRAN organised a public hearing with industry stakeholders to discuss the challenges facing the sector and ways to keep Europe's position as the world's top tourism destination. In its 2015 resolution on **'New challenges and concepts for the promotion of tourism in Europe'**, the European Parliament (rapporteur: Isabella De Monte, S&D, Italy), encouraged the EC to examine the possibility of creating a funding line dedicated exclusively to tourism, and called for a new Commission strategy on EU tourism to replace or update the 2010 communication. It insisted on stepping up efforts to improve Europe's branding as a tourist destination and on creating pan-European and transnational tourism products and services.

In 2014 and 2015, the EC launched two Calls for Proposals under the COSME programme**: Increasing tourism flows in low/medium seasons for seniors and youth target groups.** One of the main aims for projects under these calls was to "…Facilitate seniors' transnational mobility within the EU, lifting obstacles alongside the tourism value chain (e.g. accessible barriers scaling up the use of innovation and technologic tools, enabling senior citizens to pursue active, healthy and more independent travel mobility)". The two Calls resulted in 15 projects to support Senior Tourism, most of which would be completed within 2017 [60].

In its 2016 opinion, on 'Age-friendly tourism', the Committee of the Regions (CoR) called on the Commission to make **senior tourism** central to the digital agenda for Europe and to consider declaring a European year of tourism, which would help promote the diversity of European tourism. In a 2016 own-initiative opinion on *'Tourism as a driving force for regional cooperation across the EU'*, it called on the Commission to launch an integrated EU tourism policy. It suggests adopting a standardised European classification/quality assurance system to complement existing national ones, and creating a European capital of smart tourism award. Finally, it supports introducing a heading for activities related to promoting European tourism in the annual EU budget, and in various EU policies and funds.

In the area of accessibility, since 2010 the European Commission, in collaboration with EDF, has promoted the **"EU Access City Award"**, a competition between European cities of more than 50,000 inhabitants. Cities compete for a trophy and accolades giving publicity to those which excel in providing accessible services, including accessible transport, infrastructure, ICTs, Employment and Education for their citizens with disabilities (see "Best Practice" in ANNEX 3). Yet, despite the high profile give to the awards they have not led to any significant sharing of good practice and lessons learned from award winners that could be taken and applied in the tourism sector. Indeed, the value of cities' overall accessibility for tourists with access needs has rarely been recognised in the awards and is not a specific component in the judging criteria.

A new **"European Capital of Smart Tourism"** award, which is planned to be launched by the European Commission (DG GROW) in 2018, may make up for this shortfall, in that candidate cities for this award will be obliged to demonstrate their competences and services in, amongst other things, accessibility for tourists with disabilities and those with other access requirements when travelling [61].

The lack of concerted efforts at European level to improve accessibility in tourism for persons with disabilities must be seen against the political background whereby, at present, tourism does not constitute a major policy priority and, while various funds can be used to support tourism-related activities, there is no funding line dedicated to tourism as such [53].

In relation to global developments in tourism accessibility, the **UN World Tourism Organisation** has provided a leadership role in this field through a series of resolutions and guidelines over more than two decades. Promoting accessibility has been part of the World Tourism Organisation's (UNWTO) Mission statement for over a decade:

"The World Tourism Organisation (**UNWTO**) is the United Nations specialised agency entrusted with the promotion of responsible, sustainable and universally accessible tourism... "

UNWTO is convinced that the facilitation of tourist travel by persons with disabilities is a vital element of any responsible and sustainable tourism development policy. In 1999 the UNWTO adopted a "Global Code of Ethics in Tourism" which has served as a guide for an ethical development of tourism, including actions to support tourism for people with disabilities, among other marginalised and vulnerable groups.

In the spirit of mainstreaming disability issues, the UNWTO General Assembly adopted Resolution A/RES/492(XVI) in 2005, entitled "Accessible Tourism for All". Featuring a series of recommendations to the sector, it highlighted the necessity of providing clear information on the accessibility of tourism facilities, the availability of support services in destinations for persons with disabilities, and the training of employees on the specific needs of these customers. The document, prepared with the help of experts provided to the Organisation by the Spanish ONCE Foundation, updated the 1991 resolution A/RES/284(IX), "Creating Tourism Opportunities for Handicapped People in the Nineties."

In October 2009, UNWTO again underscored the importance of accessibility with the Declaration on the Facilitation of Tourist Travel, approved by its General Assembly in Astana, Kazakhstan. Of a purely recommendatory nature, it advises that "great efforts should be made to ensure that tourism policies and practices are inclusive of persons with disabilities." The declaration calls upon EU Member States to ensure the accessibility of tourism establishments, the availability of special facilities for persons with disabilities at no additional cost, the publication of detailed information on the availability of such services and the special training of tourism staff. It further endorses the general principles enshrined in Article 3 of the UN Convention on the Rights of Persons with Disabilities and invites all EU Member States to implement them.
In 2011 a trilateral framework agreement was established between UNWTO, Fundación ONCE and ENAT, involving building on the 2005 Resolution on Accessible Tourism for All, providing advice on policy-making, awareness-raising, producing guidelines, and embarking on training and capacity building projects, especially via the UNWTO Themis Foundation, as well as the labour insertion of persons with disabilities into UNWTO.

In the same year, two of UNWTO Ulysses Awards were bestowed on Non-governmental organisations (NGOs) in Canada and Slovenia for their work in accessible tourism: the NGO Kéroul in Canada for their programme La Route Accessible (The Accessible Road) - an innovative and informative travel tool specially designed to promote accessible tourism in Québec; and the NGO Slovenian Association for Mental Health (SENT), the first organisation specialised in accessible tourism in Slovenia, in recognition of its innovative programme

PREMIKI, an institute promoting the development of accessible tourism and acting as a travel agency for people with disabilities [62].

Working together with ONCE Foundation and ENAT, an updated Resolution on Accessible Tourism for All" was prepared and adopted at the UNWTO General Assembly in 2013 [63]. Furthermore, from 2014 to 2016 the UNWTO published a series of Manuals on Accessible Tourism for All, to be used by national tourist authorities and agencies as guidance documents when developing strategies, planning and designing tourism destinations, developing businesses, providing tourist information and marketing.

In 2016, UNWTO chose "Accessible Tourism for All" as the theme of the annual World Tourism Day on 27th September, which was celebrated in Bangkok, Thailand, with two Keynote speeches given by ENAT's Managing Director, Ivor Ambrose [64].

Accessible Tourism in the context of sustainable development

UNWTO designated 2017 as the *International Year for Tourism for Sustainable Development*, bringing into focus the role that responsible tourism policies can play in fostering development that is environmentally, socially and economically sustainable.

While environmentally sustainability is widely seen by both destinations and businesses as an important aspect of tourism provision for building reputation and customer loyalty, ensuring accessibility for all visitors plays an important role in ensuring socially viable tourism and economically sustainable communities. Better accessibility in transport, streets and public services contributes to improving the quality of life for everybody in tourism destinations, in particular disabled and older people, whose numbers are growing in many parts of the world.

Moreover, when designing environments, products and services the application of principles of "Universal Design" or "Design for All" ensures that the widest possible range of access needs can be catered for. By adopting the Universal Design approach in the transport field there will be less need, if any at all, to make specialised adaptations, which thus saves vital resources and avoids additional production and renovation costs. Addressing accessibility across all parts of the tourism and transport chain can lead to greater social inclusion and economic sustainability, also responding to the growing market of older European and international tourists .

To maintain Europe's leading position as a tourism destination, new attractive tourism products need to be developed in a sustainable manner, meeting the needs of local communities and the environment. Among the issues to be addressed is transport as a key part of tourism, taking into account the increase in CO_2 emissions and need for accessible, cost-effective public transport systems with Low Carbon Vehicles.

As reported in the European Parliament Research Service Briefing document on Tourism, (May 2017, op. cit.), *"attracting various niche target groups, such as seniors, may help to boost tourism. To this end, various tourist resorts have placed specially designed infrastructure at their premises (such as specially outfitted elevators and bathrooms), to facilitate seniors' stay. This may not always be an easy task, as it requires a careful redesign of spaces and financial resources. Similarly, some resorts have tried to adapt to the needs of tourists with specific needs".*

However, this observation reflects only part of the changes that destinations and tourism businesses need to consider in order to improve accessibility and attract customers in the

accessible tourism market. There is a widespread perception among policy makers and tourism providers that the main obstacles to creating an accessible tourism offer concern **improvements to the physical infrastructure** – and that all improvements are likely to be expensive.

Whilst major expenditure in the form of capital costs can be incurred by a business when looking to improve access in existing buildings, such costs can be reduced or defrayed over a longer period if undertaken, with expert advice either at the time of a general refurbishment or through targeted improvements achieved through the judicious use of maintenance budgets

Two other key factors which a business must consider, when seeking to improve the customer experience, are **the welcome given by staff**, which can be addressed by appropriate training to give confidence to serve this market; and the provision of appropriate information, that is accurate and in suitable formats to be easily accessed by visitors with sensory, mobility or cognitive disabilities. This can also be addressed through training and appropriate business support toolkits.

European and International Standards on Accessibility

KEY FINDINGS & RECOMMENDATIONS

- Many existing and emerging standards consider Transport and Tourism jointly; within the continuum of a journey.
- Procurement related legislation may have an equal or even higher impact than sector related regulations on single transport modes.
- Standards are very useful tools to implement accessibility but it is important to keep in mind that standards are mainly driven by the industry and users don't always have possibility to be involved. Involvement of users in the creation of these standards should be obligatory and their involvement must be facilitated through financial means.

A number of European and International standards on accessibility are directly relevant to accessible transport and tourism, as mentioned briefly, below.

Mandate M/420-Accessibility requirements for public procurement in the built environment'
In January 2008, the European Commission issued the Standardisation Mandate M/420 'Mandate to European Committee for Standardisation (CEN), European Committee for Electro technical Standardisation (CENELEC) and European Telecommunications Standards Institute (ETSI) *in support of European accessibility requirements for public procurement in the built environment'* in order to move forward with deliverables that can contribute to accomplish the EU policy objectives in relation to accessibility of the built environment.

Mandate M/420 is part of a series of Mandates on accessibility, which include:

- M/376 - Standardisation Mandate to CEN, CENELEC and ETSI in support of European Accessibility requirements for public procurements of products and services in the ICT domain (2005).
- M/473 - Standardisation Mandate to CEN, CENELEC and ETSI to include 'Design for all' in relevant standardisation initiatives (2010).

The objective of mandate M/420 is to:

- Facilitate the public procurement of accessible built environment following "Design for All" principles by developing a set of Standards/Technical specifications that will contain (I) a set of functional European accessibility requirements of the built environment and (II) a range of minimum technical data to comply with those functional requirements.
- Provide a mechanism through which the public procurers have access to an online toolkit, enabling them to make easy use of these harmonised requirements in the public procurement process.

The outcome of **M/420 Phase I** was a Joint Report produced by Project Team A & Project Team B under CEN Technical Board Working Group (CEN/BTWG) 207 "Accessibility in the built environment" and CENELEC/BTWG 101-5 "Usability and safety of electrical products with reference to persons with special needs". It was approved on 2011-11-20 [65].

Mandate **M/420 Phase II** commenced on 2016-01-01 and is expected to take 37 months to be concluded. It should take into account and build upon the findings and recommendations of Phase I of the Mandate and should produce the following deliverables:

1. A **European Standard (EN)** on functional European accessibility requirements at the level of common functional requirements of the built environment to be used as either technical specifications or as criteria for awarding public contracts (in the sense of the Public Procurement Directives). These requirements are applicable to all built environment elements identified in Phase I and usable in public procurement but could also be used in the context of other legislation and policies including private settings.

The EN will benefit from the work of M/420 Phase I and would be based on the structure and references set out in the CEN/BTWG 207 (PT A and PT B) Joint Report "Inventory, analysis and feasibility of European and International accessibility standards in the built environment". According to it, the basis of the EN will be ISO 21542:2011, "Building construction. Accessibility and usability of the built environment", and the alternative and/or complementary documents identified in Phase I.

2. A **Technical Report 1 (TR 1)** on technical performance criteria to be used to fulfil the EN functional accessibility requirements with a set of values for minimum acceptable performance or a range/classes of technical values for minimum acceptable performance.
3. A **Technical Report 2 (TR 2)** on conformity assessment.

ISO/NP 21902 Tourism and related services – Accessible tourism for all – Requirements and recommendations

The objective of this standard is to establish requirements and provide guidelines for "accessible tourism for all" with the aim of ensuring equal access and enjoyment of tourism by the widest range of people of all ages and abilities. This standard will provide information on the key aspects of policy making, strategy, infrastructure, products and services and is addressed to all stakeholders involved in the tourism supply chain, whether from the public or private sector. It will be applied at all levels, local, regional, national or international.

It will be a global and transversal international standard, which will feature, first of all, a systematic inventory of the *ISO/WD 21902 Accessible Tourism Consolidated Draft – (13th April 2017),* in which existing standards, technical criteria, recommendations and requirements are referenced. (Mapping phase).

Secondly, the standard will give specific requirements and suggest recommendations for those segments of the tourism supply chain and the related sectors whose international standardisation in relation to accessibility is still pending. (Standard setting phase).

4 LEGISLATION, TECHNICAL STANDARDS AND GUIDELINES: STATUS, ASSESSMENT AND RECOMMENDATIONS - NATIONAL LEVEL

4.1 Transport

KEY FINDINGS & RECOMMENDATIONS

- Most countries start from a holistic "Disability Discrimination Act" and then apply sectorial legislation to implement it. In Europe, the sectorial legislation has to a great extent proceeded the - still to be published – "European Accessibility Act" (EAA). This unavoidably means that the sectorial legislation will have to be revised once the EAA is in place.
- Canada applies regular site visits (audits) by the Canadian Transportation Agency to transportation service providers, airports, rail and maritime terminals to check their accessibility status. NEBs in European countries should be empowered by such site – audit responsibilities.
- Countries with a Federal governance structure, such as Canada, have a nationwide legal framework in place, allowing provinces to follow it or go beyond it (i.e. Ontario, Manitoba). This is a model to be followed also by federal states in Europe (e.g. Austria, Germany, Spain), and not to allow provinces to decide by themselves on accessibly of local transport; without clear nationwide minimum requirements.
- The Air Carriers Access Act of the USA defines that if a person with disability is obliged by the airline to travel with a safety assistant (not by their own choice) it should be for free. This is suggested to be added to Regulation (EU) No 1107/2006 in a future version.
- Section 508 of the Rehabilitation Act Amendment of the US guarantees travel info content and format accessibility. It is proposed that such a provision should be also defined in the relevant EU legislation.
- It's proposed to have an "EU access board" or European agency with a similar role that can manage the funding, check the implementation, provide guidelines and is a focal point for accessibility policy.

The information about national laws and regulations related to accessibility in EU countries is all included in The Disability Online Tool of the Commission (DOTCOM). It includes all 28 EU Member States. Specifically the Regulation (EU) No 181/2011 for buses and coaches, includes specific issues in 6 European countries (Austria, Finland, Germany, Luxemburg, Portugal and the UK) (as of October 2015) [49].

The situation per country, according to the above publications and additional findings from this study (mainly from NEBs reports and feedback) is summarised in the table of ANNEX 9.

Based on the analytical table of ANNEX 9, in terms of Transport Accessibility, the EU Member States can be broadly clustered in the following models. Obviously this is only a very broad mapping (as each state has its strengths, weaknesses and particularities) and is also a very dynamic one. Nevertheless, this clustering is followed as a way of recognising key barriers faced by groups of EU Member States, reviewing approaches to removing barriers and also to foster recommendations towards country clusters.

Table 6: Clustering of European countries based on transportation accessibility.

MODEL	COUNTRIES	MAIN CHARACTERISTICS	KEY RECOMMENDATIONS
Front-runners	Cyprus, Estonia, Latvia, Luxembourg, Malta	Usually small EU Member States, where overall accessibility is easier to be applied holistically and controlled. Main barriers are related to available funding limitations in some cases to apply all accessibility measures across all modes of long-distance and local transport.	• Life-long training of staff on accessibility issues is required, to implement successfully enhanced accessibility of infrastructure and systems. • Accessibility attributes of the means of transport and stations need to be properly presented to the local and visitor with disabilities in a one-stop-shop manner and using accessible formats.
Self-regulated (“Nordic” countries)	Denmark, Sweden, the UK	The actual level of transport accessibility is good to very good but may also vary across the country and the modes, as it is mostly based upon social norms, guidelines, codes of practice and self-regulation rather than on strict and detailed legislation.	• Harmonise implementation of staff training and info on transportation means accessibility countrywide. • Apply non-conformity measures (penalties) for the few inaccessible services or local “islands”.
Improvers	France, Finland, Germany, The Netherlands	These are the front-runners of the future. They work both on legislative and implementation levels in a systematic way, aiming to achieve a very high transport accessibility level sometime between 2022 and 2025. They also have the resources to guarantee that the proper implementation will be in place without very big delay.	• Measures on staff training and information provision on accessibility level are not well integrated countrywide and should be included within the accessibility promotion legislative and implementation packages.
Provincial	Austria, Belgium, Italy, Spain	Accessibility varies a lot across the various provinces/regions and not only for local transport. Also the local level of accessibility is not very well known across the country.	• Need for minimum requirements on transport accessibility at country level. • Minimally staff training and accessibility level information need to be harmonised countrywide.

MODEL	COUNTRIES	MAIN CHARACTERISTICS	KEY RECOMMENDATIONS
Mixed	Czech Republic, Slovakia	Good accessibility level of long-distance transport but not so good for local transport.	• More harmonised funding is required for improving the accessibility of local transport and coordinating local municipal plans and efforts.
Gap of implementation	Bulgaria, Greece, Portugal, Romania	The legislative framework is adequate to good. But the implementation lags behind; mainly due to financial limitations.	• Adopt realistic targets. • Prioritise actions and channel resources to the highest priority areas. • Put in place a monitoring and non-conformity sanctions system to check the step-wise implementation. • Adopt and apply lower cost interventions, such as staff training and accessibility level information systems.
Late-starters	Croatia, Lithuania, Slovenia	Transport accessibility is regulated but implementation is mainly "pushed" to the future. Also there seems to be missing an overall accessibility plan for the country and all transport modes.	• Cover all transportation modes accessibility issues under a single act, including "soft" measures on staff training and info provision. • Prioritise and follow implementation closely, utilizing relevant governance schemes.
Low-achievers	Hungary, Ireland, Poland	Both the legal framework and the implementation require improvements. Either there are gaps or key exceptions. In some cases the situation is even legally reverting (i.e. for Hungary) to less accessibility being guaranteed.	• Strengthen the legislative framework on transport accessibility. • Apply it across transport modes (including rail, sea, air, etc.), without exemptions. • Make a national implementation plan and follow it through.

Source: Author's own elaboration

Beyond Europe some relevant legislation from third countries, which can be used as examples, follows briefly below.

I. Australia

Australia, Disability Standards for Accessible Public Transport 2002

Disability Standards for Accessible Public Transport 2002 website

Public transport is a service covered by the *Disability Discrimination Act 1992*, which aims at eliminating discrimination, "as far as possible", against persons with disabilities. The Disability Standards for Accessible Public Transport intend to remove discrimination on the basis of disability from public transport services over a 30-year period, by relevant provisions relating to public transport operators and providers. Rights of persons with disabilities, of operators and providers are acknowledged, while responsibilities are imposed, towards making transport services accessible to all.

The Standards apply to the widest possible range of persons with disabilities as defined by the *Disability Discrimination Act 1992*, as well as to all operators and the conveyances they use to provide public transport services, and to providers and supporting premises and infrastructure. Passengers, operators and providers can consult the Guidelines (Disability Standards for Accessible Public Transport Guidelines 2004 No 3, available at Disability Standards for Accessible Public Transport Guidelines 2004 document), accompanying the Standards.

Other Australian Standards, as well as the *Australian Design Rule,* are incorporated in *Disability Standards for Accessible Public Transport,* as additional requirements included in them are set out in the Standards.

Australia, Disability Standards for Accessible Public Transport Guidelines 2004 No 3

Disability Standards for Accessible Public Transport Guidelines 2004 document

The purpose of *Disability Standards for Accessible Public Transport Guidelines 2004 No 3* is to assist in understanding and interpreting the *Disability Standards for Accessible Public Transport*, providing relevant information and comment about them.

On the basis of *Disability Standards for Accessible Public Transport*, accessibility of public transport services and facilities will be improved by:

- the replacement or upgrading of conveyances, premises and infrastructure in accordance with the compliance timetable outlined in Schedule 1 to the Disability Standards for Accessible Public Transport (usually at the end of their service lives); and
- the requirement that, from the commencement of the Disability Standards for Accessible Public Transport, all new items comply with the requirements of the Disability Standards.

II. Canada

Canadian Transportation agency (1988)

Canadian Transportation Agency - Accessibility

Since 1988, the *Canadian Transportation Agency* is, amongst others, responsible for the protection of the rights of persons with disabilities to an accessible transport network. In this context, it deals with the resolution of complaints relating to accessibility to transport, by means of facilitation, meditation or adjudication. Moreover, it develops and promotes

regulations, codes of practice and guidelines concerning accessibility. Furthermore, it is charged with the verification of the accessibility of the equipment and the facilities of transport services, as well as of the training of the staff relating to providing assistance to persons with disabilities, if required. This is realised through regular visits to transport service providers, airports, and federal rail and marine terminals. The agency also provides advice on accessibility issues through its *Accessibility Advisory committee.*

The Canadian transportation agency ensures that *any undue obstacles to the mobility of persons with disabilities are removed from federal transport services and facilities*:

- air carriers operating within, to, or from Canada;
- rail, ferry and bus carriers that operate between provinces or territories or between Canada and the USA;
- airports, rail stations and ferry terminals located in Canada; and
- services that are integral to the transport services provided by a carrier or terminal located in Canada.

Canada Transportation Act (1996)

In the Canada Transportation Act (1996), it is declared – among others – that the transport system shall be accessible without undue obstacle to the mobility of persons, including persons with disabilities ***(Canada Transportation Act)***.

Accessibility for Ontarians with Disabilities Act (2005)

Accessibility for Ontarians with Disabilities Act website

In 2005, the Ontario Government passed the Accessibility for Ontarians with Disabilities Act (AODA) that addresses accessibility issues, aiming at making Ontario accessible by 2025. *The purpose of this Act is to benefit all Ontarians by:*

- developing, implementing and enforcing accessibility standards in order to achieve accessibility for Ontarians with disabilities with respect to goods, services, facilities, accommodation, employment, buildings, structures and premises on or before January 1, 2025; and
- providing for the involvement of persons with disabilities, of the Government of Ontario and of representatives of industries and of various sectors of the economy in the development of the accessibility standards.

Releasing Constraints: Projecting the Economic Impacts of Increased Accessibility in Ontario (2010)

Following the adoption of AODA, the Government of Ontario commissioned a study in 2010 to examine the potential economic impact of achieving substantially higher levels of accessibility. In 2010, the Province introduced five proposed standards through which the AODA 2005 would be implemented. These standards were intended to achieve substantially higher levels of accessibility and the study reviewed the economic impact of increased accessibility on individuals, on markets, and on social units. The study found that there are opportunities at all three levels to realise non-trivial economic gains through enabling a higher number of Ontarians to participate fully in the province's economy.

The study indicated that increasing the level of educational attainment and employment of persons with disabilities could lead to significant improvements in Ontario's GDP. Over time, improved access to employment and education could reduce the likelihood of poverty for a

large number of Ontarians and improve the income of everyone in the province by a small but significant amount. Moreover, the study underlined that with new standards provided by the AODA would have positive impacts on various markets, such as tourism and retail sectors which they estimated could stimulate between $400 million and $1.5 billion in new spending on tourism.

The conclusions of this study is yet another supporting element that improving accessibility would be economically and social beneficial to society as it would generate new incomes and workforce to many markets.

The Accessibility for Manitobans Act, 2013 (current version as of July 2014)

Manitoba introduced The Accessibility for Manitobans Act (AMA) in 2013 to improve accessibility by removing barriers. It builds on the principals of The Human Rights Code (Manitoba), which overrides any other provincial law, unless that law specifically says otherwise. The AMA follows The Accessibility for Ontarians with Disabilities Act, enacted in 2005. The Government of Canada is now also considering introducing accessibility legislation.

A Guide to the Integrated Accessibility Standards Regulation (April 2014)

Integrated Accessibility Standards

The Integrated Accessibility Standards Regulation is a law with the requirements included in being phased in between 2011 and 2021. In this regulation, accessibility standards, as well as the compliance framework for obligated organisations, are established and requirements for Information and Communications, Employment, Transportation and the Design of Public Spaces are introduced.

The regulation applies to all public, private and not-for-profit organisations, with at least one employee, while the Transportation Standard (Part 4 of the regulation) applies to organisations providing transport services.

The requirements in the Transportation Standard will help transport providers as well as municipalities, universities, colleges, hospitals and school boards make their services and vehicles accessible to Persons with disabilities, so that Persons with disabilities, visitors, families with strollers and seniors are benefited.

III. The USA

Americans with Disabilities Act (ADA, 1990)

The ADA of 1990 (42 U.S.C. § 12101) is a civil rights law that prohibits_discrimination based on disability. It affords similar protections against discrimination to Americans with disabilities as the Civil Rights Act of 1964, which made discrimination based on race, religion, sex, national origin, and other characteristics illegal. In addition, unlike the Civil Rights Act, the ADA also requires covered employers to provide reasonable accommodations to employees with disabilities and imposes accessibility requirements on public accommodations.

It applies to almost all private and public providers of transport service, whether or not an entity receives Federal financial assistance.

ADA Circular (2015)

Americans with Disabilities Act - Document

The ADA Circular from 2015 aims at providing guidance to Federal Transit Administration (FTA) grantees (entities receiving funding through the agency, concerning the requirements of the Department of Transportation (DoT) ADA Regulations), but non-FTA grantees may also find the information included in that document helpful.

The FTA, one of 12 operating administrations within the USA Department of Transportation (DoT), is charged with ensuring that public transit providers comply with the DoT Regulations, implementing the transport-related provisions of the Americans with Disabilities Act (ADA) of 1990 and Section 504 of the Rehabilitation Act of 1973, as amended. Specific requirements to be followed by transit providers in order to ensure the accessibility of their services, vehicles, and facilities to persons with disabilities are set out. The document does not amend or supersede the DoT ADA Regulations; rather, it offers explanatory scenarios and sample templates, such as a rail station checklist for new construction and alterations.

The following types of public transit services are primarily addressed in the ADA Circular:

- Fixed route bus
- Complementary paratransit
- Demand responsive
- Rail (rapid, light, and commuter)
- Water transport/passenger ferries

Air Carriers Access Act (ACAA, 1986) (Non-discrimination on the basis of disability in air travel)

The Air Carrier Access Act prohibits discrimination on the basis of disability in air travel since 1986. The Department of Transportation has a rule defining the rights of passengers and the obligations of airlines under this law. This rule applies to all flights of American airlines, and to flights to or from the USA by foreign airlines. The Act contains interesting provisions on assistance and accessibility that could be adapted into EU legislation.

On assistance, it provides that an airline cannot require a person with disability to travel with an assistance, however, there are three exemptions [66]. If for security reasons an airline requires a user with disability to have a safety assistant, then the Act provides that the airline "must not charge for the transportation of the safety assistant". It should be noted that the airline is not required to find or provide the safety assistant.

The Act also contains a list of accessibility requirements which, where relevant, could be used as a reference for existing or future EU legislation. This list includes but is not limited to requirements on information given to passengers, the accessibility of airport facilities, the accessibility of aircraft and seating accommodation.

Rehabilitation Act (1973)

The Rehabilitation Act of 1973 prohibits discrimination on the basis of disability and applies to any program that receives federal financial support. Section 508 of the Act requires that electronic office equipment purchased through federal procurement meet disability access guidelines.

Rehabilitation Act Amendment of 1998 – section 508

The Rehabilitation Act Amendment of 1998 strengthens section 508 of the Rehabilitation Act. It requires access to electronic and information technology provided by the Federal government. The law applies to all Federal agencies when they develop, procure, maintain, or use electronic and information technology. Federal agencies must ensure that this technology is accessible to employees and members of the public with disabilities to the extent it does not pose an "undue burden." Section 508 speaks to various means for disseminating information, including computers, software, and electronic office equipment. It applies to, but is not solely focused on, Federal pages on the Internet or the World Wide Web. It does not apply to web pages of private industry.

All public transport customers need access to adequate information to use a particular service. This requirement obligates transit/transport agencies to ensure that individuals with disabilities also have access to adequate information, including schedules, routes, fares, service rules, and temporary changes.

Providing information to individuals with sensory, and sometimes mobility and cognitive, disabilities can include the following:

- Providing written information in accessible formats; and
- Ensuring electronically published materials (e.g., websites) are accessible.

NEW: 508 Standards Refresh (2017)

On January 18, 2017 the Access Board issued a final rule that updates accessibility requirements for Information and Communication Technology (ICT) in the Federal sector covered by Section 508 of the Rehabilitation Act. The rule also refreshes guidelines for telecommunications equipment subject to Section 255 of the Communications Act. The rule jointly updates and reorganises the Section 508 standards and Section 255 guidelines in response to market trends and innovations, such as the convergence of technologies. The refresh also harmonises these requirements with other guidelines and standards both in the USA and abroad, including standards issued by the European Commission and with the Web Content Accessibility Guidelines (WCAG), a globally recognised voluntary consensus standard for web content and ICT. In fact, the rule references Level A and Level AA Success Criteria and Conformance Requirements in WCAG 2.0 (link is external) and applies them not only to websites, but also to electronic documents and software. For more information, the Access Board has published an Overview of the Final Rule. Over the next several months, the USA Access Board, in partnership with the General Services Administration, will provide guidance on the standards and on how to implement them within the Federal government.

4.2 Tourism

KEY FINDINGS & RECOMMENDATIONS

- EU Member States that show most progress in the field of accessible tourism typically:
  1) have a national/regional policy on accessible tourism development, with a long-term action plan for achieving specified targets;
  2) share experiences and learn from other National Tourism Organisations (NTOs) in European Tourism Networks, work with regional or city/rural Destination Management Organisations (DMOs) to promote "accessible destinations";
  3) include information for tourists with disabilities on NTO websites;
  4) encourage Accessibility Information Schemes (AIS) at national, regional or destination levels;
  5) establish quality standards and identify good practices in accessible tourism;
  6) provide business development information and incentives for tourism businesses;
  7) conduct market studies and publish the results to show the demand for accessible tourism among domestic and inbound tourists;
  8) engage with disability organisations to develop and monitor standards and identify best practices; and
  9) have award schemes which reward best practices in accessible destinations and/or businesses.
- There is a need for a coherent EU policy on tourism accessibility, addressing all relevant policy areas such as transport, built environment, culture, leisure, sports, etc. to coordinate the EU Member States' approach which currently varies widely.
- A common EU label on accessible tourism with harmonised accessibility standards and assessment is recommended.

The role of EU Member States in developing and directing tourism policy is a major factor influencing both domestic and inbound visitors' experiences of the country and its regions. Today, European countries perform very differently with regard to the level of accessibility offered to persons with reduced mobility and persons with disabilities, indeed, wide variations can be found in service levels, performance, staff training and information, depending not only on the country one visits but also across regions, in towns, cities and rural areas and from one tourism business to the next.

To some degree this is not surprising, since tourism is not a product that is mass-produced, like a car or a smart phone. Tourism is a complex system of interacting elements with long supply chains which must function in harmony in order for visitors to have a fulfilling experience.

Accessibility in tourism is increasingly seen as a matter which EU Member States should be concerned with, since many visitors are excluded from enjoying tourism products due to a lack of accessibility to tourism product, poor service levels for persons with disabilities and a dearth of information about access in marketing and booking channels. This equates to the denial of the social rights of visitors with disabilities and clearly represents a substantial loss of income for businesses and, ultimately, the country.

An overview of national legislation related to accessibility in tourism in the EU-28 Member States is drawn from a recent study, "Mapping and Performance Check of the Supply of Accessible Tourism Services in Europe" (European Commission, 2015) [5], supplemented with recent material gathered from national experts during this current study.
All Member States have accessibility legislation in place which addresses the built environment, both through general building regulations and laws and, in some cases, additionally through specific legislation for parts of the tourism sector (e.g. hotels). (See EU Supply Study, Annex 2 - op cit. - for an overview of national legislation). For example, in Sweden accessibility legislation states that "easily remedied barriers" should be removed. However, interviews with sector associations have indicated that such legal provisions can lead to problems because tourism businesses often lease their business premises rather than owning them outright. As a consequence, there can be disagreements on whether the responsibility lies with the property owner or the businesses to make the necessary adjustments to comply with legislation. - A modified version of this document is included in ANNEX 2.

In addition, regulatory provisions on accessibility are **most often applied when new buildings are being planned.** Where Universal Design principles can be applied from the outset this can reduce costs significantly. For example, the hotel chain Scandic takes Universal Design into account in the building stage of a hotel facility where possible and thus, accessibility does not require costly additions or adaptations. Accordingly as the general accessibility of the built environment gradually increases through replacement by new buildings and renovation of old buildings, it will inevitably make it easier for the tourism sector to offer more accessible services.

At the same time, **adapting facilities in historical buildings and environments has been frequently mentioned as making accessibility more challenging** and a significant barrier to improved accessibility. Indeed, redesigning older buildings to increase accessibility often requires costly physical alterations to the premises (redesigning, construction work or installation of expensive technical appliances). Particularly sector organisations representing the hotel and restaurant industry have commented that many of these businesses are located in older buildings that predate any national accessibility legislation. As noted by one respondent: "Being a historical preserved building the regulations around planning permission is restrictive as to how much we can change the building to provide accessibility".

Based on a Multi-Criteria Analysis, ENAT experts have clustered in the European countries, in terms of accessibility of tourism in the following three categories [5]:

Front-runners: FI, DK, ES, IRL, LU, CY, MT, FR, PT, AT, UK
In this group, countries and regions have carried out one or more accessibility development programmes at either national or regional levels, encouraged either by public support and/or legislation. Accessible tourism is being promoted with some success from NTO level and through regional and business networks. However, the overall average score is from Fair to Good – and none is considered to show "Excellent" performance across the board.

Improvers: LT, LV, NL, GR, SE, CZ, DE, SLO
The "improvers" are those countries that are rated as being successful in a few areas but still have further to go in many respects: Lithuania, Latvia, The Netherlands, Portugal, Greece, Sweden, Czech Republic, Germany and Slovenia. In these countries accessible tourism has been nurtured in significant, professionally led projects that have created positive results and examples for other destinations and SMEs in the country to follow. They

have typically developed accessible tourism in specific sectors or regions but have not achieved a critical mass of suppliers or supply chains.

Starters, Late-starters and Low-achievers: HU, EE, SK, BE, BG, IT, HR, RO. Hungary, Estonia, Slovakia, Belgium, Bulgaria, Italy, Croatia and Romania are those countries that make up the 3rd group, having the lowest average scores. Most of these countries are still waiting for a significant breakthrough to win their reputation as an accessible tourism destination, hence the short-hand description "Starters" and "Late-starters".

Today only a minority of EU Member States have established effective, transversal, long-term policies to attract and cater well for the accessible tourism market. Front-runners in this area are those that are applying a range of means to reach their goal, including:

- direct investments and to improve access in transportation, infrastructure and the outdoor public realm, including rural and coastal environments,
- targeted information to businesses, emphasising the economic added value in addressing the accessible tourism market,
- incentive schemes for businesses to improve their accessibility, with tax breaks, direct grants and business excellence awards,
- destination-level coordination and planning to create and market "accessible destinations",
- supporting Accessibility Information Schemes (AIS), and encouraging publication of access guides by businesses, regions, towns and cities,
- encouraging partnerships for integrated service and supply chain development and, not least,
- investment in training on disability awareness, accessibility and customer service across the supply chain,
- addressing marketing campaigns to visitors with disabilities, seniors, families with small children and others with access requirements, and
- engaging with groups and communities within the accessible tourism market through social media.

The "Starters" and "Late-starters" are those that are progressing from a low starting position in terms of the proportion of available accessible services compared to the tourism sector as a whole. In countries such as Hungary and Estonia some initiatives have taken place to improve offers through small-scale business development and gradual improvement along the supply chains. Within this group, Belgium and Italy also appear as "Low-achievers" despite having some well-developed accessible offers and services, especially in regions such as Flanders, Veneto, Tuscany and Piemonte. However, their scores reflect the great variation in accessible provisions across these two countries and their overall performance rating is brought down by the under-performance of less developed regions and sectors. Italy, in particular, possesses a great number of historical environments and cultural sites which are not yet generally accessible (and perhaps never can be fully accessible for people with mobility impairments), which results in a lower overall score.

Since the above study was carried out (published 2015), significant progress has been made in a number of countries and regions, with new (or renewed) national and regional action plans for accessible tourism development in, for example, Hungary, Portugal and Scotland.

Beyond Europe, the last two decades have seen a growing interest in accessible tourism from the perspective of visitors, businesses and destinations. As may be expected, individual travellers with disabilities and associations of people with disabilities gained a wider audience for sharing their exploits and travel dreams as the internet, social media tools and convenient, portable cameras and video cameras became more widely available. Many travellers with impairments have overcome enormous odds to explore beyond the limits of what most people would consider possible, even for "able-bodied" people, often inspiring others to break out of their home surroundings and launch themselves into the world of travel.

One of the most notable pioneers in the field of accessible tourism was Dr. Scott Rains, educator, pastor, researcher and wheelchair user, who advised governments and tourist boards, especially in Africa, India, South East Asia and South America on how to develop policies and practices for the Universal Design of tourism facilities and to develop welcoming destinations for all, regardless of disability. He also created the first truly global online community of disabled travellers and tourism experts who shared their stories and best practices under his careful and constructive moderation[6]. One of Dr. Rains' last reports was his **Report on the World Summit on Destinations for All, held in Montreal in October 2014.** He noted the World Summit brought together**: "…***366 participants from 31 countries; 148 sessions and 6 panels underlying 3 main themes: tourism, culture and transport for all; The Declaration "One World for Everyone" was adopted at the end of the Summit, in the presence of representatives from the United Nations (UN), the World Tourism Organisation (UNWTO), the European Network for Accessible Tourism (ENAT), and the International Social Tourism Organisation (ISTO); and the event gave credence to growing worldwide network. Accessibility and its effect on the economy were also touched upon, with the message loud and clear that marketing to the disabled population is indeed profitable. "We simply have just customers", said Magnus Berglund, Accessibility Director of Scandic Hotels. This philosophy among hotel chains makes it an integrative model and success in the lucrative market. Organisations like ENAT, the UNWTO and the UN participated in fruitful conversations that took place during the 3 day conference, and brought their credibility and support to the discussions. The Summit aimed to share good practices from cities, regions and accessible destinations, and establish a plan for the global development of inclusive tourism."* (Post-Summit Report: Destinations for All 2014)

In the past 5 to 10 years, several destinations and areas of the world have taken steps to realise the competitive advantage that accessibility can offer in the future and are looking to adapt their product accordingly. Two tertiary level textbooks on *Accessible Tourism: Concepts and Issues* (Buhalis and Darcy, eds., 2010) and *Best Practices in Accessible Tourism* (Buhalis, Darcy and Ambrose, eds., 2012) record the state-of-the-field in those years, with numerous international case studies and research papers[7]. The "Destinations for All World" Summit gathered a larger catalogue of global examples, policies, case studies and research papers[8].

In 2018, the Second "Destinations for All" World Summit is planned to take place in Brussels on 1st and 2nd October, where a global audience is expected to convene to share experiences and set new goals for a global agenda on accessible tourism for all[9].

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[6] Dr. Rains died in 2014 but he has left a huge legacy in the form of his blog, Rolling Rains Report which is still online at: Rolling Rains Report website

[7] Accessible Tourism Books. European network for Accessible Tourism. Available at: A special ENAT offer on two essential Accessible Tourism books

[8] Destinations for All World Summit 2014. Available at: Destinations for All - 2014

[9] Destinations for All World Summit 2018. Available at: Destinations for All - 2018

Considering the wealth of examples of policies and good practices now available in the field of accessible tourism, it may be surprising to observe, in 2017, that the general experience of many countries and regions is that this is a movement that is still not fully accepted in tourism circles - not part of the "mainstream" and not widely understood or practised. This is in spite of all the guidance, outreach, research and publicity created by individuals, businesses, universities, NGOs, public institutions and tourist authorities.

Clearly, there is not a simple, straightforward explanation for the "lag" in an uptake of accessible tourism as a general practice in the tourism industry. Observers, including ENAT and EDF, point to the problems of attitudinal change in the sector, the scarcity of hard financial data that prove the viability of investing in access, the lack of public support measures for businesses that seek to adapt and improve their facilities to modern standards of access, the lack of knowledge of the buying power of people with disabilities, the lack of coordination of both services and products offered by the many actors in the accessible tourism chain. In some tourist capitals and "hotspots", the very fact that, since there is no lack of tourists, many operators may ask themselves "why bother?" to focus on this market, which is often perceived as more difficult and demanding.

Disability organisations, in particular, speak consistently and loudly of the need for firm legislation that obliges tourism and transport operators, as well as building owners and the public sector, to implement accessibility in the built environment, in facilities and services, with severe sanctions for those that do not comply with laws and regulations. The number of examples of lack of compliance with access requirements is legion and the call for stricter controls is compelling.

On the positive side, there is a rapidly growing body of evidence that a focus on delivering accessible, inclusive tourism can play a decisive role in defining the quality of tourism offers in destinations and businesses that target this market and can confer a positive reputation on those that stand out for their commitment and good practices in this area. Experience shows that **"top-down" leadership** by policy makers, governments and funding bodies at all levels can play a crucial role in speeding up and shaping the development of access-friendly tourism in a nurturing, yet competitive business environment.

Where there is "joined-up" thinking and action across sectors and areas of governance, the benefits of focusing on accessible tourism are being felt in terms of greater choice for visitors, higher financial returns for businesses and stronger investment for destinations.

Accessible Tourism Awards are popular things as they give recognition and can help to promote the so-called 'envy factor' which can motivate some destinations and businesses to engage with accessible tourism. The VisitEngland Inclusive Tourism award is one such example of a successful annual competition. It offers recognition to those businesses that have worked hard and are offering great visitor experiences as a result of their focus on accessibility. Good practice can also be extracted from Awards[10].

In the "Best Practices in Tourism" included in this report (please see Section 5.3), we bring a number of examples of legislation, policies and practices that are taking accessible tourism forward, both in EU Member States and further afield.

[10] VisitEngland Accessible Tourism Awards, 2017 (PDF brochure). Available at: VisitEngland Inclusive Tourism Award Winners brochure

4.3 National Enforcement Bodies (NEBs)

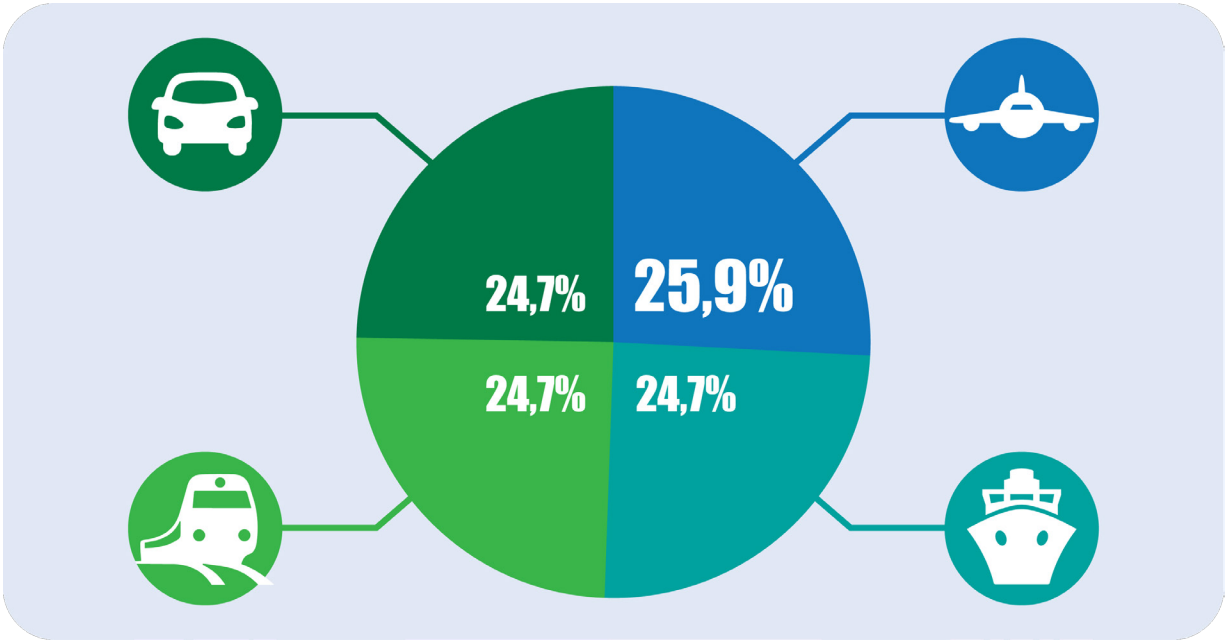
KEY FINDINGS & RECOMMENDATIONS

- All transport modes operators should have in place an accessible feedback/complaints mechanism on accessibility issues and answer to them in writing within a month. In this feedback also the existence of the relevant NEB and its coordinates should be provided, so that the persons with reduced mobility will get acquainted with the existence of the NEB and direct any unsatisfied complaints to them.
- NEBs shall endeavour to make easy-to-access and easy-to-use complaint forms available to persons with reduced mobility following best practice examples of the UK CAA and ENAC.
- NEBs should provide a solution or compensation in cases where the rights of persons with disabilities have been infringed, e.g. "denied boarding" of flights.
- It is essential that NEBs proactively monitor training requirements set out in relevant EU regulations. It is equally crucial that NEBs constantly review, and where appropriate challenge, the "audited annual overview of charges received, and expenses made in respect of the assistance provided to disabled persons and persons with reduced mobility." (Article 8, point 6 Regulation (EC) No 1107/2006)
- NEBs should also have the power to enforce individual rights and not only to state an infringement of EU law. This can be combined with a specialised mediation policy or body that tries to solve the issue between the passenger and the operator first before legal steps have to be taken.

According to the Regulations on Passengers' Rights, each Member State is obliged to nominate or create a National Enforcement Body (NEB) responsible for ensuring that passengers' rights are respected and applied by the transport operators [66].

Throughout the implementation of this study, questionnaires relevant to the role and work of the NEBs have been developed and distributed to all NEBs of the EU Member States. Feedback has been obtained by all NEBs from all transport modes from 17 European countries (Belgium, Czech Republic, Croatia, Cyprus, Denmark, France, Greece, Iceland, Ireland, Norway, Poland, Romania, Slovakia, Slovenia, Sweden, the UK).

Figure 10: Represented categories of National Enforcement Bodies (NEBs) in this study.



Source: Author's own elaboration

The NEBs estimated that they receive, on average, 736 complaints from air passengers annually, 26 concerning maritime transport, 421 regarding the rail and 201 from the road.

The acquisition of the input coming from the NEBs was obtained in three phases. More specifically:

- During the first phase, information has been requested from the NEBs about their work and their responsibilities, through this study's dedicated survey (ANNEX 5).
- In the next iteration, information has been also requested, about open sources (in each country) providing information about accessible features of the country's transport modes and tourism sector. All the information collected has been gathered and presented in a table (ANNEX 7).
- Finally, the last communication concerned the preparation of National Implementing Plans (NIPs) that each Member State had to undertake in the context of the TSI-PRM Regulation (Regulation (EU) No 1300/2014) [36] on technical specifications for interoperability relating to accessibility of the Union's rail system for persons with disabilities and persons with reduced mobility.

The results from the questionnaires showed that only 1% of the complaints came from persons with disabilities and persons with reduced mobility. However, it should be noted that nearly half of the NEBs (44%) admitted that most passengers, as well as the public in general, are not sufficiently aware of the existence and role of NEBs. Furthermore from the users' point of view, the majority of participants that replied to the relevant questionnaire of this study (59%) also stated that are not aware of the relevant national enforcement bodies that could help them with the enforcement of their rights.

The vast majority of respondents (85%) believe that NEBs do not need more powers to act, in order to improve and correct the situation, as well as to impose sanctions.

It is, however, crucial that NEBs are designated sufficient power to also enforce individual claims and not just refer to general infringement procedures of EU law. Only very few NEBs have real enforcement powers which means that passengers still have to go to court to enforce their rights. This burdens the passengers because it is a time-intensive and costly procedure and, furthermore, imposes significant stress and insecurity which many passengers want to avoid.

In practice, most passengers already give up with their complaint when they send the complaint to the transport operator and they either do not receive any reply or the reply is negative. Low awareness of their rights as passengers and where to turn next results also in the low number of complaints received by the NEBs. Finally it is noticeable that complaints are more effective if a financial compensation is provided according to the legislation (e.g. Regulation (EU) No 261/2004). Currently this does not apply to Regulation (EU) No 1107/2006. It should therefore be considered to create the possibility for financial compensation in cases of "denied boarding" or similarly when the rights of persons with disabilities under the regulation have not been respected, in order to make the implementation more effective.

It also has to be mentioned that the complaint procedures and forms used both by the transport operators and by the NEBs themselves are often not accessible to persons with disabilities. The EC has attempted to tackle this problem at least concerning the NEBs and proposed a harmonised, accessible complaint form. However, it is voluntary to use this form and the procedures often remain inaccessible.

The above findings are in line with those of relevant specific input from the ***air transport*** NEBs meeting of 11 November 2015.

Whilst airports and airlines receive significant numbers of passengers' complaints, this is not the case with NEBs. At the meeting for National Enforcement Bodies for Regulation (EU) No 1107/2006 of 11th November 2015, the Chair of the meeting Jean-Louis Colson noted *"The number of complaints received under Regulation 1107/2006 is very low in most of the EU Member States: 9 NEBs did not receive any complaints, 7 NEBs reported receiving between 1-6 complaints and a third group of 3 NEBs reported receiving between 12-21 complaints. Only one NEB received more than these (270)."*

Analysing the substantial difference in data between the NEB with the largest number of complaints (the UK Civil Aviation Authority (CAA)) and the rest, the root cause of the discrepancy is found in the accessibility and ease of use of the complaint form on the NEB's website. For example, instructions on how to complain on the Spanish NEB's website (AESA) do not contain reference to persons with reduced mobility complaints, and the confusing complaint form makes only two references to persons with reduced mobility complaint.

In France, persons with reduced mobility can only submit a complaint to the NEB Directorate General of Civil Aviation (DGCA) by post. In Germany, the complaint form is available on the Luftfahrt-Bundesamt (LBA) website (only on the page in German, missing from the one in English). The form must be filled offline, then submitted via email, fax, or post. Lack of public awareness, user-unfriendly web pages, and complexity of the complaint procedure are the root causes of the low number of complaints NEBs receive.

When analysing relevant data, it was found that:

- The UK CAA receives the largest number of complaints thanks to the easy-to-access information page and its user-friendly, intuitive on-line complaint form [72].
- The Italian NEB Ente Nazionale per l'Aviazione Civile (ENAC) is also an example of best practice for its easily accessible, informative page on rights of persons with reduced mobility, and the equally user-friendly on-line complaint form [73].

To improve the persons with reduced mobility complaint process, enhance common standards across EU NEBs, and improve persons with reduced mobility access to redress, NEBs across the EU should be invited to follow these two examples of best practice.

Furthermore, NEBs should require operators (airports and airlines) to enter links to the NEB complaint process on their website, following the format used by the USA Department of Transportation. (Example quoted: Lufthansa Special Assistance page, "reporting disability related problems" tab).

Another, "grey" area of enforcement relates to the training of staff. Article 11 of Regulation (EU) No 1107/2006 mandates airports and airlines ensure *"that all their personnel, including those employed by any sub-contractor, providing direct assistance to disabled persons and persons with reduced mobility have knowledge of how to meet the needs of persons having various disabilities or mobility impairments."*

Furthermore, Recital 15 of the regulation mandates *"Member States should supervise and ensure compliance with this Regulation."*

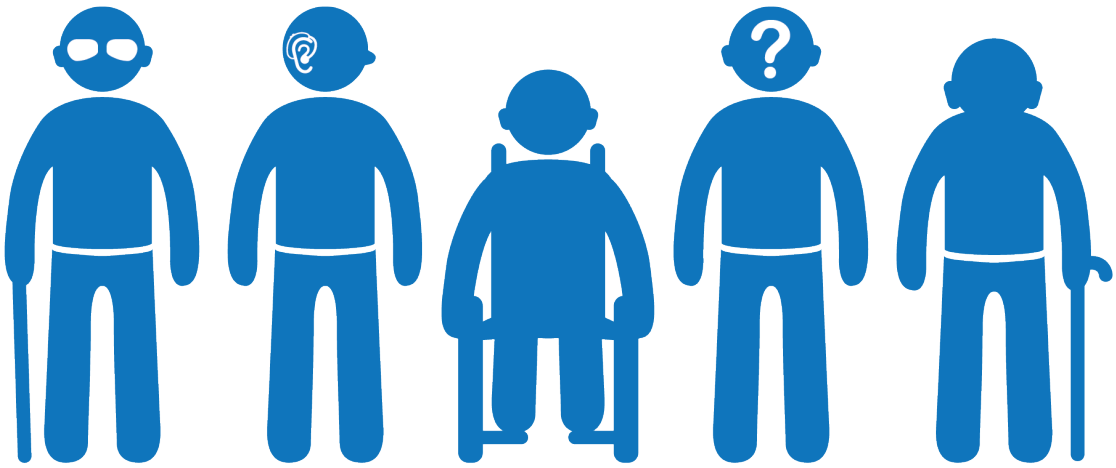
Supervision can be easily put in place by cross-referencing guidance contained in the European Civil Aviation Conference (ECAC) Code of Good Conduct in Ground Handling for Persons with Reduced Mobility. To date, it would appear only a handful of National Enforcement Bodies (NEBs) has such monitoring tools and procedures in place.

Training is often "lost in translation" due to budgetary constraints and aggressive underbidding policies during the tender process of persons with reduced mobility services. In 2016, the UK Civil Aviation Authority rated Edinburgh airport Quality Standards poor. One of the root causes of such poor performance was identified in the fact that the persons with reduced mobility service provider tender was awarded using the lowest bidder criterion.

The root cause for financial constraints is found in the aggressive attitude of airlines regarding the levy (PRM charge) airports raise to pay for services for persons with reduced mobility. (Article 8, point 3, Regulation (EC) No 1107/2006) [27].

5 USER NEEDS: STATUS, ASSESSMENT AND RECOMMENDATIONS

Figure 11: Travellers with reduced mobility.



Source: Author's own elaboration based on AMADEUS study [76]

THE NEED

Fully independent and spontaneous access for people with disabilities and people with reduced mobility to the whole transport network (means of transport, services and stations) and for each tourist destination (route to/from it, accommodation, food and beverages, attractions, excursions, etc.).

In the meantime, until independent access is achieved, assistance needs to be provided. But we should gradually move from assisted travel and tourism to independent tourism for all.

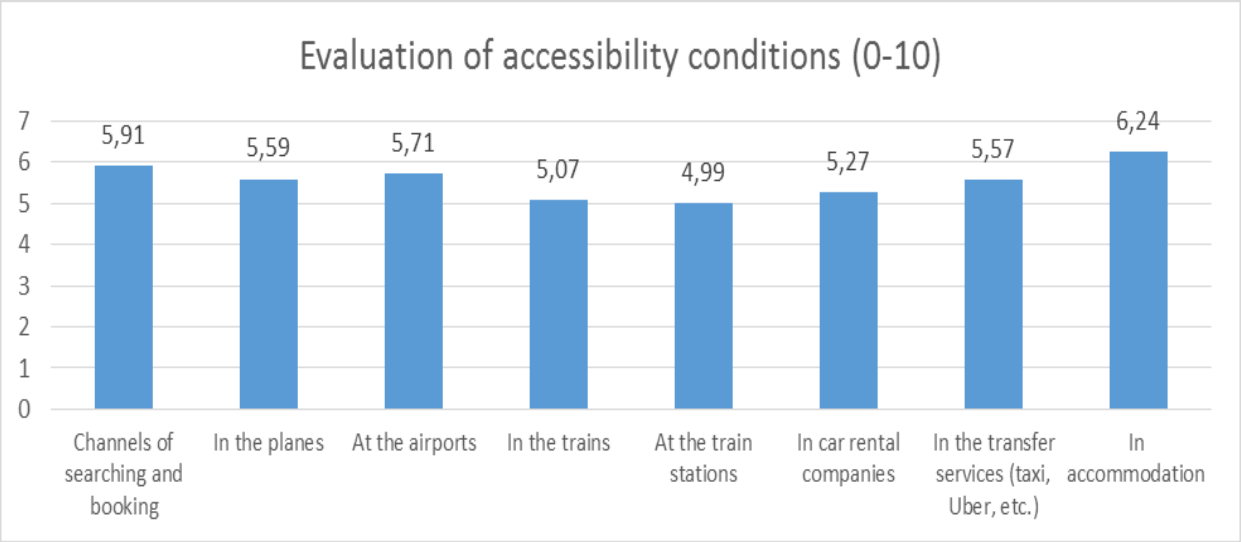
Over the past decades, great developments have occurred inside the transport and tourism industries, in terms of technology evolution and automation development e.g. the increase of low-cost companies, the internet and sharing platforms, the booking and payment options, etc. which have affected to a great extent aspects of demand and choice [76].

These major developments and changes have in turn led to needs and demands, and accessibility is one of them. Millions of people with accessibility needs wish to be able to enjoy these benefits and new opportunities, be better connected, and enjoy a variety of options and access services independently.

While concerted efforts have led to improved accessibility in various European countries and regions, much progress still needs to be made for travellers with reduced mobility. This is a big challenge, as it is estimated that one out of six people in the EU has a disability (from mild to severe), which means approximately 80 million citizens. Frequently, due to barriers of many kinds, these people are excluded from participating fully in the society and the economy [4].

Figure 12 below conveys the results of the "Amadeus accessibility study", showing the level of accessibility (scale 0 – 10) concerning all the phases of a trip, as well as the overall level of accessibility [76]:

Figure 12: Evaluation across all the phases of a trip and overall evaluation.



Overall evaluation of the trip is 6.24

Source: Author's own elaboration based on AMADEUS study [76]

This figure also depicts and confirms that fact that although some progress has already been made , much more remains to be done and many gaps need to be covered in the area of accessibility of transport and tourism systems in Europe, in order for people with disabilities and reduced mobility to be able to use it unobstructed and autonomously.

5.1 Local transport

KEY FINDINGS & RECOMMENDATIONS

- Getting information on the accessibility of local transport in an accessible format is a prerequisite to the journey and needs to be greatly enhanced and standardised across the European Union. Relevant information should also include special fares or free of use options and support the persons with reduced mobility throughout their journey.
- Emphasis (and resources) should be put on enhancing suburban and rural areas transport accessibility and not only the urban centres.
- Emphasis should also be put on interchanges (trans-modal/intermodal hubs) accessibility, between different modes of transport
- The distance between various PT stations needs to be restricted to allow more persons with reduced mobility to use them. This is true also for interconnections between different modes.
- A good third of PRMs decide not to use local PT due to inaccessibility and use private cars instead. Thus, accessibility through PT enhancement could lead to a significant shift to PT for this group; resulting also in environmental benefits.
- City trains and buses are the least accessible modes of local transport (as opposed to metro, regional trains or ferries). At least 1/3 of local transport vehicles need to be accessible to provide the minimum acceptable frequency for local transport accessibility.
- Accessible information on local transport accessibility needs to make more use of website apps and social media channels.
- Further research is needed to develop a holistic tool for accessible urban transport design and planning across all modes to be integrated within Sustainable Urban Mobility Plans (SUMPs).

5.1.1 User needs, accessibility status and gaps from literature

For most persons with reduced mobility lack of accessibility in public transport is what particularly affects their everyday lives. Removing physical obstacles with the use of lifts and ramps in stations, wider ticket barriers or floor-lowering buses, for example, is one way of improving the free mobility and the quality of life of these travellers. The fact is that such accessibility problems with public transport systems can clearly restrict the employment options for persons with reduced mobility and persons with disabilities, while at the same time limit their opportunities and chances for social inclusion. But accessibility is not just a matter of physical obstacles: as we shift more and more towards an information society, access to communication and information is equally important. Smart ticketing, real-time information, websites, mobile applications, and online booking of tickets are only a few examples of how ICT accessibility is a vital part of accessible transport.

According to research implemented within the "ptaccess" project [77], 6 main barriers have been identified by interviewees (from 25 EU Member States) as deterring disabled people and persons with reduced mobility from their social inclusion (i.e. from finding and maintaining employment):

- Education, skills and attitudes of the individual;
- Attitudes of employers;
- Attitudes of transport providers;
- Access in general;
- Response of Agencies; and
- Policies.

In all European countries, public transport features (as for example stops and stations) are much more accessible in urban areas than in city outskirts and/or rural areas, while in most countries accessibility issues are taken into account only for newly constructed or redesigned transport elements but not at already existing ones (i.e. existing stops and stations are not sufficiently accessible for people with disabilities and people with reduced mobility). Mainly users agreed that rural areas pose more difficulties in accessing employment opportunities than urban areas, where public transport is more accessible.

When interviewees were asked if unemployment and the social welfare services work together with public transport operators to improve transport accessibility for persons with disabilities and persons with reduced mobility, almost none of them were aware of any such coordinated actions and they felt that there is a need for a more diligent enforcement of existing laws and regulations before there would be any requirement for more legislation and regulations.

From the literature analysis, most findings show that primarily there is a need for a change of attitudes, in addition to changes in laws and policies. Once this is achieved all other barriers can be addressed and resolved. This can be done through the enforcement of current legislation, as well as collaborative work between social welfare services and public transport operators, for the improvement of public transport accessibility [77].

The second most important need related to physical accessibility. The creation of a fully accessible public transport system is a complex process that includes the use of accessible vehicles (i.e. buses, trams, metros, trains, etc.) and an accessible built environment, as the goal is not only for persons with disabilities to be able to embark and disembark from the vehicles but also to transfer smoothly from/to the stops and stations, to be able to buy their own ticket, understand and follow any visual and/or acoustic messages and generally comprehend how the public system works and be able to use it with confidence [78]. Furthermore, ICT accessibility plays an important role in ensuring that passengers can retrieve the relevant information, communicate with the transport operators, and book tickets.

But most important of all: making things accessible is not a luxury; it is an investment. It is an essential part of products and services that consumers in the EU are buying every day. Some decades ago, wireless internet was also considered a luxury. Nowadays we cannot imagine living without it [79].

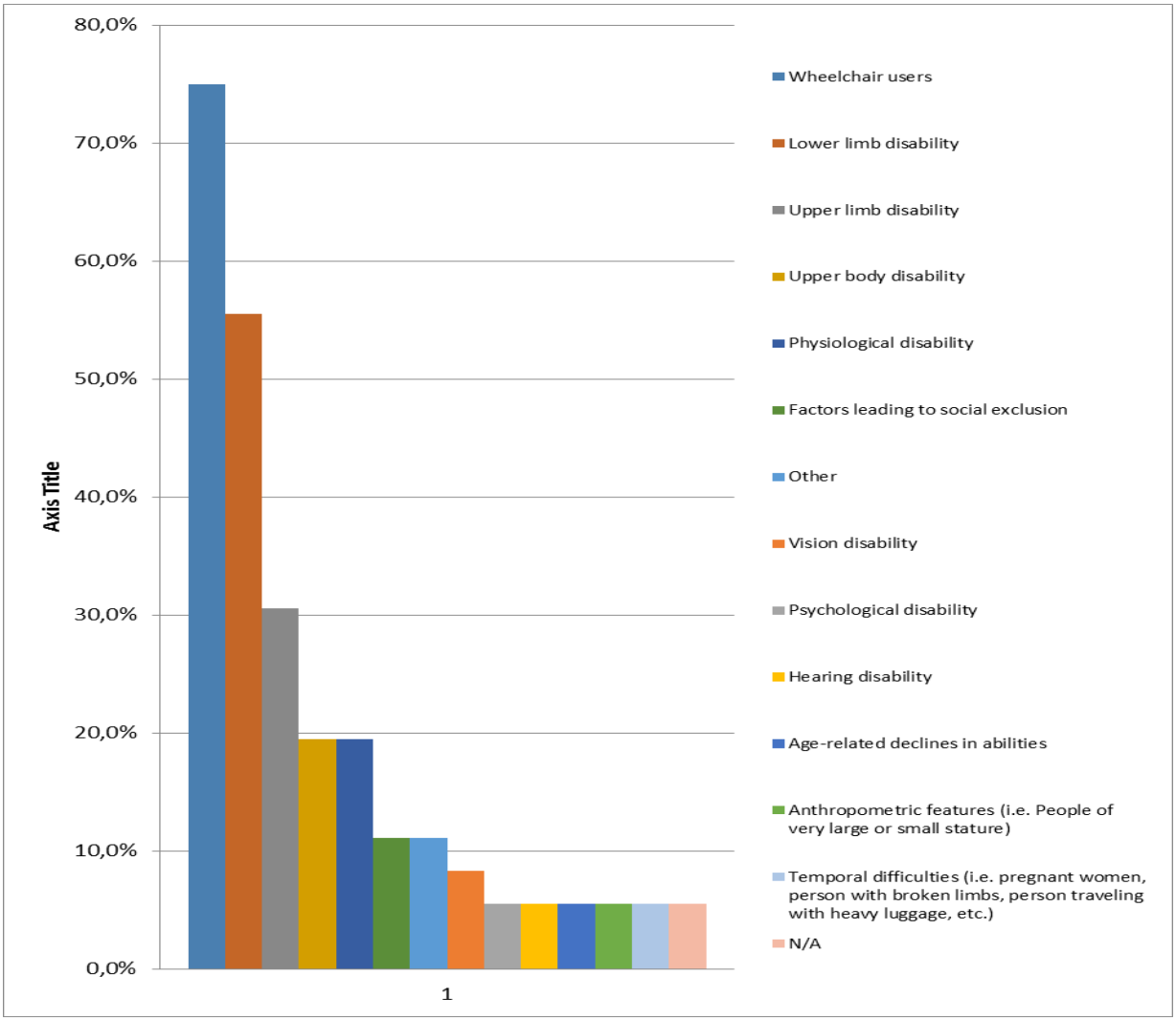
5.1.2 User needs, accessibility status and gaps from this study's surveys

A dedicated survey was developed in the framework of this study (ANNEX 5) and has been circulated (in both online format - User needs survey link - and via email) to various user associations through the EDF members.

36 users' representatives filled in this questionnaire, representing different DPOs across Europe, all three areas under examination (local, long-distance transport and tourism), and covering all disability clusters (while some of them combine more than one disability).

It also needs to be clarified that the participants in this study's surveys covered a wide geographical range (Albania, Belgium, Denmark, Greece, Ireland, Lithuania, Norway, Poland, Portugal, Serbia, Spain, the Netherlands, Turkey and the UK).

Figure 13: Nature of the survey's respondents' disabilities.

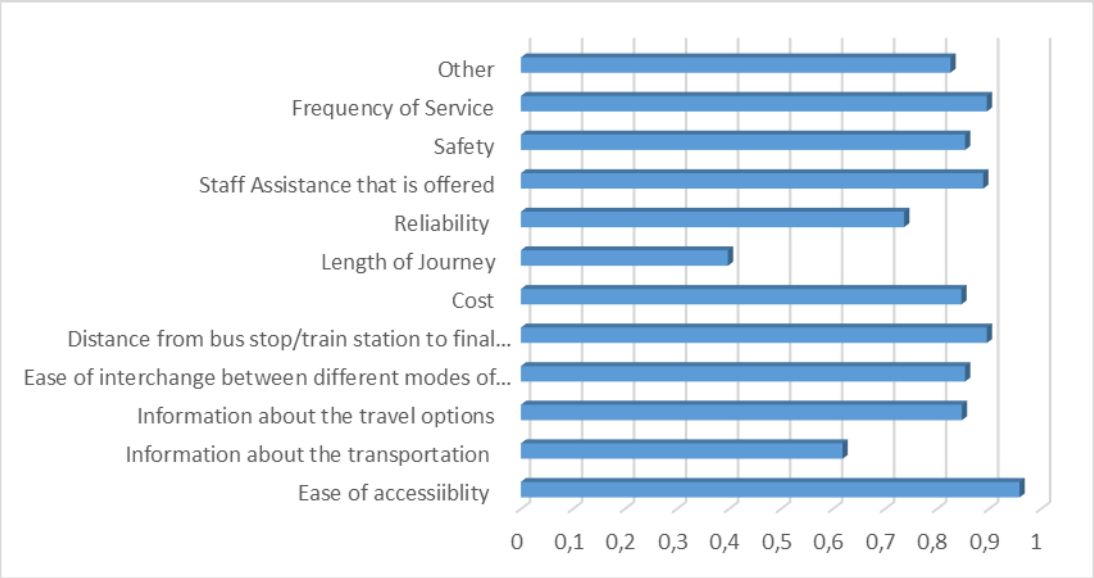


Source: Author's own elaboration

As shown in Figure 14 below, there are several features that are important for people with disabilities and persons with reduced mobility, regarding their choice in using public transport and of course accessibility is the most important.

Nevertheless, the majority of them (77%) states that the accessibility status of their country's local transport system is not satisfactory. Although 62,5% of them stated that legislation exists in their country to guarantee the rights of persons with reduced mobility and persons with disabilities and public transport (PT) accessibility, including the infrastructure part (i.e. accessibility of pedestrian/cycling infrastructure and passengers/travellers infrastructure), the accessibility of transport is not considered from a holistic point of you, covering all types of disabilities and different accessibility needs (i.e. with regard to accessible information and ICT a lot still needs to be done).

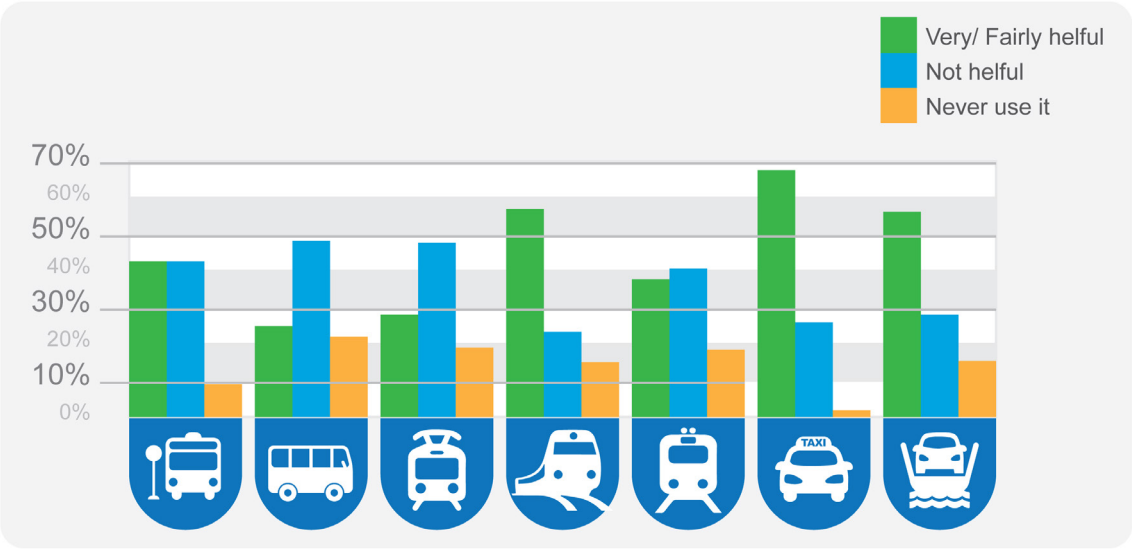
Figure 14: Important factors relating to the use of public transport.



Source: Author's own elaboration

Another very important and specific need of persons with reduced mobility and persons with disabilities, is staff assistance for the various transport modes, especially considering the inaccessible infrastructure encountered in many cases. In this field there is considerable room for improvement according to the users, as though progress has been made, the training of the staff is not adequate (see Figure 15).

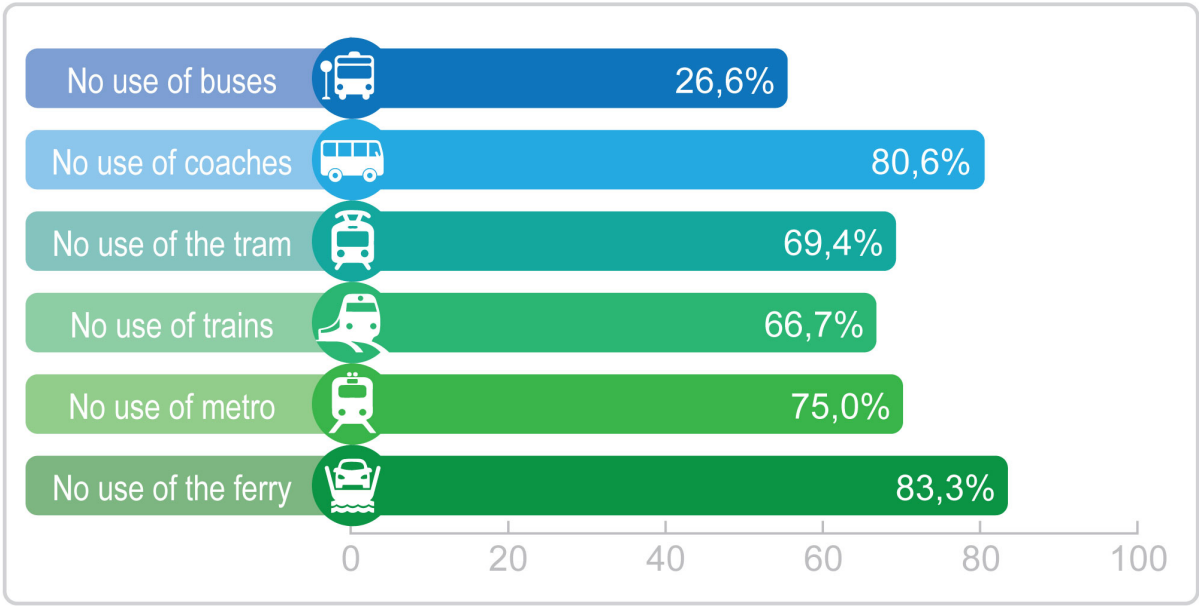
Figure 15: Level of personnel helpfulness per mode.



Source: Author's own elaboration

Regarding travel by persons with disabilities and persons with reduced mobility at the local level, it was clearly stated that the use of public transport is not their first choice, mainly due to the accessibility restraints they face while using them. Many respondents stated that they use a car for their everyday needs in transport (33,3%), while a large percentage of respondents stated that they do not use the various forms of public transport at all (due to accessibility restraints), as depicted in Figure 16 below:

Figure 16: PT means less used by persons with reduced mobility.



Source: Author's own elaboration

Figure 17: Frequency of use of modes of transport.

Everyday	33,3%	2,8%	0,0%	0,0%	0,0%	0,0%	0,0%	0,0%
1-2 times a week	16,7%	8,3%	0,0%	5,6%	5,6%	2,8%	16,7%	0,0%
3-5 times a week	**41,7%**	0,0%	2,8%	2,8%	2,8%	2,8%	2,8%	0,0%
Once a month	2,8%	27,8%	13,9%	19,4%	19,4%	16,7%	36,1%	8,3%
Never	5,6%	**55,6%**	**80,6%**	**69,4%**	**66,7%**	**75,0%**	**41,7%**	**83,3%**
Other	0,0%	5,6%	2,8%	2,8%	5,6%	2,8%	2,8%	8,3%

Source: Author's own elaboration

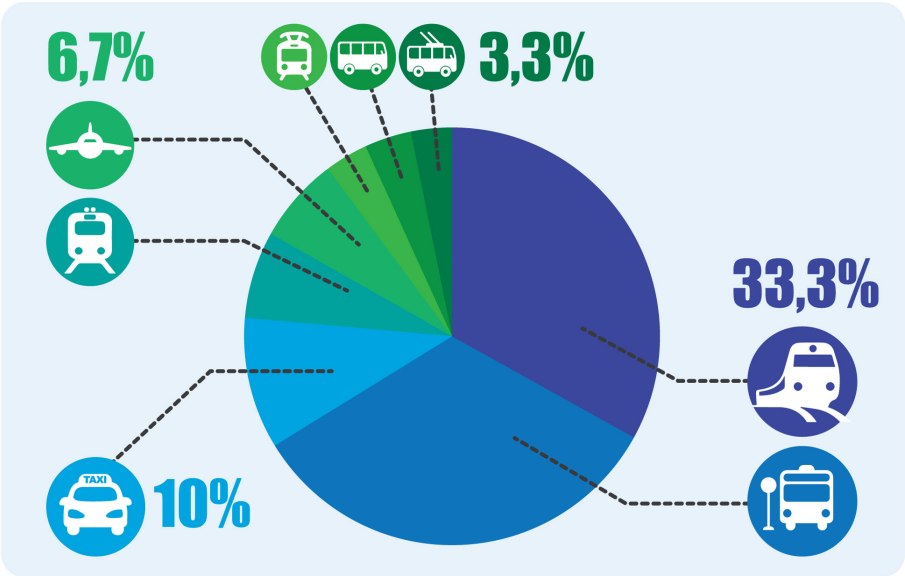
According to the results obtained from the survey on the accessibility of the various means of transport (as assessed by the survey's participants), it appears that several problems and obstacles have led users to assess their accessibility very poorly. For example:

- 66,7% of them have characterised the buses as "not very accessible or not accessible at all", giving emphasis to the lack of wheelchair restraints, to little room for manoeuvring inside that makes them feel unsafe, while also some of the respondents mentioned the drivers' mentality and attitude towards people with disabilities and people with reduced mobility. Nevertheless, some features of the buses that have been assessed as positive concern the lowering of the vehicle floor and/or the existence of ramps (however, not in all vehicles).

- Nearly half the respondents have characterised trains as not accessible, due to the same reasons as mentioned above for the buses (not restraint of wheelchairs, lack of adequate boarding facilities, no proper training and negative attitude of personnel), as well as due to the bad quality of pre-booked assistance services. However, the other half; of the respondents has characterised the urban rail transportation as fairly accessible, referring mainly the existence of ramps, as well as the possibility to book assistance.
- The majority of respondents (62,5%) stated that they do not use the tram for accessibility reasons, such as the level of the platform that does not align with the level of the vehicles, as well as the fact that the doors do not open automatically. On the other hand, aspects of driver behaviour have been mentioned as a significant accessibility asset.
- The majority of users (55,6%) also stated the non-use of the metro rail systems, mentioning as main problems the existence of many stairs and the lack of lifts in many stations, as well as the inadequate signage for accessible exits. However, progress has been noted about the accessibility of metro transport systems in some EU cities.
- The same remarks about the metro apply to the use of ferries (55% of the respondents stating that they do not use them), referring mainly to the dependence on staff and their attitudes.

Additionally, in terms of the accessibility status of the modes of public transport, 75% of respondents stated that they had experienced at least one incident where either they faced accessibility problems or they had to deal with discriminating behaviour. Either way their travel was hindered. Such incidents refer mainly to buses and trains.

Figure 18: Correlation between incidents of inaccessibility and transport modes.



Source: Author's own elaboration

However, the vast majority of affected persons with reduced mobility (88,9%) declared that they did not lodge a complaint afterwards and from amongst those who did, only about half (51,9%) received a reply and/or compensation for it.

Nevertheless, the respondents stated that their countries' local systems, regarding the provision of information and booking services for their local transport systems, are becoming more efficient (62,5% of them) but there are still some accessibility issues to be resolved (e.g. while passenger information at bus stops and platforms of regional train stations can be found very often, only very few transport companies fulfil the WCAG guidelines on their websites).

In general, investment regarding local transport accessibility has been characterised as insufficient and inappropriate, mainly in terms of modernising old transport infrastructure and rolling stock, while it has also been noted that the relevant investment concerns mainly the urban rail sector and less the bus sector.

In addition and with respect to private cars, several persons with reduced mobility use adapted cars, designed to improve the mobility of persons with reduced mobility and persons with disabilities, while also in the majority of countries financial advantages are offered to help with the acquisition of such cars.

5.1.3 User needs, accessibility status and gaps from workshops

As already mentioned in Section 1.3, during the realisation of this study, three Workshops took place, during which the initial findings of the research were presented and discussed. During the workshops important feedback was provided from both experts and user representatives. In total 38 participants attended the workshops (from the tourism, transport and accessibility area) representing the following countries: Belgium, Croatia, Finland, France, Greece, Ireland, Italy, Lithuania, Malta, Norway, Slovakia, Spain, Sweden, The Netherlands, the UK.

In these three workshops, material describing the problems faced by people with disabilities and people with reduced mobility was collected for the different European countries represented, as well as on the general accessibility status of the transport and tourism networks in these countries.

The main issues that were mentioned and raised by the workshops' participants, concerning the local transport system of Europe are summarised below:

- Fare reductions differ a lot across EU Member States; thus a digital card offering harmonised rights across Europe would be very beneficial. Until, then, the relevant information on local fare reductions (or free use) need to be available easily and in accessible format. Transport services staff training on supporting persons with reduced mobility and persons with disabilities remains a top priority, according to the users.
- Accessibility of multimodal/trans-modal hubs is considered as lagging behind those of single mode hubs.
- Information (and eventually ebooking/epayment/eticketing) on local transport accessibility needs to be available through mobile services and social media, as more and more persons with reduced mobility have access to them. However, these should not be the only method of information or access; as older and e-illiterate persons with reduced mobility may not be able to use them.
- There is a need to develop a holistic tool for accessible urban transport design and planning across all modes, to guarantee seamless and integrated local accessibility.

- The percentage of accessible urban transport vehicles needs to be generally enhanced and eventually be over at least 1/3 of the fleet in the short term (aiming ultimately at the whole fleet being accessible).
- Several new metro lines have been created with more narrow entrance points for safety reasons (as indicated by relevant national authorities). These however pose problems of access to wheelchair users and a wide entrance for them should always be available.
- Complaint procedures to local transport operators are in nearly half of the cases left unanswered. A relevant feedback procedure should be mandatory.
- Complaint procedures to the NEBs are not well-known and need to be better established and disseminated.

In general, the accessibility level of local transport systems is an issue that varies greatly among different EU Member States and even regions of the same country and that requires coordinated actions from all actors, in order for all problems to be addressed. Some important aspects that need to be taken into consideration, and that are permanent and persistent requests on behalf of users are the (1) constant monitoring of accessibility status and timely interventions by responsible actors in addressing any problems that occur and (2) the active involvement of persons with reduced mobility and persons with disabilities in the whole procedure of making the transport system accessible, as they know best what is to their own benefit (the same of course applies for all the areas under examination).

5.2 Long-distance transport

KEY FINDINGS & RECOMMENDATIONS

- For long-distance transport the main barriers relate to the lack of accessibility of vehicles and stations, as well as the boarding procedure.
- Another important barrier to accessibility is the lack of implementation measures of legislation; the legislation framework is considered generally effective/adequate.
- Mobile ramps (low weight) can solve problems of equipment malfunction at stations and for vehicles.
- Maintenance of accessible aids and infrastructure (e.g. toilets), as well as redundancy i.e. at least two accessible toilets per train need to be secured as they may have a great impact on PRMs' travel experiences.
- Whenever minimum service requirement are defined, virtually all transport operators use these to be legal. Additional incentives, awards and policies are needed to convince some operators to go beyond minimum requirements.
- Staff training is better overall for long-distance transport but differs between modes (better for air, followed by maritime, then rail and is least for bus and coaches). However, just one unhelpful staff member at the specific transport mode can stop seamless travel across borders; thus staff behaviour and awareness need to be monitored and controlled.
- There is an urgent need for accessible infomobility service tools (for information, booking and even ticketing) across borders and covering multimodal transport.
- Accessible mpayment and epayment is needed to solve (partly) the quite frequent problem of inaccessible ticketing.

5.2.1 User needs, accessibility status and gaps in the literature

Passengers with disabilities and/or reduced mobility represent a significant demographic group also for long-distance transport systems. For example, people with disabilities and persons with reduced mobility represent one of the fastest-growing demographic group in aviation with an annual growth in passenger numbers often at least 6 times that of the overall rate of passenger growth at many global airports. As one example, Heathrow reported that approximately 1.2 million persons with reduced mobility travelled through the hub in 2016 [80].

The existence of a common set of passenger rights ensured by law across the 4 modes, as well as all relevant legislative initiatives (as described in Section 3.1) helps in creating a level playing field for operators within and across the transport modes. Nevertheless, the accessibility level related to long-distance transport and the policy framework ensuring it, especially between EU Member States, needs to be upgraded and safeguarded and the cost related to its implementation to be reduced. Emphasis needs to be put on:

- guaranteeing accessibility between interconnecting modes;
- to related services, such as booking or boarding for each mode;
- to non-discrimination and respect for people with disabilities and persons with reduced mobility; and
- assessing levels of user friendliness and satisfaction in accessibility options.

Following the UNCRPD provisions a paradigm shift must occur in transport.

Significant changes have been made over the last decades but for sufficient impact to be achieved it is necessary to approach accessibility from several different angles at the same time, while all interested and involved players (i.e. ministries, transport operators, vehicle manufacturers, people with disabilities, people with reduced mobility, older people, etc. cooperate, in order to achieve the common goal of improved accessibility.

Inconsistencies in the way the law is applied, has led to passengers facing different requirements and various limitations on different occasions when they travel. For example although the EU legislation on passengers' rights has been in force for some years now, some practical problems remain for air carriers and airports on the one hand and for passengers with reduced mobility on the other. There are still too many cases where passengers face unjustified refusal or restrictions on reservations or boarding based on unclear safety reasons. Moreover, as a significant number of passengers are not aware of their rights, just a limited number of passengers (around 40%) pre-notify their assistance needs before travelling. This is a basic problem for airports and air carriers for their operation and their effort to provide assistance. Some examples include:

- A senior UN official was denied boarding on a flight from Heathrow to Geneva because he was unaccompanied. The official was a paraplegic frequent traveller who had travelled unaccompanied for fifteen years.
- 3 passengers on internal French flights were denied boarding because they were unaccompanied. They later successfully challenged the decision in court. The airline and ground-handling company faced substantial fines for non-compliance [81].

Furthermore, some travellers do not get full compensation because airlines invoke the limit for compensation set forth by the Montreal Convention, 1.131 Special Drawing Rights (SDR) (approximately €1.350). Approximately 30% of wheelchairs cost more than €1.350.

The said limit can be overwritten with the Special Declaration of Interest. However, no airline publishes the cost of SDI on their websites. In fact, the cost of a Special Declaration of Interest, even if the form of an equation (value of goods times a certain percentage equal cost), appears to be a "well-kept secret". Furthermore, the average charge ranges between 10% and 15% of the value of the wheelchair, making the use of the SDI unaffordable to most [27, 82].

Into the bargain, at a time when health care professionals are asked to avoid manual lifting, assistance agents at airports across the world manually handle and lift passengers with reduced mobility, exposing themselves and passengers to unnecessary physical risks, not to mention situations lacking basic human dignity.

Finally, innovation is vital to prepare for future needs of the traveling public. Conditions like Alzheimer's and dementia no longer affect over 75s only. 44 million people already live with the disease according to Alzheimer's Disease International, but that figure will increase to 135 million by 2050. We must foresee a world where cognitive impairments are an integral part of the human landscape, and embed this factor in the way airports are designed and staff are trained [83].

Concerning access to a train and to the facilities and services provided on the heavy rail systems, the key problems to be addressed are:

- Boarding through the doorway and the interface between the platform and train floor;
- Movement within the train;
- Seating and/or sleeping accommodation;
- Access to the facilities and services on the train (toilets, catering, etc.); and
- Provision of information (on board and outside the train).

Railway operators and vehicle manufacturers should take into consideration the needs of all users and ensure that the train and the facilities/services provided are accessible to all. This can be achieved by basing rolling stock design on functional criteria obtained from the knowledge coming from users' representatives association, while also based on knowledge of human capabilities (design-for-all). According to a relevant incident, the Paralympian athlete Anne Wafula Strike has won a financial settlement from CrossCountry trains after she was forced to wet herself during a rail journey, due to the fact that the accessible toilet was out of service. Mrs. Anne Wafula Strike welcomed the settlement, as well as the rail company's efforts to improve services for travellers with reduced mobility but she stated that there are still a lot of changes required before transport could be considered truly accessible for all [85].

In general for all transport modes, steps and gaps are a real barrier to persons in wheelchairs and even to persons walking with great difficulties. Boarding aid devices, such as ramps or lifts (at present operated by staff) must be considered as a temporary solution to overcome gaps and steps. They cause problems related to reliability, staff availability, safety and traffic management. For example, a real improvement of accessibility to trains for all passengers can only be made when station platforms and coach floor heights are at the same level and the horizontal gap (if greater than 50 mm) is filled by a bridging plate.

Problems are often found in the use of maritime transport. In many cases, cruises present several challenges to disabled cruise passengers including cobblestones, hills, and inaccessible public transport [94]. In many cases, while persons with disabilities and

persons with reduced mobility can use the cruise ship facilities, they are not allowed to visit the various ports/destinations due to lack of necessary accessible services that will allow them to do so.

Moreover, persons with reduced mobility may need more information than others during the different stages of their journey. This means that traditional ways of providing information may not suit persons with reduced mobility with a vision or hearing impairment and needs the information to be presented in a format accessible. In whatever form information is made available it should meet 4 specific criteria. The information needs to be (1) clear, (2) concise, (3) accurate and (4) timely [92].

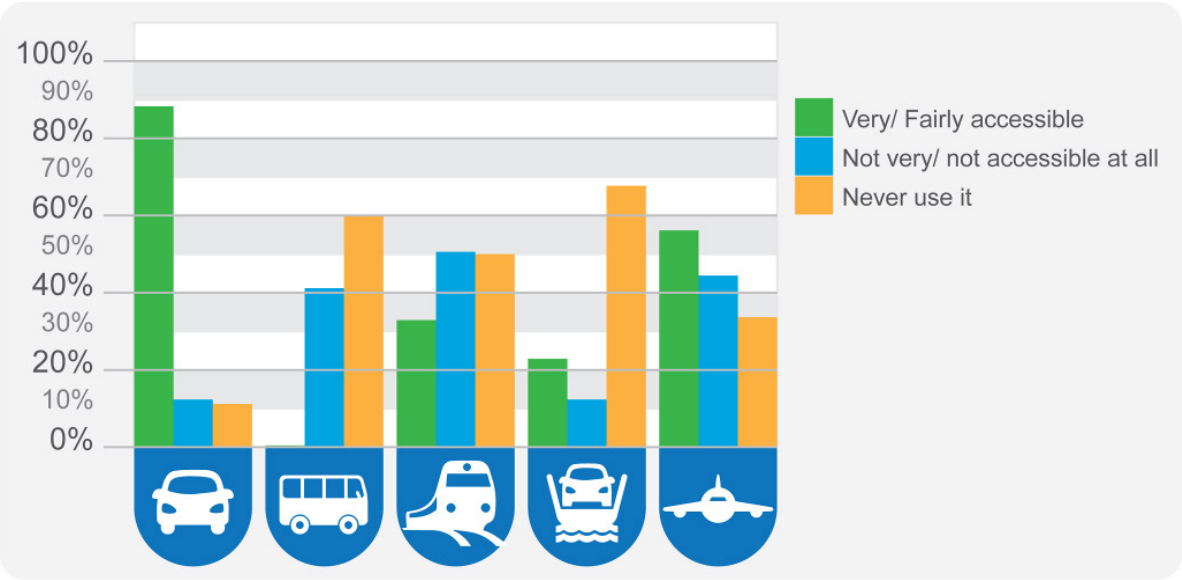
5.2.2 User needs, accessibility status and gaps from this study's surveys

Most of the users that participated in the survey regarding long-distance transport accessibility, stated that they use such means of transport a few times a year.

In general the respondents stated (47,2%) that the accessibility status of the EU long-distance transport system is not satisfactory, while 41,7% of them had experienced at least one incident regarding the accessibility of long-distance transport. The majority of the respondents stated that the reason for such incidents was mainly the failure to apply existing legislation (and not the lack of legislation). For example, 60% of the passengers that replied to this study's surveys reported incidents of boarding refusal, usually for alleged safety reasons (especially for air travel).

According to their replies and statements, most users do not use frequently various modes of transport (especially coaches, trains and ships/ferries) but prefer to travel by car even for short distances. However, according to their experiences, the most accessible means of long-distance transport is considered to be the airplane, followed by the train, the ship/ferry and the bus/coach.

Figure 19: Accessibility of long-distance modes of transport.



Source: Author's own elaboration

The most accessible and non-accessible features of all modes (according to the users) can be summarised as below:

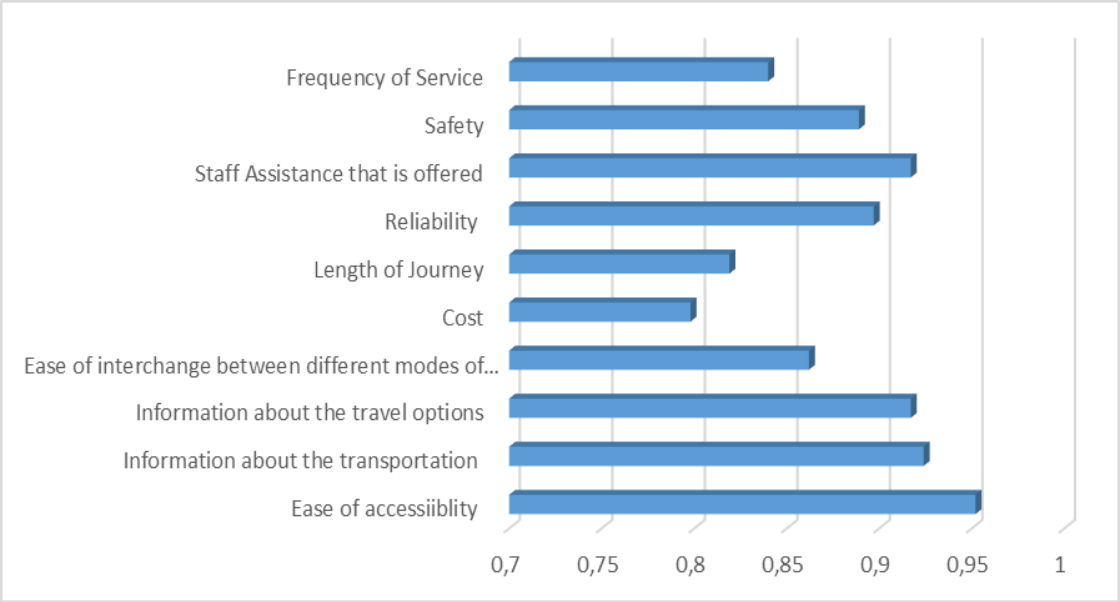
Table 7: Accessible and non-accessible features of long-distance modes of transport.

	Accessible feature(s)	Non-accessible feature(s)
		• Stairs with (often) no ramps • A low number of accessible vehicles
	• Assistance from drivers/ conductors/ porters • Ramps at (some) stations	• Not all stations accessible • Unexpected delays • Reliance on driver/ staff for assistance • Unexpected parameters (i.e. not sure whether you will meet helpful staff, whether the lifts work etc.)
	• Big and comfortable areas • Ramped access • Helpful staff	• No easy access to the outer area
	• Usually skilled/ trained staff • Accessible infrastructure	• Problem in queue • Poor lifting and handling/ transfer from wheelchair • Damage of equipment

Source: Author's own elaboration

In general, the parameters that persons with reduced mobility take into consideration in organising a long-distance trip are presented below:

Figure 20: Importance factors related to the use of long-distance transport.



Source: Author's own elaboration

Naturally accessibility is the most important parameter, followed by staff assistance, the information provided about the travel journey, the ease of interchange, reliability and safety.

Regarding the ICT aspect of long-distance transport, 50% of respondents stated that there is an improvement in overcoming the obstacles concerning the accessibility of booking and

information ICT service applications. It has been noted that transport companies' websites are getting much better at providing clear and accessible information and guidance, while passenger information can be found in more and more platforms. However, further steps still need to be done, especially concerning the harmonisation of applications and their content.

Furthermore 60% of the respondents declared that most long-distance transport providers have developed accessibility plans. However, there is a big gap between the plans and their realisation. More particularly, the problem that was stressed was that, although funds are often sufficient, their allocation by private entities to accessibility issues is only sufficient to keep the service in accordance with the minimum legal requirements and not further.

Regarding the role of NEBs in long-distance transport, opinions are equally divided, with 50% of the responders believing that they are effectively enforcing the rights of persons with reduced mobility and persons with disabilities and the other 50% believing that they fail to do this. Moreover, 80% of all respondents believe that NEBs need more power to act in order to improve matters.

Another feature of accessible transport brought out by the survey's findings is, yet again, the lack of proper training of the personnel in several modes of transport. The majority of them stated (60%) that the training for servicing persons with reduced mobility cannot be considered adequate and emphasis needs to be provided also on the needs of persons with disabilities with "hidden disabilities". Training regarding accessibility is not only about the usage of the mode of transport, but should also include empathy and interpersonal skills (including high level operators' awareness), and, above all, coordination between planning and management at the organisational level. Considering the evaluation provided by staff by users of assistance, the highest level of acceptance was for air transport, followed by the rail services.

5.2.3 User needs, accessibility status and gaps from workshops

As also mentioned in Section 5.1.3, during the three workshops undertaken during this study, material was gathered to map users' problems while using the transport system. Regarding long-distance transport the main issues that arose are similar to those reported in the surveys.

The main issue stressed during all the workshops concerns the need to treat persons with reduced mobility on an equal basis with all other passengers and with the same respect, without prejudice to their dignity. This principle requires 2 basic principles for persons with reduced mobility: (a) their involvement in the development of transportation accessibility at all stages (from design up to realisation and maintenance), as well as (b) that the need for accessibility to guarantee the possibility of access but with usability and user friendliness.

Specifically the following categories of problems emerge from the feedback collected during the workshops:

- **Non-appropriate/accessible transport vehicles.** Some indicative issues mentioned are the following:
    - Existence of heavy and not easy to use ramps in trains. In Norway, an initiative has been launched for the use of portable and easy-to-use ramps in trains (necessary also for evacuation reasons).

  - Several ships do not have the necessary systems for people with hearing impairments (e.g. for notices using door knocking or for emergencies).
  - Most vehicles do not have appropriate information systems for persons with cognitive impairments
- **Non-appropriate/accessible transport platforms.** Some indicative issues mentioned are the following:
  - Some train lines have been re-classified as local trains and so no personnel exists to provide assistance at stations (i.e. in Helsinki and Tampere)
  - There is no common agreement in the EU concerning the platform height of train platforms, which impacts negatively on cross-border rail accessibility.
- **Non-accessible ICT services.** Some indicative issues mentioned are the following:
  - Transport information and booking services, even when accessible, have very different user interfaces, resulting in confusion for the users.
  - There is a lack of tools for accessible infomobility services, extending across borders and covering multimodal transport.
  - Accessible mpayment and epayment is needed to solve the problem of inaccessible ticketing (even if not for all users; excluding the IT illiterate ones).
- **Lack of support and assistance by trained staff in many transport modes** (particularly on trains and buses compared with air and maritime transport).
- **Denial of service in some cases with the ostensible claim this is for safety reasons** (e.g. refusal to board many people with hearing impairments on a plane).
- **Services provided in a discriminative way** (i.e. security checks at some airports are often differentiated for and persons with disabilities and persons with reduced mobility, which can be very uncomfortable for them).
- **Non-existence of common rules** regarding the relation between accessibility and security (mainly in transport systems).

5.3 Clustering of user needs, accessibility status and gaps in the transport sector

KEY FINDINGS & RECOMMENDATIONS

- The training of transport service and hub staff needs to be secured, harmonised, to cover all types of staff (for information provision, booking, ticketing, assistance or control, as well as transport service planning) and include awareness on behavioural aspects (do's and don'ts in assisting persons with reduced mobility), accessible equipment operation and maintenance, handling emergencies, as well as proactive thinking and the removal of obstacles.
- The many digital tools across Europe for transport accessibly information (see ANNEX 7) need to be interfaced and integrated into an one-stop-shop application to support seamless accessible travel within Europe.
- Any information on transport accessibly needs to be clear, concise, accurate, timely (with frequent dynamic updates) and –above all– accessible to all persons with disabilities groups (with due emphasis on simplifying interfaces for people with cognitive disabilities).
- The EU Disability Card connection to the mobility rights of persons with disabilities, as well as its digital format and automated interface to transport services may greatly benefit persons with disabilities mobility and especially for cross-border transport.
- New transportation technologies, such as on-demand mobility solutions, Mobility-as-a-Service (MaaS) and autonomous vehicles of SAE 4 & 5, should be designed according to Universal Design Standards and promote independent travel of all PRM groups.
- Novel business models need to be researched for transport accessibility enhancements, such as PPPs, crowd-funding, big data exploitation, etc..
- One possible business model to enhance transport services accessibility would be to legally request a certain share of their profit or budget to be channelled to their accessibility improvement or to finance alternative transport for PRMs.
- Social media may provide reliable peer to peer and other info on transport accessibility but their role is currently limited by their own inaccessible interfaces.

5.3.1 Training

The proper training of transport personnel, including the necessary awareness training regarding accessibility issues is also one of the founding demands of travellers with reduced mobility across all modes and the reason why relevant requirements are included in the Passengers' Rights Regulations. For example, in Regulation (EU) No 1177/2010 (covering the rights of passengers when travelling by sea and inland waterway), in Article 14 the issue of employees training is described, while it's also mentioned in the regulation that *"in organising assistance to disabled persons and persons with reduced mobility, and the training of their personnel, carriers should cooperate with organisations representative of disabled persons or persons with reduced mobility".* Staff need to be fully trained in health and safety issues relating also to equipment use, and in the preferred ways that disabled people wish to be assisted.

Relevant awareness and specific training needs to be provided as an overall part of personnel formation in all transport modes and not only for the frontline staff. More specifically, training should be provided to:

- **all employees and volunteers** (paid and unpaid, full-time, part-time and contract positions)
- **anyone involved in the development of the transport organisation's policies** (including managers, senior leaders, directors, board members and owners)
- **anyone who provides goods, services or facilities to customers on the organisation's behalf** (such as external contact centres or facilities management companies)

The training should be provided, as soon as each employee joins the organisation. [How to train your staff on accessibility]

In addition to training on general issues concerning accessibility a behaviour towards persons with reduced mobility (including issues on how to treat them with respect, without discrimination and without violating their dignity), proper training should also include specific advice and recommendations, according to the disability of each passenger. When servicing people with disabilities, the employees should have in mind some relevant and generic recommendations (some recommendations are relevant to different types of disabilities), such as:

- They should always ask before providing their help. Having a functional disability or temporary difficulty does not mean that they need to be assisted. Sometimes, persons with reduced mobility have their own way of doing things.
- They should not touch items or equipment (e.g. canes, wheelchairs) without persons with reduced mobility permission.
- They should think ahead and remove any obstacles, such as boxes, trash bins, chairs.

5.3.2 Autonomous modalities of transport

In Europe, wheelchairs and mobility scooters are subject to the European Medical Directive 93/42/EEC [84]. These products can only be launched onto the market if they fulfil the necessary requirements of Annex I of the Directive. The Directive applies to a very wide range of products. Wheelchairs and mobility scooters are classified as class 1, which means that manufacturers can for their own account, declare that their products comply with the essential requirements established in the aforementioned Directive.

Mobility vehicles are not legally defined as motor vehicles and therefore the user is not required to have a driving licence or to take a test. There is no legal requirement to have the vehicle insured, although it is strongly recommended. Users must follow the Highway Code if they drive the mobility scooter on the road. These vehicles can only be driven by PwD or by others only while demonstrating the vehicle e.g. for sale.

In the UK, the regulations governing the use of invalid carriages (powered wheelchairs and mobility scooters) have been amended in order to support increased mobility for users with acute medical needs. The Use of Invalid Carriages on Highways (amendment for England and Scotland) Regulations 2015 came into force on 9 March 2015 and can be accessed online[11].

[11] The Use of Invalid Carriages on Highways (Amendment) (England and Scotland) Regulations 2015. Available at: The Use of Invalid Carriages on Highways - Regulations 2015

With the increasing use of electric wheelchairs, as well as three and four-wheel mobility scooters for personal mobility, especially among older people, public and private transport providers are taking steps to ensure the comfort, safety and convenience of all passengers where scooter users wish to travel on buses and trains.

The core problems for transport providers are presented in a summary from Parliament UK Research, (2014), which observes:
"*Many day-to-day problems for disabled people stem from confusion over the rules, poor or insufficient communication, inadequate training, and/or a lack of enforcement. Issues where these concerns overlap include the provision of assistance on vehicles and at stations; the carriage of mobility scooters, and buggies and prams using wheelchair spaces on buses*."

The TSI-PRM Regulation specifies that trains must provide space to accommodate a "reference wheelchair" with dimensions of 1200mm by 700mm. However, it does not mention mobility scooters or gives a definition of the types of vehicles included in the term "wheelchair".

A relevant research published by the Research Institute for Consumer Affairs (RICA) of the UK, in April 2013, on "The carriage of mobility scooters on public transport" provides some useful recommendations [86], which although aimed for the UK has a wider applicability. Also, a code of the use and acceptance of mobility scooters on low-floor buses is included.

Relevant issues seem not to have been resolved in European level and further research is required, in terms of:

- Market analysis – size, growth, nature of the mobility scooter market.
- Ongoing collection of product data - to inform operators and consumers.
- Consumer research - to better understand user profiles, needs and experiences.
- Safety research – particularly on stability and manoeuvrability.
- Monitoring of operator policies & practices – to provide up to date data on activity.

For example, in Germany, pushed wheelchairs and wheelchairs with hand grips, sledges, prams and pushchairs, children's scooters and pedal cycles, roller blades, roller skates and similar non-motorised means of locomotion are not considered to be vehicles within the meaning of the present regulations. The rules governing pedestrians apply to these means of locomotion mutatis mutandis. Invalid carriages and wheelchairs other than those mentioned before may be used where pedestrian traffic is permitted, but may only be operated at walking pace (BMVI)[12].

5.3.3 ICT

Information and Communication Technologies (ICTs) have considerable importance for transportation, as they offer access to travel information, planning trips, opportunities to share transport modes, to compare transport modes' costs, make bookings and payments, as well as to communicate travel plans. Over the past years, there has been a massive development of transport ICT through, for example, smartphone applications. ICTs have profoundly changed the way transportation systems (both local and long-distance) are

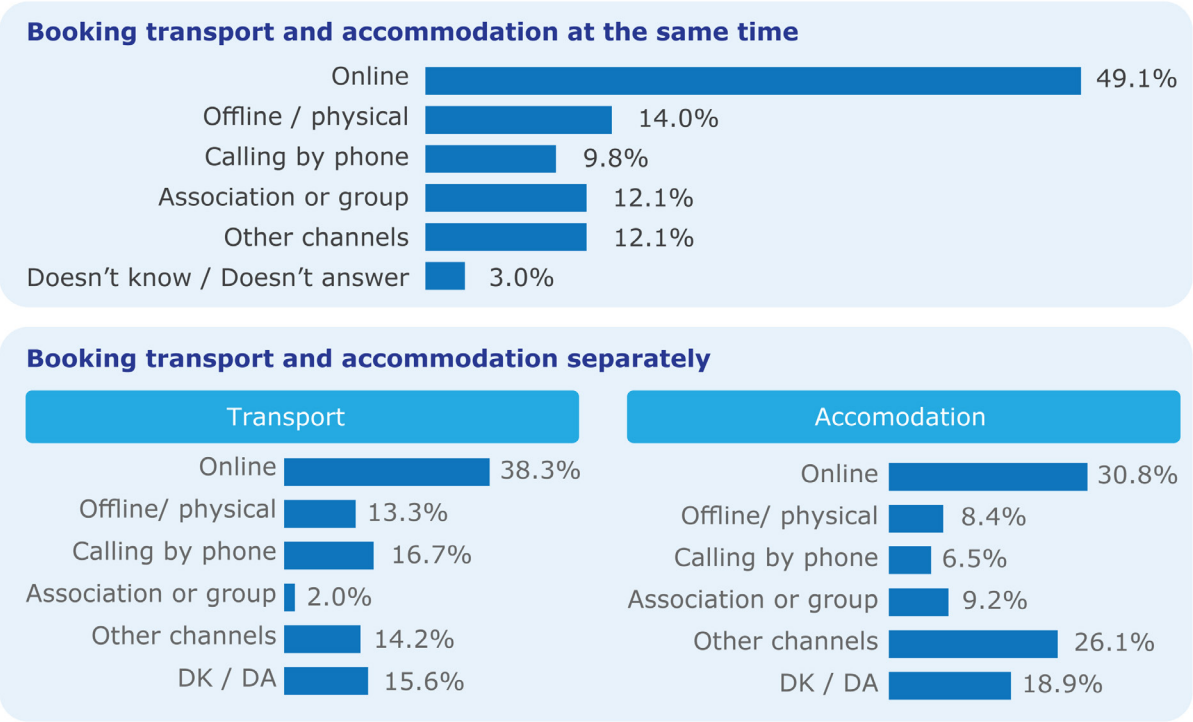
[12] German Road Traffic Regulations. Available at: German Road Traffic Regulations document

used. However, although in most cases ICT innovations foster and support sustainable transport choices, in some others may raise new barriers.

The accessibility of ICT is also a basic issue, which can make transport accessibility even more difficult for persons with reduced mobility. Relevant mobile applications are more and more used by travellers and passengers with reduced mobility, as transport operators' booking services cannot be considered accessible. The need for accessible ICT applications in all areas (including of course the transport sector), is a necessity and a basic prerequisite which is also reflected in the relevant legislation, for example the Directive (EU) 2016/2102 on the accessibility of websites and mobile applications, the web content accessibility guidelines (WCAG). Relevant issues are also included in the Passenger Rights Regulations. Moreover, emphasis on ICT issues is also provided within the European Accessibility Act.

According to the AMADEUS study [76], most persons with reduced mobility prefer on line booking of transportation and - if possible – of transportation and accommodation at the same time. This proves the importance of enabling ICT to them.

Figure 21: Booking channels and websites used.



Source: Author's own elaboration based on AMADEUS study [76]

From the same study, simplicity of User Interface (UI) is stated as of paramount importance:

"More than three clicks are too many. Pay it, get it, do it, be gone without having to engage in any phone calls at all. Less words. I don't want to ready through lots of paragraphs. I want simplicity to take where I need to go and find what I am searching for." – HC, a 57 year-old traveller for the UK, deaf.

Regarding the ICT aspect of local and long-distance transport, the majority of this study's survey respondents (62,5% and 50% respectively) stated that there is improvement in

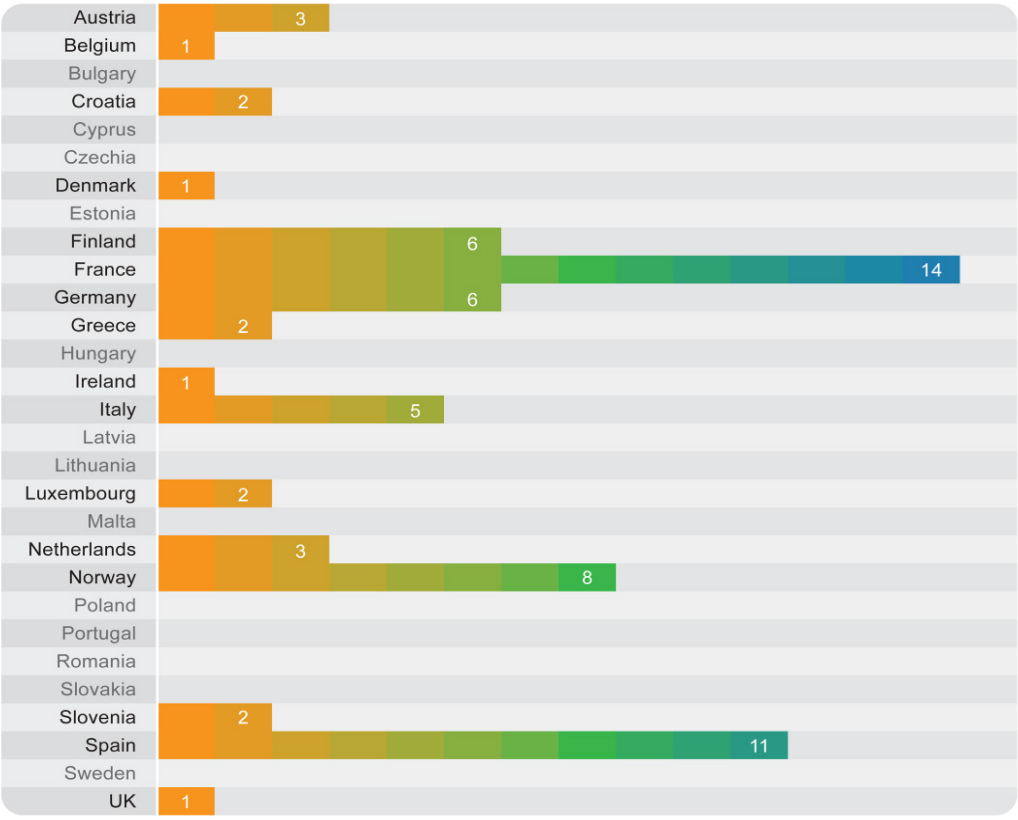
overcoming obstacles concerning the accessibility of booking and information services applications in their countries. It has been noted that transport companies' websites are getting much better at providing clear and accessible information and guidance, while passenger information can be found at more and more platforms. However, some steps in that direction still need to be done, especially concerning the harmonisation of such applications and the required information standardisation.

Given the above important issues and the lack of homogeneity across Europe, this study gathered relevant digital tools that offer accessible transportation info across Europe (deriving from the user surveys, the workshops, the literature review, as well as based upon specific info issues raised by the NEBs.

ANNEX 7 summarises the relevant tools found. This indicative list includes 47 tools from 16 EU countries, with very different contents, interfaces, accessibility levels, as well as their "look and feel". They cover from single modes to all modes of transport, tourism, leisure and beyond. Clearly they constitute a significant "wealth" that is still to a great extent unexploited but also a key challenge for interoperability and integration, persons with disabilities awareness of them has been found to be very low; probably due to their local nature.

The figure below shows the digital tools available per country.

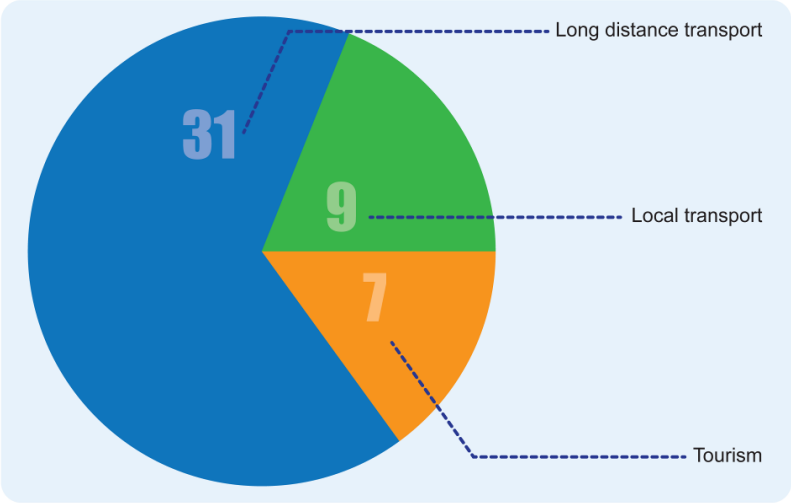
Figure 22: Digital tools on accessible transport and tourism info per country, among the ones listed in ANNEX 7.



Source: Author's own elaboration

Most of the tools refer to long-distance transport, with local transport and tourism being quite equally represented.

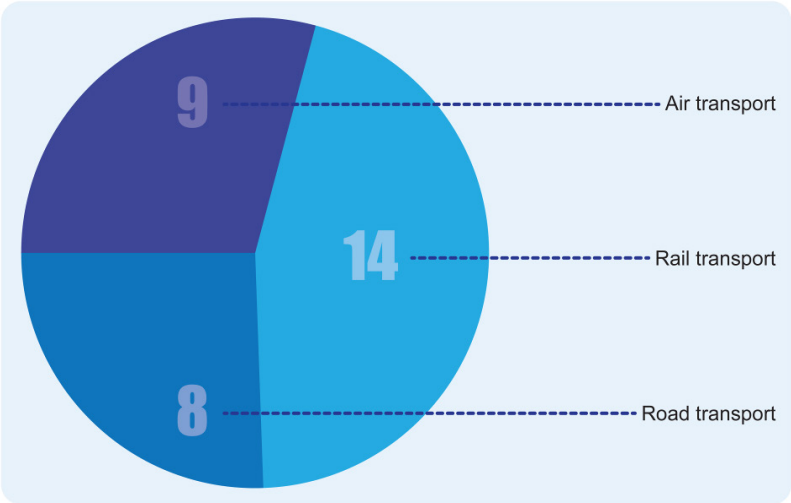
Figure 23: Digital tools in relation to each area/sector.



Source: Author's own elaboration

Within the long-distance transport, the digital tools are in a quite balanced way covering the different modes (except maritime transport). Interestingly nearly none however refers to multimodal transport, covering more than a single mode.

Figure 24: Digital tools with accessible long-distance transport information clustered per transportation mean.



Source: Author's own elaboration

The design of new ICT information sources provides a great opportunity to ensure information is accessible to all at minimal cost. The design brief should specify requirements around the style, content and formatting of information to maximise accessibility. As also mentioned in Section 5.2.1, the information provided to persons with reduced mobility about their journeys should have the following characteristics:

- **Clear information**: Clear information is information that is legible and easily understood, with short sentences and everyday language.
- **Concise information**: Information should be complete but concise and to the point. Too much information is difficult for people to retain. The use of standard symbols can help passengers to quickly find key facilities such as bathrooms and emergency exits.

- **Accurate and consistent information:** All information provided should be accurate and consistent, otherwise passenger stress may be caused, particularly if journeys are delayed. A consistent use of terminology or pictograms will help to communicate effectively with all passengers.
- **Timely and accurate:** Information should be provided at the time when it is needed (i.e. at the point of departure on a journey). However, for passengers with reduced mobility, the provision of information well in advance would be of great assistance (e.g. where a lift or a toilet is out of service, passengers with reduced mobility need to be informed promptly about alternative options) [95].

Within the ICT field the EU Disability Card should be considered. Previously known as "Mobility Card", its scope is to facilitate traveling to another Member State for persons with disabilities. This card will allow them to access certain discounts for culture, leisure, sport, and transport under the same conditions as nationals with disabilities in that country. It may have a harmonised design and be based on the mutual recognition of an existing card. The European Commission launched a Project Working Group of interested EU Member States in 2013. A pilot project has been launched with a call for proposals in 2015; eight EU Member States (Belgium, Cyprus, Estonia, Finland, Italy, Malta, Romania, and Slovenia) have been awarded the Commission grant and are now working on the implementation of the Card [96]. This effort aims to ensure an equal access to certain specific benefits, mainly in the areas of culture, leisure, sport and transport. The Card will be recognised by all EU countries participating in the system but only on a voluntary basis. This initiative does not change national eligibility criteria or rules and EU Member States retain their discretion to decide who is eligible to receive the card, using the national definition of disability, as well as to determine the issuing procedure [97].

Because of the importance of several apps for transport and tourism services they must include accessibility information, as well as be offered through an accessible Human-Machine Interface (HMI). Within this study, such apps have been validated against WCAG2.0 Level AA with the use of various evaluation tools. The results are presented in more details in ANNEX 10, whereas the most significant ones are summarised in Table 8 below.

As presented below, none of them can be considered to pass all main test, whereas some of them are clearly inaccessible. Thus, it is proposed that their accessibility is to be enhanced to meet appropriate regulations (i.e. through EAA), even if most of them are privately owned and managed.

Table 8: Accessibility evaluation of important websites for transport and tourism.

WCAG2.0 Level AA	AChecker	WAVE	WaaT (% accessibility)
Booking.com	167 errors	5 errors	Level A – 29.42% - 36 errors
TripAdvisor	53 errors	10 errors	Level A – 29.42% - 1805 errors
rumbo	21 errors	18 errors	Level A – 62.5% - 959 errors
Airbnb	4 errors	3 errors	38.1% Level A – 776 errors Level AA – 1 error Level AAA – 1 error
trivago	No WCAG errors	2 errors	Level A – 62.5% - 7 errors
checkfelix	115 errors	26 errors	Level A – 29.42% - 6 errors
KAYAK	112 errors	29 errors	Level A – 29.42% - 10 errors
Skyscanner	No WCAG errors	21 errors	Invalid page URL/Filepath

WCAG2.0 Level AA	AChecker	WAVE	WaaT (% accessibility)
Hotels.com	12 errors	2 errors	Level A – 29.42% - 1268 errors
Button NEATEBOX	No WCAG errors	7 errors	WaaT error
AppsMapper	14 errors	3 errors	54.57% Level A – 204 errors Level AA – 403 errors Level AAA – 424 errors
It's Accessible	8 errors	4 errors	73.23% Level A – 342 errors Level AA – 5 errors Level AAA – 13 errors
Changing Places	5 errors	7 errors	44.09% Level A –47 errors Level AA – 685 errors Level AAA – 741 errors
TripTripHurray	2 errors	4 errors	44.86% Level A –2 errors Level AA – 1 error
Guide Dots	2 errors	1 error	58.54% Level A –3 errors Level AA – 3 errors Level AAA – 3 errors
Red Panic button	Not available	4 errors	39.92% Level A –1706 errors Level AA – 3 errors Level AAA – 6 errors
Inclusive Britain	1 error	1 error	55.25% Level A –1295 errors Level AA – 87 errors Level AAA – 106 errors
TUR2All	28 errors	9 errors	64.09% Level A –902 errors Level AA – 376 errors Level AAA – 415 errors
briometrix	21 errors	6 errors	N/A by WaaT
Tactile Paths	8 errors	3 errors	WaaT error

Source: Author's own elaboration

5.3.4 The impact of autonomous vehicles

As new transportation technologies such as on-demand mobility solutions and, in the near future, autonomous vehicles enter the mainstream, they offer significant potential for reducing transportation obstacles for persons with disabilities. Across the EU autonomous vehicle legislation is being discussed, but little attention is being given to the role this technology can play in serving individuals with disabilities.

At international level, the potential impact of autonomous vehicles on the mobility of persons with reduced mobility (PRMs) has been extensively discussed during the last 3 years in the Transport Research Boards (TRBs) Committee on Accessible Transportation and Mobility (ABE60), without reaching any conclusions so far on concrete measures or recommendations.

At pilot level, the USA Army Tank Automotive Research, Development and Engineering Center (TARDEC) is currently running the experiment at Fort Bragg where specially equipped Cushman Shuttles—modified golf carts—will pick up injured soldiers at their

barracks and transport them about half a mile to the medical centre [87]. Relevant results have not been further analysed.

Within the "Ruderman White Paper" study [88], interviews have been performed with many stakeholders on the specific needs of PRMs, related to the accessibility of autonomous vehicles. The main finding are summarised below:

1. ***For all persons with disabilities:*** One of the most important policy debates that will impact the ability of the disability community to realise the benefits of autonomous vehicles is whether regulations will require a licensed "driver" in the vehicle. Many who have a "severe" disability, whether it be because of epilepsy, blindness, intellectual disability, or other physical limitation, would benefit from autonomous vehicles but are not able to obtain a driver's license. Thus, highly autonomous vehicles, i.e. those classified as Society of Automotive Engineers (SAE) level 4 or 5, would provide the biggest benefits to PRMs, in case they are allowed to be driven without a driver on-board.
2. ***Persons with visual disabilities***: The community has identified several key issues that need to be resolved. The cars may require refreshable Braille and an auditory system that notifies the driver where the car is at any given time, and the progress of their trip. Without these modifications, the vehicles could be difficult to use[13]. Other things to consider include oral notifications or alerts as to whether their vehicle requires maintenance or refuelling.
3. ***Persons with motor disabilities:*** Individuals that use wheelchairs would benefit if manufacturers designed fully autonomous vehicles in such a way that a ramp or lift system could be integrated into the body of the car. Alternatively, manufacturers could design autonomous vehicles so that they could be easily and affordably fitted with a wheelchair ramp or lift system as an aftermarket modification. Another issue facing those that rely on a wheelchair for mobility has to do with stowing the wheelchair while the individual rides in the car. For individuals, who transfer from a wheelchair into a seat in the car, there is a need to get the wheelchair into the car and secured so it does not move about when the vehicle is in motion. Furthermore, they would benefit if the autonomous vehicle can notify people with disabilities of potential infrastructure barriers, such as a corner under construction or with no dropped kerb. This way wheelchair users, or other people with disabilities, can navigate efficiently to the nearest accessible sidewalk, even if it slightly further from their intended destination.
4. ***Persons with hearing disabilities:*** User interface design for autonomous vehicles should consider their needs, as they are unable to hear voice commands. Thus, there is a need for any audible information to be conveyed visually as well[14].
5. ***Persons with cognitive disabilities:*** These users require user interfaces with minimal complexity, to be able to use such vehicles. The vehicle's ability to provide supervision and tracking in the form of video cameras and GPS would also be helpful for caregivers responsible for their safety and well-being. For example, if one's family can help the individual into a vehicle, the system may help ensure the individual is not lost or in danger, which may ultimately provide more independence.

Regarding the stance of the industry to date, no major car manufacturer or technology company has committed to making universal design a central pillar of their philosophy (for

[13] SAFE interview with National Federation of the Blind (NAB).
[14] Interview with Zainab Alkebsi from National Association of the Deaf.

either autonomous or conventional vehicles). The fact that a new policy framework will need to be negotiated for autonomous vehicles presents an important opening for the disability community to advocate for new and more inclusive policies and vehicle design changes that may meet the community's needs. Still it should be noted that many car manufacturers have mobility access programs; whereas recently UBER included a feature on its application that notifies passengers when their driver is deaf [88].

Finally, the impact of such a mobility enhancement of persons with reduced mobility through autonomous vehicles is not easy to estimate. On the one hand, the "Ruderman White Paper" study estimated that this would enable new employment opportunities for approximately 2 million individuals with disabilities and save $19 billion annually in healthcare expenditures from missed medical appointments in the USA alone. On the other hand, another study [91] estimates 14% increase in annual car circulation due to this enhanced mobility.

5.3.5 Mobility-as-a-Service (MaaS) and collaborative economy

The emerging trend of vehicle sharing/pooling and other demand responsive and shared mobility options may offer solutions to the mobility of persons with reduced mobility, but also bring new barriers. As an example, Uber has in some countries (e.g. in the USA) the possibility to order an accessible car but since this is not regulated, it is not clear what "accessible" means. Also, it doesn't mean that the Uber app is accessible and persons with disabilities do still get discriminated by Uber drivers (e.g. refusing guide dogs) because there is no regulation in place which guarantees a right to access to the service.

Thus, such emerging mobility schemes would require appropriate regulation of vehicle and service accessibility, before they can be considered as a mobility enhancement opportunity for persons with reduced mobility. On the contrary, in absence of relevant regulation and since they will progressively win a higher market share, they may limit PRMs accessibility to those services (i.e. blind users will pay more for or not easily find a taxi that by law has to accept their guide dog, as the alternative MaaS may not accept it).

5.3.6 Business and financial schemes

Related to the cost-efficiency of accessible tourism and transport and relevant business opportunities, we would like to highlight the following facts [89]:

- **Accessible tourism is big business:** In a 2014 study on accessible tourism [104], the European Commission estimated that as of 2011, there were 138.6 million people with access needs in the EU and that in 2012, people with access needs in the EU took approximately 783 million trips within the EU. Furthermore, the study mentions that the direct gross value added of EU's Accessible Tourism in 2012 was about €150 billion. After taking the multiplier effect into account, the total gross value added contribution amounted to about €356 billion.
- **Making new buildings accessible costs much less than you would think:** A 2004 study of the Technical University of Zürich [89] showed that the cost of making a new building accessible from its outset only costs on average 1.8% of the entire construction cost. This is even lower for bigger projects costing more than 5 million Swiss Francs, where the additional cost for accessibility is as low as 0.5% of the entire construction cost.
- **Providing alternative transport services to urban transport is much more expensive than making mainstream transport accessible:** In a financial evaluation [90] of the 1990's Americans with Disabilities Act (ADA), which includes

provisions on accessibility of transport, it was stated that paratransit service (e.g. "Dial-a-Ride") is 10 times more expensive than fixed-route service. By 1996, annual ADA costs were expected to be $700 million for paratransit service, $65 million for fixed-route service, and $130 million for rail service. It shows that accessible mainstream transport is much cheaper than special services, which are currently still necessary for lack of accessibility.

- **Persons with disabilities travel with other people, hence creating a multiplier effect and benefitting more than "just" 80 million persons with disabilities:** The COST 335 study on Passengers' Accessibility of Heavy Rail Systems [92] states that when we also take account of accompanying persons and able-bodied people with temporary mobility restraints (such as young parents with baby buggies or with luggage) who would also benefit from accessible railways, we can see that accessibility already affects 35-40% of the population (170 to 194 million people). This potential market for railways could rise to at least 200 million people by the year 2020.

Within this study, 67,5% of the respondents (60% for the long-distance transport and 75% for the local transport) described investment for the transport sector as insufficient.

Transport accessibility has so far been mainly publicly funded, based upon the following "business" models:

- Direct state or local government/municipality funding or publicly owned transport services.
- State contribution to the privately owned public transport services for accessibility enhancement.
- Private investment in privately owned public transport services to abide by the legally defined minimum requirements.

28% of the experts that answered this study's survey mentioned that funding comes partially from European Cohesion Funds and 12% from COSME programme. As these funds are mainly nationally administered and reported differently in each EU Member State, collective data across EU Member States were not able to be collected.

Regarding H2020, from its mid-term review [93], it can be seen that 221 grants were given under SC6 on Inclusive Societies (6% of total), which correspond to €375 million (4% of total). However, accessibility issues are not mainstreamed in the relevant research areas, i.e. Transport research (SC4), thus resulting new transport products and services that were designed and piloted without accessibility among their specifications.

There is generally a lack of more modern financial and business schemes applied in this sector, such as Public-Private Partnerships (PPPs), crowd-funding, funding through big data exploitation, etc..

A promising model is the Spanish one that required Telecom operators to provide a percentage of their annual profit to social causes; leading to financial support to DPOs, such as ONCE. Equivalently, in transport the EU Member States could request a percentage of transport services profits (or budget) to be invested in accessibility enhancement or financing or alternative services (i.e. door-to-door accessible transport).

An important issue that also needs to be taken into consideration, is the multiplier effect, the fact that accessibility in all areas (transport and tourism) also encourages growth in the primary and secondary sectors. According to the research undertaken and the feedback collected by the questionnaires (60% of responders), this effect is not taken into account by the transport operators and service providers, thus it is not mainstreamed into business models and financial schemes.

It is a general problem that the benefits of accessibility in economic terms are under-researched. The high cost of making transport system accessible is more usually the focus, without an adequate consideration of the economic benefits of a more accessible transport chain. Increasing number of passengers who can use public transport, higher customer satisfaction, ease of use, and increased efficiency are only a few of the benefits that accessibility brings but this has not been clearly demonstrated in the EU so far. The additional cost of exclusion is something that should be taken into account too.

The European Accessibility Act, as well as relevant legislation related to public procurement are expected to strongly influence the market and possibly lead to new business opportunities and schemes.

5.3.7 Awareness creation and social media

The basic issues, regarding accessibility in general and transport accessibility specifically, as stated by the vast majority of the users that contributed in this study, are the following:

- the fact that there is difficulty in obtaining information and statistics for persons with reduced mobility using the transport systems, as many of them cannot use them at all (due to accessibility constraints) and
- the necessity of their participation in any new initiative (i.e. concerning legislation, practices, infrastructures, etc.).

In order for these issues to be addressed, what needs to be promoted is the establishment of relevant awareness. Tools like social media can be used for this scope.

Social Media is a useful tool for promotion and during the last few years it has changed how people interact with each other, collect information, and altered the way business and governments share information and deliver services [98].

To promote a message or campaign, often disabled persons' organisations use more traditional sources, such as radio, newspapers, television, etc.. Nevertheless, there are also many advantages in using social media to make such a promotion. Some of the main benefits of using social media for this purpose reasons are the following:

- Direct communication and interaction with their audiences.
- Creation of an online presence for an organisation/association.
- New ways to share a message or product, which helps to ensure that a message reaches as many people as possible [99].

However, social media platforms, such as Facebook, Twitter and YouTube are not accessible on their own. Anyone using a screen reader often has difficulty navigating through social media due to the lack of headers, no keyboard shortcuts, no alternate text for images, poor colour contrast, and videos with no closed captioning [98].

In July 2014, the Federal Communications Commission (FCC) hosted an event focused on social media accessibility at its headquarters in Washington, DC. The room was about half full of advocates, non-profit workers, government employees, and concerned citizens, but there were no representatives from the technology companies that own and operate social media platforms, with LinkedIn being the one exception. Despite a lively backchannel on Twitter at the #AccSocMedia hashtag, no representative from Twitter, Facebook, Google, Pinterest, Tumblr, or Instagram were present. This has led the federal government's lead for social media (Mr. Justin Herman) to state that "the reason why they weren't present might be that social media companies realise that they are not very accessible"

At present, there are 3 parties that are most likely to help improve accessibility: (1) users, (2) media, and (3) government and these are not fully engaged in this goal. More specifically:

- Unless users know people with disabilities or are personally affected, their participation in campaigns to push social media to be more accessible (or fully accessible) may not be robust.
- Most media focus mainly on issues relevant to privacy rather than accessibility.
- The application of relevant regulations and directives is not being monitored, as it should [100].

5.4 Tourism

KEY FINDINGS & RECOMMENDATIONS

- Accessibility should not be assessed at the level of individual service providers alone but at a higher level of aggregation, such as the destination.
- Where good national statistics and information on accessible touristic offers exist; the relevant user demand is also growing strongly. Thus, inclusive, accessible tourism has been adopted more quickly where it is driven from above, as a whole-of-government approach.
- The main barriers are due to a lack of a strong business case. This is not because Return on Investment is low but rather because, in many countries, regions and sectors, businesses are largely unaware or cautious of the market potential and the business case and also do not benefit from relevant co-funding opportunities to become accessible.
- Individual Accessibility Information Schemes lack harmonisation, are of varying reliability and quality and in most cases are not combined with efficient marketing tools and technologies, such as mobile apps and social media.
- Staff knowledge and information is a significant barrier to accessible services in the touristic sector.
- Experiences, attractions and recreation opportunities, even at accessible touristic venues are often inaccessible. This is especially true for rural areas, natural parks and beaches.

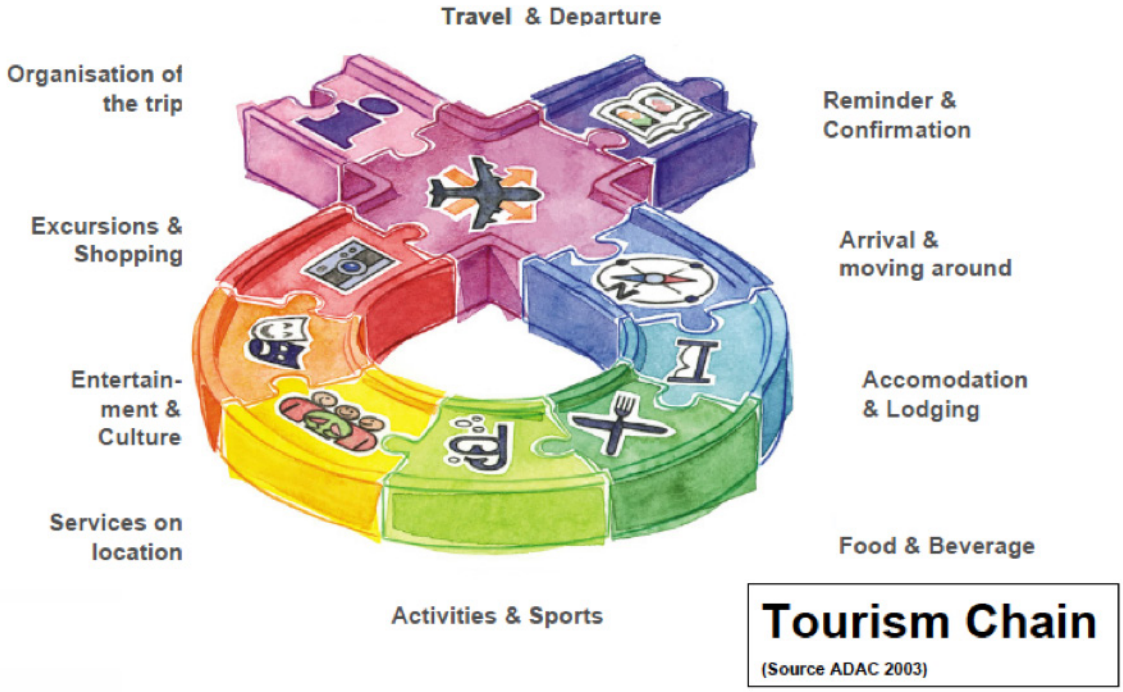
5.4.1 User needs, accessibility status and gaps in the literature

People with a disability are present in all travel and tourism sectors but with a diverse range of requirements and characteristics, roughly in the same proportion as the general population. At the lower end of the age spectrum it is often the more adventurous and active people that acquire a disability through an accident, unlike other groups of tourists. In one sense that perception has been reinforced by the social model of disability which, in defining the social barriers, has concentrated on a narrow sub set of physical access requirements largely limited to car parks, toilets, building access and hotel rooms.

A disability, in reality, is just a different level of ability. We are not all equal in a number of ways. Physical ability is just one set in the total capability set of the human being. If we do take physical ability as the cornerstone of the push for greater accessibility then we need to put it into context. Looking at the travel industry as a case in point: travellers vary enormously in their physical capabilities and their holiday patterns reflect that diversity. Whether that holiday is climbing a Himalayan peak, walking New Zealand's, Milford Track, visiting the wine region of the Napa Valley or relaxing on a Caribbean Island that is a personal choice. The tourism industry is adept at discerning and catering for those wide ranges of choices; however, disability tends to be categorised, through the medical and now social models, as something different and around that tourism providers have built a set of preconceptions that shields it from a market view.

Accessibility should not only be assessed at the level of individual providers but at a higher level of aggregation, such as the destination, which includes different links in the supply chain. This is because accessibility of the tourism sector as a whole and the quality of the customer offer depends not only on the action of individual businesses but on the accessibility of the entire supply chain that makes up the visitor journey, including information, long-distance transportation, local transfers and transport modes, accommodation, attractions, hospitality, venues and activities, retail, equipment suppliers, etc.).

Figure 25: The accessible tourism value chain shown as a sequence of interconnected services and activities.



Source: ADAC 2003

In order to deliver accessible tourism experiences for all visitors, businesses and destinations need to have a common – and accurate – view of the customer and their needs.

A growing body of literature and research studies on Accessible Tourism over the last decade concerns the failure of the tourism sector as a whole to respond adequately to those customers who need "good access" when travelling. To a considerable extent it is evident that both policy makers and businesses have mistaken perceptions about visitors with disabilities, their characteristics and their needs, and this has led to a significant shortfall in the supply of accessible offers.

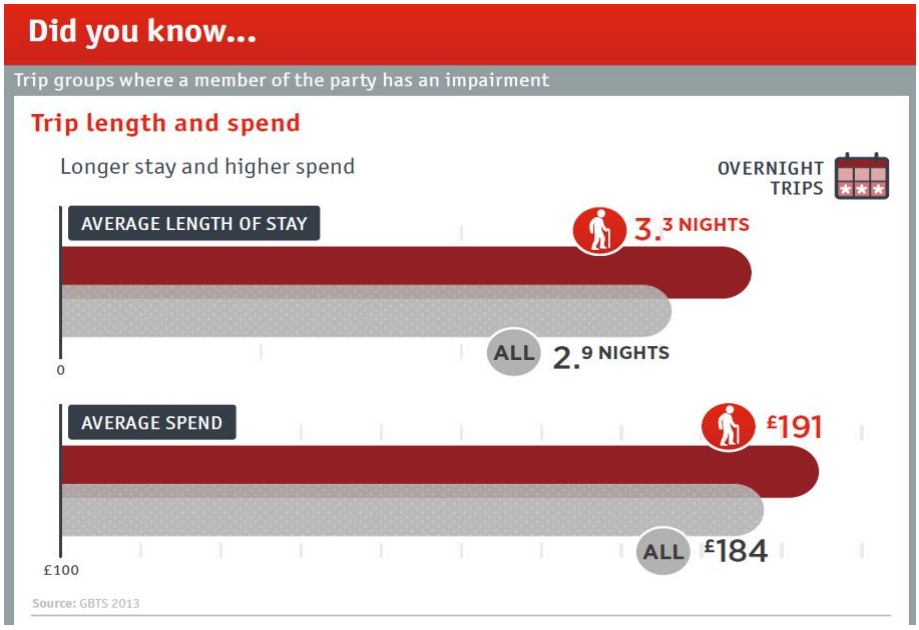
By focussing on a narrow sub-set of physical access requirements, (largely related to access barriers in transportation, car parks, toilets, building access and hotel rooms), tourism and travel operators (often unknowingly) come to define customers with disabilities by what they cannot do and not what they can do or want to do.

It is important to note that visitors with disabilities are not a "segment" like the backpackers, adventure tourists or luxury travellers. **People with disabilities can be part of any and every segment, with just as many ambitions and aspirations as the next person.** Therefore it makes business sense to make all facilities accessible for all customers.

In countries such as the UK, where visitor statistics have been gathered on this subject over several years, it has been shown that numbers of visitors with access needs are increasing. Moreover, they ***stay longer than average customers and spend more***.

An infographic presentation of visitor survey data from VisitEngland, 2009 - 2013, shows the visitor numbers (volume) and spend (value) of the accessible tourism market[15].

Figure 26: Trip length and money spend by visitors where one of the party has a disability.



[15] VisitEngland Visitor Survey Infographic (2014). Available at: The Purple Pound. Volume and Value of Accessible Tourism in England

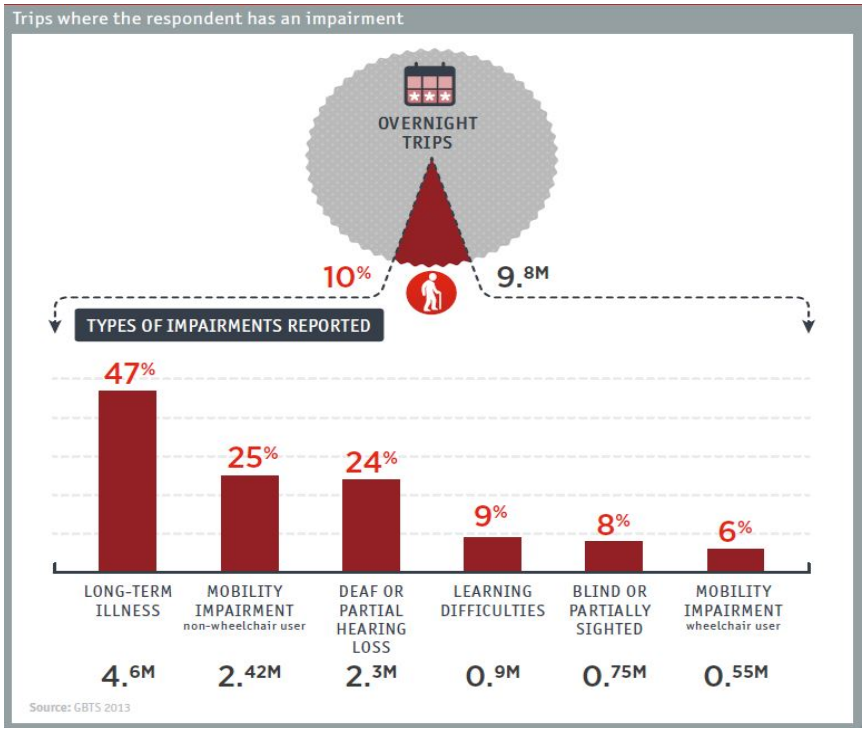
Source: VisitEngland (2014) [101]

The survey includes data on **trips by groups where a member of the party has an impairment**, showing numbers of:

- Day trips, 2013 (271 million trips, £9,4 billion)
- Domestic overnight trips, 2013 (14 million trips, £2,7 billion)
- Inbound trips, 2013 (0,6 million trips, £0,3 billion)
- Total trips in 2013 - (285,6 million)
- Total spend in 2013 (£12,4 billion)
- Average length of stay: 3,3 nights for those with access needs (against 2,9 for all)
- Average spend: £191 for those with access needs (against £184 for all)
- Increase in visitor numbers since 2009 (+19%)
- Increase in value since 2009 (+33%)

The VisitEngland survey also identified the types, numbers and percentages of impairments among the visitors surveyed: 10% of all overnight visitors or 9.8 million visitors disclosed their type of impairment. The breakdown was as show in the figure below.

Figure 27: Types of impairments reported by visitors where one of the party has a disability.



Source: VisitEngland (2014) [101]

The results reported by VisitEngland must be seen against the background of substantial investment and commitment in outreach and information to tourism sector operators about serving the accessible tourism market over a period of years by the British Tourism Authority.

Achieving good access and marketing accessible tourism to visitors almost inevitably requires public sector commitment, careful planning and concerted efforts at the national

level, which is the responsibility of governments and NTOs and through to regions and destinations.
Inclusive, accessible tourism has been adopted more quickly where it is driven from above as a whole-of-government approach. Where it becomes tourism policy for a country, as has recently been the case in Barbados, or a tourism region then adoption is rapid, as the economic story is sold to the industry as a whole. The economic message changes perception from a compliance problem to a challenge for gaining competitive advantage challenge; the latter giving a stronger incentive for innovation in design and customer awareness and service[16].

5.4.1.1 Supply and performance Check of Accessible Tourism in Europe

In 2014-2015, ENAT and its partners (EWORX and VVA) carried out a wide-ranging study of the Supply and Performance Check of Accessible Tourism Services in Europe, as part of the EC's 3-year "Preparatory Action on Accessible Tourism", funded by the European Parliament [102].

The study examined the supply and range of accessible tourism provisions in all 28 EU Member States, focusing not only on infrastructure and facilities but also on services for visitors, staff training and the organisational and business structures and incentives that support accessible tourism development. In addition to highlighting many and varied barriers to accessibility in tourism, the study also identified good practices and initiatives undertaken by public authorities, private businesses and NGOs, on the basis of which several recommendations were made.

In particular, 15 case studies of European destinations [103] showed that accessibility and barrier-free travel are important factors for enhancing the quality of tourism for everybody, as well as ensuring equal access for all visitors and improving the social and economic sustainability of tourism destinations and businesses.

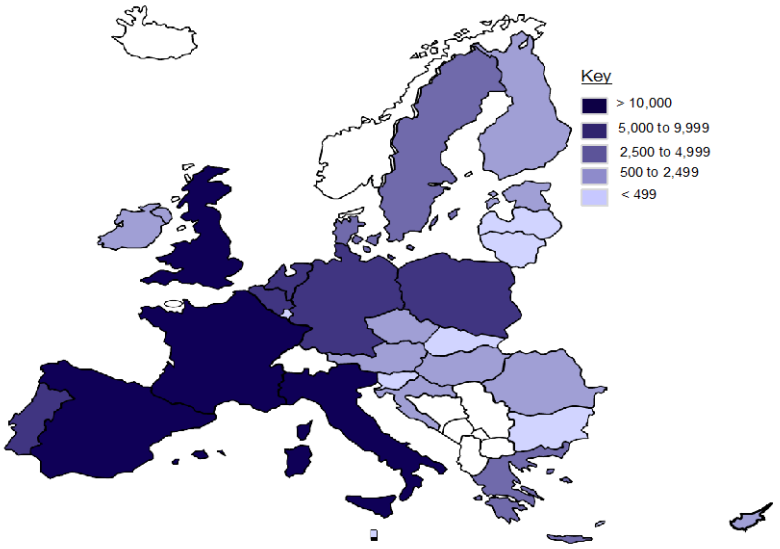
The first objective of the study was to identify and count, as accurately as possible, those tourism services that can cater for the accessible tourism market, which includes seniors, people with disabilities, families with small children and people with various specific access requirements. Source data for the identification and calculation of accessible services was derived partly from the suppliers listed in so-called *Accessibility Information Schemes (AIS),* which are published databases of facts and measurements related to the accessibility of tourist venues and services in regions and countries of Europe. The Accessibility Information Schemes (AIS) data set was supplemented by newly identified accessible services collected by *Pantou, the European Accessible Tourism Directory,* a tool which was created for this study at Pantou website.

In total, the study has identified 313.286 accessible tourism suppliers in EU Member States. Of these, 224.036 suppliers were found in the published data from 79 Accessibility Information Schemes in 24 EU Member States. However, these figures are subject to a number of caveats mainly due to the fact that these can only be considered as the "declared" accessible tourism suppliers in these two data pools. The *actual* number of accessible suppliers in Europe will always remain an unknowable number, given that there is no formal EU-wide registration of such suppliers or the range of services they offer. It is also evident that there are many ways to define and measure "accessibility", which means that complex issues regarding nomenclature and metrics must be reduced to more manageable concepts in order to produce usable statistics. Finally, suppliers may well make simple access improvements that are not recorded or publicised but which may enhance

[16] Fully Accessible Barbados. Available at: Fully Accessible Barbados website

access for one or other customer group. The map below shows the frequency of accessible tourism suppliers in EU Member States in 5 ranges from below 499 to over 10.000.

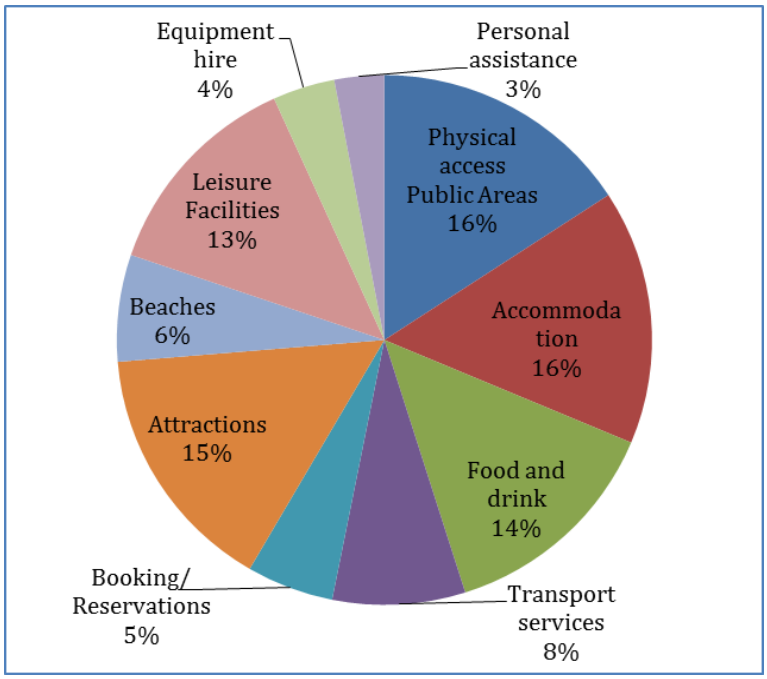
Figure 28: Map of the number of Accessible Tourism Suppliers in EU-28 based on AIS and Pantou Data Sources.



Source: European Commission (2015) [5]

- In the highest range, countries with more than 10.000 accessible tourism suppliers are the UK, France, Spain and Italy. In the second range 5.000 to 9.999 are: Germany, The Netherlands, Poland, Portugal.
- Countries with under 499 suppliers are: Bulgaria, Czech Republic, Hungary, Latvia, Lithuania and Slovenia.
- The frequencies of different accessible services across all the AIS schemes are shown in the following chart, Figure 29.
- The most frequently listed services were, as shown in the figure below.

Figure 29: Frequency of Accessible Services Information in 79 National and Regional AIS (%).



Source: European Commission (2015) [5]

- The Pantou sample of suppliers, although smaller in number than the AIS group, gives a more detailed picture of supplier and services data, since it uses a standardised data collection approach.
- The Pantou sample identified a total of 146,760 accessible services among the 94.551 suppliers in the EU-28. These services include a wide range of service types catering for several customer groups. The top-three service types are accommodation, wellness and conference facilities while the top-three customer groups are people with mobility impairments (including wheelchair users), people of very large or small stature, people who are deaf or have hearing impairments and people who are blind or have vision impairments.
- Based on the above data, it is estimated that 9,2% of the existing supply of tourism facilities and services have at least some level of provision for travellers with specific access needs. This number is based on the mapping exercise conducted through the study compared to the overall supply of tourism enterprises. This means that over 3 million tourism businesses are not prepared to adequately cater to the accessibility market.
- By 2020, an additional 1,2 million enterprises need to provide accessible services in order to accommodate the lowest forecasted demand [104]. Thus, there is a strong rationale for targeted action, from various levels, to help businesses to provide more accessible services.

There are significant gaps with regard to the performance of accessible service supply across EU Member States. Three key barriers prevent businesses from becoming increasingly accessible: (a) infrastructure and physical barriers, (b) financial barriers including the lack of a strong business case and (c) knowledge and information barriers.

- All EU Member States have accessibility legislation in place, which addresses the built environment, through general building regulations and laws and, in many cases, through specific access legislation for parts of the tourism sector (e.g. hotels). However, regulatory provisions on accessibility tend to be applied mainly when new buildings are being planned and any conformity assessment procedures appear to be

generally weak. Adapting facilities in historical buildings and environments has been frequently mentioned as making accessibility more challenging and a significant barrier to improved accessibility.

- Businesses are largely unaware or cautious of the market potential and the business case for investing in the accessible tourism market. There is some evidence that improvements to accessibility can increase sales, encourage repeat visits and bring higher average spend. Visitor surveys conducted by VisitEngland in 2013, for example, have shown the average length of an overnight stay is 2,9 nights, with an average spend of £184, but where a member of a group or party has a disability or impairment this becomes 3,3 nights and an average spend of £191. However, such studies are still sporadic, especially at local level, being limited to relatively few countries and locations, and there is no systematic data collection across the EU or agreed indicators that can be used to guide businesses and public sector actors.
- Case studies conducted in the framework of the 2015 study show that successful accessible destinations are emerging across the EU through development initiatives conducted by PPPs, often coupled with know-how provided by third sector associations including, for example, disability and consumer NGOs, chambers of tourism enterprises and stakeholder networks at regional, national and European level. However, despite an emerging awareness of accessibility, this market is still largely considered a niche market.
- From the evidence in the 15 accessible destination case studies it can be observed that a minority of tourism suppliers and some destinations are already seizing the opportunity of the accessibility tourism market by adjusting and differentiating their offers to the diverse needs of customers. Notably, there is a wide spectrum of demand, ranging from customers with relatively low-level access requirements to those with severe disabilities or health conditions that may require a higher level of customer service, as well as suitably adapted transport and infrastructure. It is clear that the marketing approach taken by a destination or business should be differentiated, so as to attract customers to the specific offers that are relevant to them.
- NTOs and destinations often develop their own Accessibility Information Schemes that are used as a dedicated information channel which can be combined with marketing tools and technologies such as mobile apps to create greater visibility for their offers. However, the accessible tourism market lacks visibility and coherence, partly since marketing takes place via many small, local channels, with few internationally oriented channels. Accessibility Information Schemes (AIS) are often run purely with an information focus by NGOs, rather than with a commercial focus by actual businesses and they therefore remain underused as a marketing tool. While more than half of providers that specialise in accessible services are affiliated with an AIS, only 26% of mainstream providers are affiliated with an accessible scheme, showing that there may be some hesitation to be seen as part of the "accessibility market". This, of course, reduces the visibility of accessible offers in the mainstream supply, which in turn may lead to lower uptake of these services.
- There is also a proliferation of AIS developed by individual disabled people, predominantly wheelchair users, who are frustrated by the market failure to provide information that is crucial for them. All of these use different criteria and often lack the necessary awareness by users, or the number of businesses to make them successful and have any market penetration.

- The final barrier for the tourism industry to improve its accessible offer relates to staff knowledge and information. There is confusion among industry players around what accessibility means, how it is defined, what needs to be done to comply with legislation and what can be done to tap into the market.

Notably, there is an important disconnection between the perceptions of industry and travellers. Indeed, the most frequent barriers encountered by tourists related to lack of information on accessible services and the lack of integration of accessible services across the supply chain at destination level. On the other hand, industry perceptions suggest that accommodation and information are the most accessible segments in the supply chain. From a visitor's perspective, when performance levels are measured in terms of customer satisfaction, the ratings that are given depend to a large extent on the characteristics of the tourists using the services and facilities, and the type and degree of access requirements that they have.

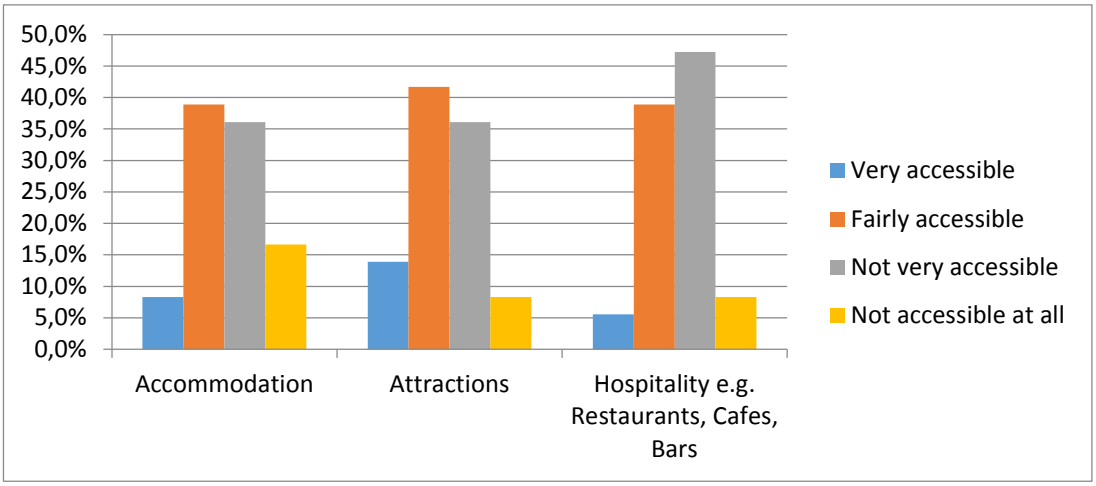
- Most users with specific access requirements are either "dissatisfied" (28-44% across all sectors) or "neutral" (42-46% across all sectors) and there is no service that scores particularly highly in terms of service satisfaction side. Only 10% of respondents are satisfied with tour operators and almost half (44%) are dissatisfied. Satisfaction was highest for attractions, museums and other cultural venues (31%).
- The most frequent barriers encountered by tourists related to the availability of information on accessible services (66%) and the lack of available services (50%) according to the study's survey aimed at tourists with accessibility requirements.
- Informational barriers relate not only to having access to information but also the reliability of information and being able to have information in various (alternative) accessible formats.
- Accessibility should not only be assessed at the level of individual providers but at a higher level of aggregation, such as the destination, which includes different stages of the supply chain. Accessible destinations, such as those in the case studies, can be best achieved by applying a "holistic" approach that puts the experience of the customer at the centre.

5.4.2 User needs, accessibility status and gaps from this study's surveys

The vast majority (89% of the respondents) expressed their wish to be able to travel more, both overseas but also in their own countries.

Regarding the accessibility status of the tourism sector in their countries, the users stated that there is still a lot to be done, regarding accommodation, attractions but also leisure facilities (i.e. restaurants, cafes, bars, etc.). Only 9% of the users characterised these elements of their countries as very accessible. 40% characterised them as fairly accessible, 40% not very accessible and the rest 11% as not accessible at all.

Figure 30: Accessibility status of tourism sectors in European countries.



Source: Author's own elaboration

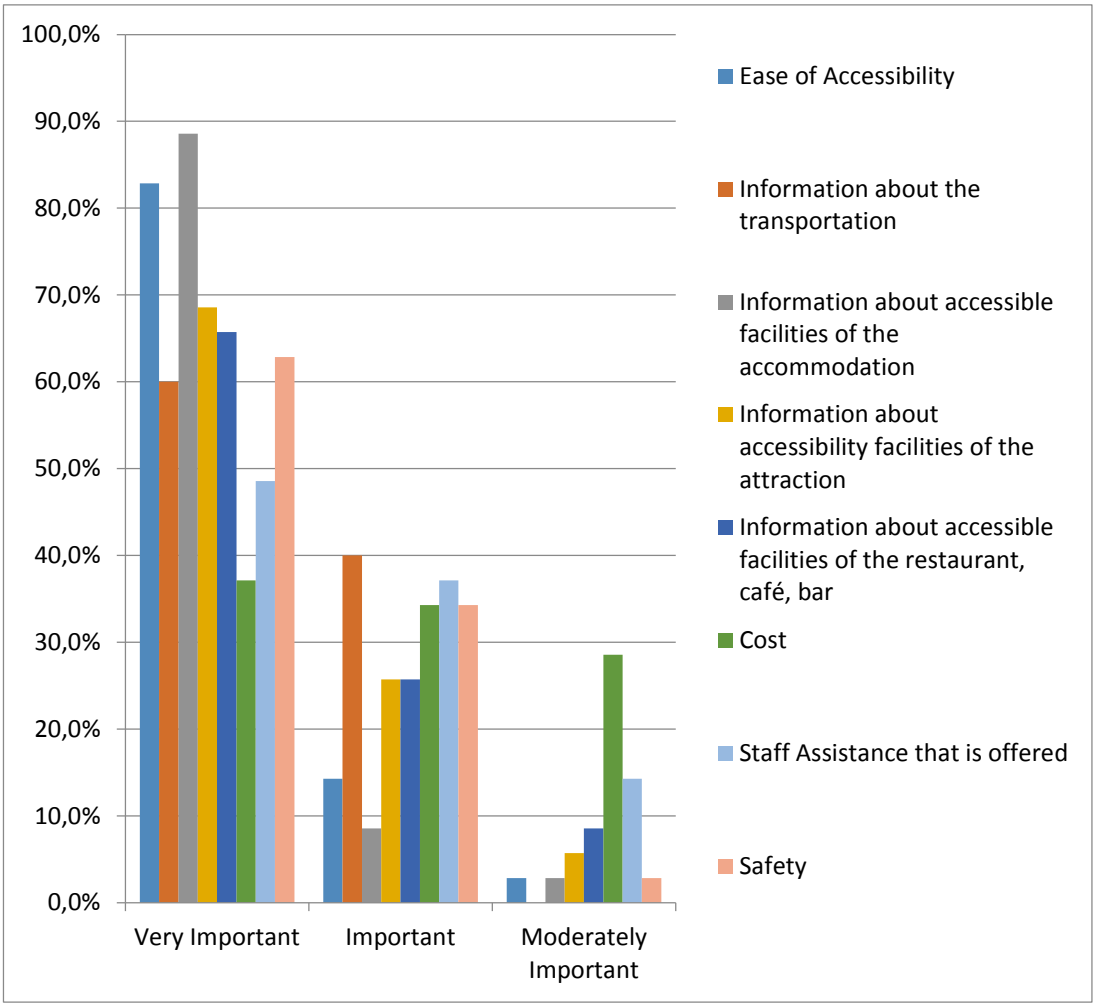
The main problems defined by the users, can be summarised as following:

- Accessibility problems in premises (i.e. toilets, access problems with no existence of ramps, better signage to accessible routes, etc.).
- Staff should be better trained concerning the rights of persons with reduced mobility and penalties should be imposed for discrimination.
- Accessibility investment should be increased across EU Member States.
- Binding and ambitious legislation on accessibility at European level with sanctions.
- Awareness raising of officials of the benefits of accessibility notably from a socio-economic point of view (including tourism).
- Need for clear communication concerning the real problems of persons with reduced mobility.
- Denial of entrance to guide dogs.

In relation to service or assistance dogs, many people who have an assistance dog are discriminated against, often in places serving food, because of a lack of understanding. Research by Guide Dogs showed that in the UK, 3 out of 4 Guide dogs were refused entry to businesses. The survey was conducted in January 2015 with a sample size of 1.100. The whole report or an executive summary can be viewed online [105].

According to users who participated in this survey, the ease of accessibility is the main factor that defines the final selection while booking holidays or short breaks, followed by the information provided for accessibility features and options (i.e. information about the transport, information about accessible facilities, etc.). The next most important thing to be considered is safety, then the assistance offered by the staff and of the several tourist businesses and lastly the cost.

Figure 31: Factors considered by persons with reduced mobility when booking a trip.



Source: Author's own elaboration

Although 60% of the users of this survey has declared that their countries have shown some improvement in overcoming accessibility obstacles in tourism, 45,7% of respondents stated that they could mention at least one negative incident regarding accessibility issues relevant to the provision of tourist services, tourist infrastructure, etc..

Moreover, a significant problem also referred to by all users (100%) is the insufficient training of the personnel in tourist infrastructures and services. Although relevant training takes place in some countries, it is definitely not holistic and provides minimum awareness.

From all the comments and conclusions that emerged from the surveys of this study, a basic one concerns one of the main needs of persons with reduced mobility (as also mentioned in the transport sector), which concerns their involvement in informing and advising the tourist sector on accessibility from the earliest planning stages.

5.4.3 User needs, accessibility status and gaps from workshops

According to the results and conclusions that were highlighted in this study's workshops concerning the tourism sector, it has been noted that efforts have been made towards improving accessible tourism in the EU through:

- ***New standards or standards under development***, such as the ISO Standard on Accessible Tourism for All (in progress).

- ***New initiatives, such as the "All for All"*** Accessible Tourism Development Programme in Portugal and the ENAT NTOs' learning group – sharing best practices in accessible tourism among national and regional tourist boards and cities.
- ***National studies on accessibility and tourism***, such as those published by The ONCE Foundation, Spain in September 2017 and by the Danish Tourist Board, in May 2017.

The recently published ONCE "Observatory" report [112] on the demand for accessible tourism and supply in Spain involved large samples of visitors with disabilities and tourism suppliers:

DEMAND
Tourists: 592 surveys were carried out with tourists (with or without disabilities) at national level, 194 surveys by disabled people living in the 57 selected destinations, 7 discussion groups with 39 tourists with disabilities and 8 interviews with experts.

PERCEPTION OF THE SUPPLY
Survey by 485 managers responsible for tourism companies and 24 managers of tourist destinations.

The ONCE report indicated that:

- People with disabilities travel almost as often as people without disabilities (8 trips on average);
- People with special access needs spend on average 28% more than those without disabilities (approx.. 176 Euro per trip);
- The overall satisfaction with their last trip, expressed by customers with disabilities, was 7.9 on a 10-point scale, comprising measures of "Appropriateness of customer care" (>8/10); In mobility, access, reserved parking spaces, bathrooms and adapted spaces, website, provision of assisted products (5-7/10); and Signage and information in alternative formats, (<5/10).
- Customer care from staff, with some sensitivity towards disability, is considered as one of the levers for the satisfaction of users, because in the absence of adequate accessibility conditions, it can overcome certain barriers and solve some problems.

However, according to the facts presented in the EC Report on Accessible Tourism Supply (2015) report, only 9% of European Tourism Suppliers provide "accessible" offers. Physical access and access to information are often less than adequate in transport, at tourist destinations, in accommodation and all kinds of venues and attractions, affecting negatively the quality of tourism destinations and products [102].

The ONCE survey and report also explores the Spanish accessible tourism supply in more depth. It involved a large samples of visitors and providers:

The report noted that:

- 45% of companies and suppliers ensure that in their establishments they have their own parking spaces reserved for people with reduced mobility.
- 83% state that they have access to the establishment without unevenness, and 71% ensure indoor mobility between plants.

- 67% have adapted toilets, and 72% of those providing accommodation have adapted en suite rooms.
- 14% claim to offer information in alternative formats and only 3% have induction loops available.
- 52% have accessible signage in their facilities, although 11% do not know if their signage is accessible.
- 53% say their website is accessible, but 18% do not know if it is accessible.
- 3 out of 10 claim to have employees with specific training in serving clients with special needs.
- 2 out of 10 say they have special support products for customers: especially wheelchairs.

The ONCE Report concludes:
"*Managers of companies and suppliers of tourist services have a significant ignorance of many aspects related to the accessibility of their establishments and services. Aspects such as accessible signage, existence of induction hearing loops, web accessibility, specific training related to needs of clients with disabilities or emergency plans adapted to clients with special needs, are unknown in a striking way by many of the companies that have participated in the study*".

The empirical evidence provided on the situation in Spain indicates that, even in a country where accessible tourism is widely recognised and relatively well developed, (compared with many other EU Member States), there is still far to go to achieve good levels of access and equitable conditions for people with disabilities.

From the survey results emanating from the study mentioned above, the overall accessibility of the destination (including mobility, vision, hearing and cognitive dimensions) is something that is far from being achieved and the main areas where problems have been identified can be summarised as follows:

- Accessibility of information, i.e. booking services (where accessible) are also differentiated among countries, resulting in confusion for users, while also websites to book hotels and/or travel packages should contain all information on the accessibility of hotels and transport;
- accessibility of public transport (low floor buses, accessible train platforms and trains);
- accessible sightseeing-destination experience;
- accessibility of dining and shopping outlets. Although countries are committed to promoting participation in cultural life, recreation, leisure and sport for people with disabilities, important steps still needs to be taken towards achieving this goal;
- accessibility of attractions;
- accessibility of pubs, bars and nightclubs (including the provision of accessible toilets);
- accessibility of accommodation respecting also the rights and dignity of persons with reduced mobility;
- availability of disability aids at the destination - i.e. hire car facilities, taxi services, carers, equipment and supplies;

- accessibility in rural areas, nature parks;
- accessibility in natural heritage sites and attractions;
- accessibility of beaches (such destinations are visited but are generally less attractive to persons with reduced mobility due to lack of suitable infrastructure including designated parking for disabled badge holders, toilets, accessible pathways and changing facilities); and
- conferences and events, where being able to provide and assure an environment and services for persons with disabilities can make the difference between securing a contract or not.

5.4.4 Clustering of user needs, accessibility status and gaps in tourism sector

5.4.4.1 Training

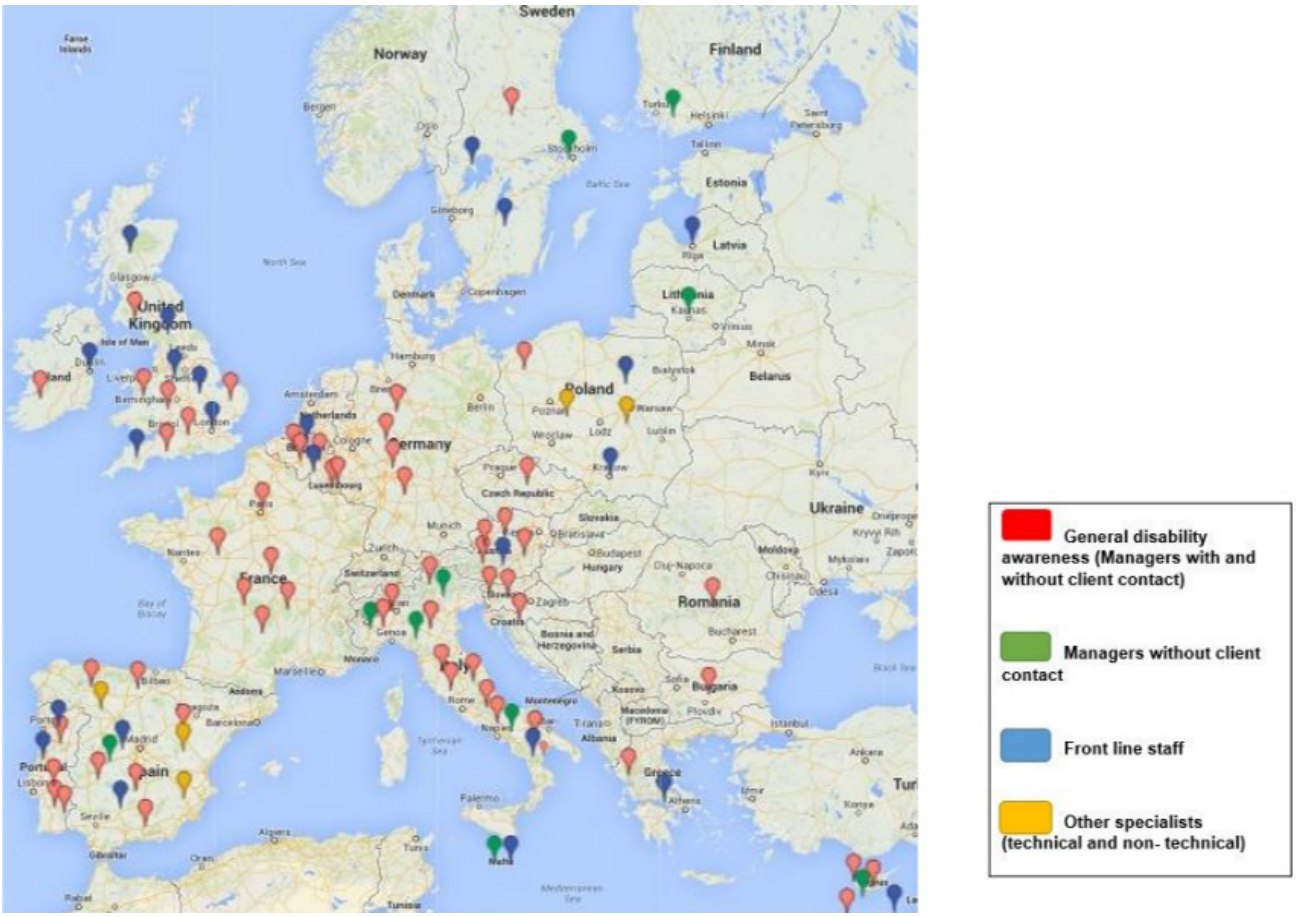
All studies and analysis of demand and supply point out the importance of an adequate training for tourist operators, in order to achieve improvements in the quality of the offered service, as well as respond to the needs and requests of customers with disabilities. "Quality of Tourism Services" includes the following:

- to acknowledge the customers' needs;
- to know how to meet these needs; and
- to be able to interact properly with the customers throughout the whole service chain.

The accessible tourism market is relatively unknown and, as the needs and requirements of persons with disabilities and persons with reduced mobility are usually vague and/or misunderstood, the market is avoided. For example, many businesses may not recognise that many persons with disabilities are likely to have more than one disability and these are likely to be hidden. Moreover, the investment costs area misunderstood or even exaggerated, equally, because of a lack of understanding of disability, not being sure what to say or do, some operators will fear getting it wrong and therefore do not engage in addressing accessibility. This results in the fact that accessibility is mainly considered to be a problem.

According to the present situation, training relevant to the accessibility of persons with reduced mobility is almost absent from the mainstream educational systems in the EU, while the existence of such training in vocational programmes is usually sporadical, discontinuous, scarcely coordinated and at a low level of transferability within EU Member States [106].

Figure 32: Training programmes across Europe.



Source: Annagrazia Laura (2014) [107]

Training on accessible tourism is essential for the improvement of services in the general tourism sector and needs to be a prerequisite in the vocational training of the relevant workforce, particularly as it is also included and demanded by many standards and regulations, such as the following:

- The UN Convention on the rights of People with Disabilities (Articles 8, 9 and 20).
- The UNWTO in Dakar Declaration 2005 - A/RES/492/XVI – ACCESSIBLE TOURISM FOR ALL, recalled in A/RES/578/XVIII of 2009 - III. PREPARATION OF STAFF.
- Regulation (EU) No 1107/2006 of the EU Parliament and the Council Article 11 Training.
- The UNWTO Recommendations on Accessible Tourism for All, Article 51 (c) and Section IV. STAFF TRAINING Article 65, a very detailed text.
- The Italian Manifesto for the Promotion of Accessible Tourism, Point 8.
- A World for Everyone: Declaration from the Destinations for All 2014 World Summit" Points 3, 13 and 20.

5.4.4.2 ICT

A recent report from UNWTO, developed by ENAT and Fundación ONCE has addressed the subject of information and ICTs in accessible tourism [106].

"Private companies and public sector stakeholders in tourism must deliver accurate, relevant and timely information to their customers, prior to, during and even after the

journey. Ensuring accessible information is without any doubt a key to communicating successfully with visitors in all of the stages of their journey.

In the 21st century, the Information Society has experienced a breakthrough in instant communication through digital media. With new, mobile technologies, destinations and providers can reach wider audiences and provide tourists with access to larger amounts of information and also personalised content. This information is more agile and allows customers to compare different offers and services, thus providing them with greater autonomy in their decision-making.

However, these new communication systems may exhibit features that reduce access to information for a large number of people, especially those with visual, hearing, mobility or cognitive impairments. Tourist information needs to be designed based on the principles of Universal Design in order to maximise its ease of use by as many people as possible and in varied environmental conditions and situations. This applies equally to print media, graphics and digital communication formats.

It follows that research and development in new Information and Communication Technologies (ICTs) may lead to significant enhancements in the accessibility of tourism for people with disabilities and should be considered as a strategic issue for European Union R&D programmes. One of the most potentially advantageous areas where research is needed is in Artificial Intelligence (AI) which may be utilised to "match" the specific requirements of visitors with disabilities to the provision of accessible services while on the move and in destinations, from the information and booking stage through to the delivery of accessible tourism experiences.

More relevant information on this subject is also in the relevant section on Transport (see Section 5.3.3).

5.4.4.3 Business and financial schemes

The direct gross value added of EU's Accessible Tourism in 2012 was about €150 billion. After taking the multiplier effect into account, the total gross value added contribution amounted to about €356 billion, while also the direct employment contribution of EU's Accessible Tourism in 2012 was about 4,2 million persons. After taking the multiplier effect into account, the total employment generated was about 8,7 million persons.

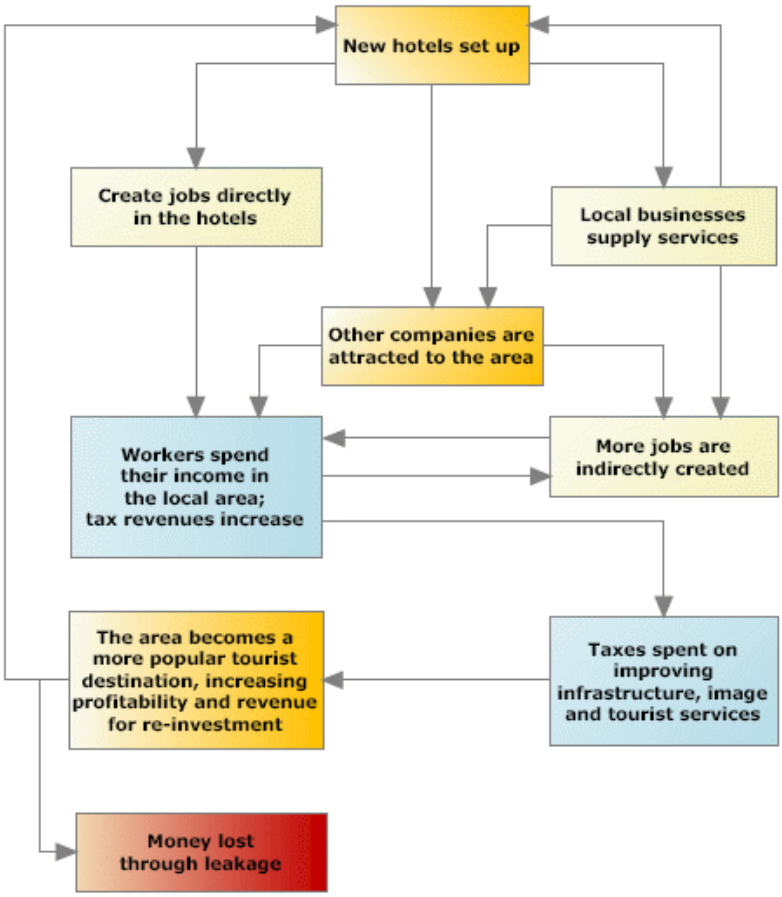
However, as mentioned above, the accessible tourism market is relatively unknown among businesses and, as the needs and requirements of persons with reduced mobility and persons with disabilities are often unknown or misunderstood, the market is avoided. Moreover, the investment costs are misunderstood or even exaggerated, resulting in accessibility being considered to be a problem rather than a "golden opportunity".

By 2020, on some estimates, 25% of travel and leisure spending will come from people who have some form of disability or access requirement. There is also a multiplier effect: people who are elderly or who have a disability take, on average around 2 other people along when they are travelling [108]. Taking into consideration the facts and numbers presented above, the UNWTO has declared that accessibility for all touristic facilities, products, and services should be a central part of any responsible and sustainable touristic policy.

In relation to the process that has already begun towards a fully accessible tourism sector, the economic multiplier effect should be considered to a greater extent within the tourism

sector. A simple definition and explanation of the multiplier effect is how many times money spent by a tourist circulates through a country's economy. For example, money spent in a hotel helps to create jobs directly in the same hotel, but it also creates jobs indirectly as that hotel, for example, has to buy food from local farmers, who spend some of this money on clothes or machinery. Moreover, the demand for local products increases as tourists usually buy souvenirs that increases secondary employment. The multiplier effect continues until the money eventually leaves the home country's economy through imports from other countries [109].

Figure 33: The Tourist Multiplier Effect.



Source: Barcelona Field Studies Centre [109]

A study of tourism 'leakage' in Thailand estimated that "70% of all money spent by tourists ended up leaving Thailand (via foreign-owned tour operators, airlines, hotels, imported drinks and food, etc.). Estimates for other developing countries range from 80% in the Caribbean to 40% in India" [109]. If accessible tourism is to gain a foothold in developing countries (and regions of EU Member States) where "all-inclusive" packages are the norm, there will need to be a clear identification of the wider economic benefits to communities that invest in accessibility. The demonstration of a multiplier effect goes to the core of the ethos of accessibility, insofar as environments and services that are designed to be accessible for tourist visitors will almost inevitably give improved access for local communities and citizens, as long as access is shared and not exclusive to tourists alone.

The development of accessible tourism offers has also been shown to reduce seasonality, as people with disabilities frequently prefer to travel off-season, in order to avoid overcrowded transport hubs and touristic places, as well as higher prices. For example, in Spain, the

Spanish Confederation of People with Physical and Organic Disability (COCEMFE) organises travel for people with disabilities between June and December.

The role of a **local 'Access Officer'** should also be recognised in helping to bring about change, as reflected in Chester, 2017 winner of EU Access City Award. Cheshire West and Chester Council still employs an access officer in the guise of Graham Garnett despite the climate of austerity. He tells how 'disability tsars' are beating a path to Chester from across Europe to learn how they do things[17].

Pieter Ghijsels, Accessibility Officer at **VisitFlanders**, has recently published an article, "Why accessible holiday accommodations do good business". Here may found some key figures related to the Return on Investment (RoI) in accessibility by Flemish accommodation providers, this is highly useful commercial data, which has hitherto been hard to find.

He writes:
"Accessible tourism is good business", say Flemish managers of holiday accommodations in this survey. "Grants are helpful, but not essential. Promotion is mostly directed to a mainstream audience, resulting in a mixed public of guests, able-bodied and disabled alike. The efforts that staff makes are highly appreciated by the guests. The survey confirms that accessible rooms are more booked throughout the year. In short: yes, this is a good investment".

All 268 holiday accommodations with an A or A+ accessibility label at the time received a questionnaire. One third (93) sent in a completed form. When asked what made them choose for an accessibility label, some respondents cite business reasons (good for our reputation, commercially interesting) although the majority refers to social responsibility arguments or personal experience (i.e. family members, friends or acquaintances with accessibility needs). Especially those with the highest level of accessibility (A+ label) had a personal motivation. For 15% the choice was made by somebody else, like a decision by the hotel chain or a predecessor.

Support: VisitFlanders actively invests in accessible tourism. Among the participants, 69% has obtained a grant. Still, most don't consider this financial support decisive for their actions: only 15% say that, without the grants, they wouldn't have invested in accessibility. In fact, about half of the respondents have done some adaptations that were not applicable for grants. These efforts range from relatively small things, like the purchase of a shower chair, up to "everything". Also, 60% considers or foresees extra investments in accessibility in the near future, in infrastructure or in training.

Publicity: The respondents are nearly unanimous in their appreciation of the dedicated brochures that bring their effort to a dedicated audience every year. Most also advertise their accessible facilities themselves. The label shield, an accessibility statement, photographs and posts on social media are often used. However, only 15% makes extra efforts to reach out to specific audiences, like elder customers or disability organisations.

Motivation: 77% agrees that accessible accommodation is important. Mostly because "everybody deserves a holiday", "the supply is still short" or "because this is an interesting market". On the customers' side, the efforts are highly appreciated. More than 80% of the owners remember specific compliments from their guests for the accessible service. But the

[17] Cheshire West and Chester Council. Available at: http://www.chesterchronicle.co.uk/all-about/cheshire-west-and-chester-council

question if the label really brings more disabled guests still needs a clearer answer. 20% is sure of this positive effect, but consequently 33 and 24% responds with "maybe" or "probably". The remaining 23% can't see a positive relation between label and occupancy. Still, when asked in which period in the year the accessible room(s) are booked, 69% notes bookings throughout the year and 8% sees a peak during the low season. This means that 77% endorses the statement that accessible facilities have more out-of-season bookings.

Management: Many tourists with disabilities find that accessible facilities are often not available, because they have been rented to able-bodied people. On the other hand, some proprietors and managers fear that their accessible room(s) may not be attractive to a mainstream audience. So, what do they usually do when the accessible facilities are available? 54% says that all rooms are rented in the same way: whoever comes first, has it. Still, 32% will keep these rooms as long as possible available for clients with accessibility needs. 5% will recommend the accommodation to specific clients (elderly people, young families with children) and 9% has an automatic booking system.

And then, the big question: does it all pay off? Indeed, 42% consider accessibility provisions an excellent or good investment. 48% respond neutrally, 10% find it a bad investment. But, as one respondent notes: "We don't do this to make profit, but rather as a matter of social responsibility."

Regarding the availability of EU funds to support the development of accessible tourism, there is no specific programme or action line at present that is solely dedicated to this subject. However, ***within the European Union's Multiannual Financial Framework*** (MFF) 2014 – 2020, and the next MFF, a ***wide variety of programmes and funds may be used to support the further development of accessible tourism supply***. Relevant MFF programmes and actions include, for example:

- Consumer programme: Consumer information and education; consumer rights and effective redress.
- Competitiveness of Enterprises and SMEs (COSME): competitiveness, growth and sustainability of EU's enterprises, in particular SMEs, and promoting entrepreneurship and jobs.
- ERASMUS +: boosting skills and employability by providing funding for the professional development of education and training staff, as well as youth workers and for cooperation between universities, colleges, schools, enterprises, and NGOs.
- HORIZON 2020: science and technology - funding the entire value creation chain from fundamental research through to market innovation, with support for SMEs.
- Rights, Equality and Citizenship: promoting the rights of inter alia people with disabilities.
- Economic, Social and Territorial Cohesion: Themes under the European Regional Development Fund [110].

5.4.4.4 Awareness creation and social media

Lack of awareness (and misunderstanding) of the importance of accessibility in tourism has long been a factor affecting the slowing take-up of new policies and practices. In the UK, a recent Government initiative was launched in which 11 "Disability Champions" were appointed for various business sectors.

The role of these volunteers from industry backgrounds is to pass on and amplify the messages of disabled consumers and help demonstrate the business case for accessibility. The eleven sector champions were appointed "to help make different areas of business more accountable to the disabled". They cover business sectors including banking, tourism, retail and public transport.

The initiative is being launched by the UK Government's Department for Work and Pensions. "*There are currently more than 11 million disabled people in the UK and the spending power of their households ("the purple pound") is almost £250bn*", a government spokesperson said. "*But many businesses are missing out on this potential customer base by having everyday products and services which aren't available to disabled people - who, as a result, are regularly excluded from experiences and opportunities that many others take for granted*" [111].

The use of social media, which are getting a prevalent role in the Touristic industry remain currently low, due to their own interface limitations and inaccessibility.

5.5 Multi-Criteria Analysis for Recognised Gaps & Needs

In order to assess in a qualitative manner the gaps and needs that were recognised during the user needs phase, a multi-criteria approach was applied on the primary findings that would allow a prioritisation of both the criteria/effects related to accessibility in tourism and transport as well as the needs and gaps that were identified in each domain in relation to them.

15 experts participated in the ranking that are being described below, coming from CERTH/HIT, EDF and ENAT. The aggregated results have taken into account the feedback by all of them. The methodology for the MAMCA analysis is presented in ANNEX 8.

5.5.1 This study's Multi-Criteria Analysis

This section presents the set-up and the results of the Multi-Criteria Analysis performed in the context of this study. It has been performed for the gaps and needs concerning accessibility in the sectors of transport and tourism, as recognised in the user needs phase. In contrast to cost-benefit analysis (CBA), based on neoparetian welfare economics, Multi-Criteria Analysis (MCA) has its roots in a different discipline, namely operations research. MCA does not necessarily rely on welfare economics concepts but compares a number of actions or alternatives in terms of specific criteria. These criteria represent an operationalisation of the objectives and sub-objectives of decision makers. This seems especially useful in the context of this study, where multiple, often conflicting, evaluation criteria can be identified.

5.5.1.1 Evaluation Criteria, Deployment Scenarios (Alternatives) & Hierarchical Decision Tree

The first thing to be defined for the socio-economic assessment is the hierarchical decision tree as well as the linkages between the several levels of the hierarchy. The first step for this is to identify the interacting items, which in our case is the accessibility gaps/needs in two different domains (as alternatives), and the criteria/impacts (objectives), upon which each of those gaps/needs has been rated by the decision makers. As such, the focus in this case is the **assessment and prioritisation (in qualitative terms) of the accessibility gaps and needs in transport and tourism taking into account the anticipated and related (as relation will be revealed in each case) socio-economic impacts.**

The accessibility gaps and needs, which serve as the "alternatives" and thus the basis of our analysis are the following (based upon the previous chapter's user needs analysis):

Transport

- Lack of anytime assistance;
- Lack of accessibility information (or non-reliable/accurate one);
- Lack of physical accessibility;
- Behavioural problems/not well trained personnel;
- Economic barriers (for accessible service);
- Denied boarding (especially for groups);
- Lack of cross-impairment approach; and
- Lack of integration across the supply chain (with emphasis on mode interchanges).

Tourism

- Lack of accessibility information;
- Lack of physical accessibility;
- Behavioural problems/not well trained personnel;
- Economic barriers (for accessible service);
- Inaccessible recreation activities;
- Lack of cross-impairment approach; and
- Lack of integration across the supply chain (with emphasis on transport to/from the touristic location).

The **Criteria**, against which, the above have been rated are as follows:

1. Total inclusion (of all persons with reduced mobility and persons with disabilities groups).
2. Independent mobility.
3. Economic viability.
4. Transferability across the EU Member States.
5. Technical feasibility.
6. Political and legislative initiative.

On the basis of the above definition of the evaluation criteria and the alternatives (gaps/needs), the hierarchical decision tree, which constitutes the basis of the Multi-Criteria Analysis, is easy to be constructed.

The upper level of the hierarchical decision tree is the focus of the analysis, namely the assessment of the accessibility needs/gaps in transport and tourism. The main clusters of the impacts discerned, are namely the user related and the strategic ones. The third level of the hierarchy consists of the impacts belonging in each cluster. The last level of the hierarchy consists of the alternatives of the analysis – the accessibility gaps/needs in the

transport and tourism sectors - which are linked to all criteria. Those are correlated with all evaluation criteria.

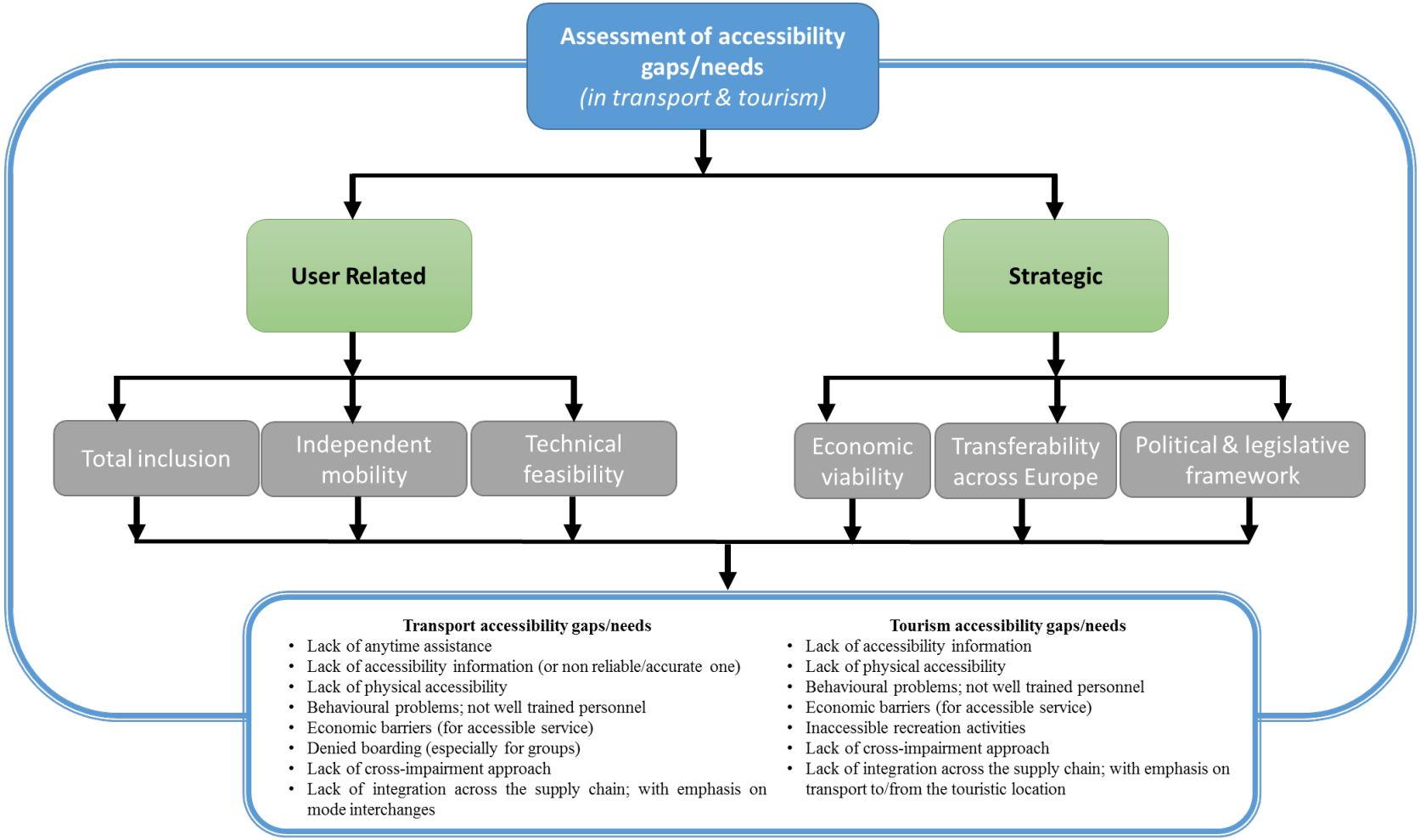
There is a series of stakeholders that are considered actors of the overall accessibility logistics chain in the transport and tourism domains and interact with each other. The following table depicts the indicative importance each identified criterion has for each of them.

Table 9: Definition of impacts/criteria for different target groups of users (++ very important; + important; 0 neutral/uncertain; - not important; -- not important at all; empty cells signify non-relevant impacts).

Target group	Impact					
	Total inclusion	Independent mobility	Economic viability	Transferability across Europe	Technical feasibility	Political and legislative initiative
DPO	++	++	0	++	+	++
Local transport service operators	+	+	++	0	++	+
Long-distance transport service operators	+	+	++	+	++	++
Touristic services operators	+	+	++	+	++	+
Municipality and local authorities	++	+	+	0	++	++
National authorities	++	+	+	+	++	++

Source: Author's own elaboration

Figure 34: Hierarchical decision tree for accessibility gaps/needs evaluation.



Source: Author's own elaboration based on MAMCA Methodology [9]

Looking at the above evaluation criteria, which actually reflect the expected impacts/criteria as identified by the decision makers, it is obvious that most of them are self-explanatory, whereas in some cases could be also conflicting.

Definitely, the most considerable criteria to have in mind are those related to the core of accessibility and are user related, namely the **total inclusion (for all persons with reduced mobility and persons with disabilities)**, the **independent mobility** and the **technical feasibility**. Still, the most pragmatic aspects, like the **economic viability** and the **transferability potential** (especially when considering approaches and schemes that need to be standardised which is quite often in both transport and tourism) are not less important. The **political and legislative framework**, finally, is the crucial factor that may accredit and establish or hinder the adoption of practices and schemes, functioning both as a cause and as an effect.

5.5.2 Multi-Criteria Analysis Results & Discussion

5.5.2.1 Methodology followed

The methodology followed is the one described also in ANNEX 8, with the necessary adaptations in order to serve the scope of the specific analysis.

The analysis started with the pairwise comparison of the aforementioned evaluation criteria. This comparison was performed through a relevant table in a spreadsheet with dropdown lists, especially constructed for this reason, which is shown below, and according to the guidelines of Table 3 and Table 4 of ANNEX 8.

Pairwise comparison is a specific technique that is required as a step of the methodology applied that compares each alternative (of any type) against each other, in order to lead – finally and after the required processing - to the specific relative weight of each alternative versus the other ones.

In order to do so, cross-comparison tables, like the one of Figure 35 for the *criteria* pairwise comparison are formulated in order to be completed by the experts.

For example, for the *criteria* pairwise comparison and using a relative rating scale from 1 to 9 (or the reciprocals of that), each criterion of the vertical axis of Fig. 34 is evaluated against each other criterion of the horizontal axis. The list of criteria in both axes are the same and listed in the same order in order to allow that exercise. More specifically, "1 - Total Inclusion" of the vertical axis has been rated against "2 – Independent Mobility", "3 – Economic Viability", etc.. In turn, "2 – Independent Mobility" has been rated against "3 - Economic Viability", "4 – Transferability across Europe", etc.. At the end and through this process, all possible pairs of criteria have been rated in a relative scale (this is the so-called "pairwise comparison"). The processing of this feedback – as explained in the methodology provided in ANNEX 8 – leads to the relevant weight and ranking of the criteria.

Figure 35: Template for pairwise comparisons of evaluation criteria.

Criteria	1-Total inclusion	2-Independent mobility	3-Economic viability	4-Tranferability across Europe	5-Technical feasibility	6-Political and legislative initiative
1-Total inclusion						
2-Independent mobility						
3-Economic viability						
4-Tranferability across Europe						
5-Technical feasibility						
6-Political and legislative initiative						

E.g.
"**Total inclusion**" is **x** times more important than "**Independent mobility**" (3,5,7,9) or less important (1/3, 1/5, 1/7, 1/9)

Please give the relative importance of the elements in the left column vs. to the elements in the top row.
Use folowing ratio's:

1 Both elements have equal importance
3 Moderate more importance
5 Strong preference
7 Very strong preference
9 Absolute preference
2,4,6,8 Intermediary values
Reciprocals (**1/2, 1/3, 1/4, ... 1/9**)

Source: Author's own elaboration based on MAMCA methodology [9]

The pairwise comparisons that were performed by the experts/decision makers led to the corresponding number of completed templates. The corresponding values were averaged, leading to one template at the end, which was normalised, leading to the final ranking of the evaluation criteria. Thus, this figure depicts the ranking or, in other words, the importance of each criterion in relation to the other. It should be stressed, that the decision makers were asked to rank the objective importance of each criterion, avoiding to take the side of any of the aforementioned stakeholders.

After the realisation of the pairwise comparisons of the evaluation criteria, the same experts were asked to identify what would be the significance of each alternative – meaning each recognised need/gap in transport and tourism in relation to accessibility. As such, after the explanation of those alternatives to the decision makers and, pairwise comparisons, similar to the above, were held, but in this case, among the gaps/needs in each domain against each evaluation criterion. For example, the example question posed was *"What and how much more important/less important is (meaning what is affecting the most/the least) in terms of economic viability? Lack of anytime assistance or lack of accessibility information?"*

Figure 36: Example templates used for pairwise comparisons of alternatives per evaluation criterion (example for economic viability).

Criterion: Economic viability

Transport Accessibility Gaps/Needs	Lack of anytime assistance	Lack of accessibility information (or non reliable/accurate one)	Lack of physical accessibility	Behavioural pbolem; not well trained personnel	Economic barriers (for accessible service)	Denied boarding (especially in groups)	Lack of cross-impairment approach	Lack of integration across the sypply chain; with emphasis on mode interchanges
Lack of anytime assistance								
Lack of accessibility information (or non reliable/accurate one)								
Lack of physical accessibility								
Behavioural pbolem; not well trained personnel								
Economic barriers (for accessible service)								
Denied boarding (especially in groups)								
Lack of cross-impairment approach								
Lack of integration across the sypply chain; with emphasis on mode interchanges								

E.g.
"**Lack of anytime assistance**" is **x** times more important than "**Lack of accessibility information**" (3,5,7,9) or less important (1/3, 1/5, 1/7, 1/9) **for the specific criterion**

Tourism Accessibility Gaps/Needs	Lack of accessibility information	Lack of physical accessibility	Behavioural problem; not well traned personnel	Economic barrier (for accessible service)	Inaccessible recreation activities	Lack of cross-impairment approach	Lack of integration across the supply chain; with emphasis on transport
Lack of accessibility information							
Lack of physical accessibility							
Behavioural problem; not well traned personnel							
Economic barrier (for accessible service)							
Inaccessible recreation activities							
Lack of cross-impairment approach							
Lack of integration across the supply chain; with emphasis on transport to/from the touristic location							

Source: Author's own elaboration based on MAMCA methodology [9]

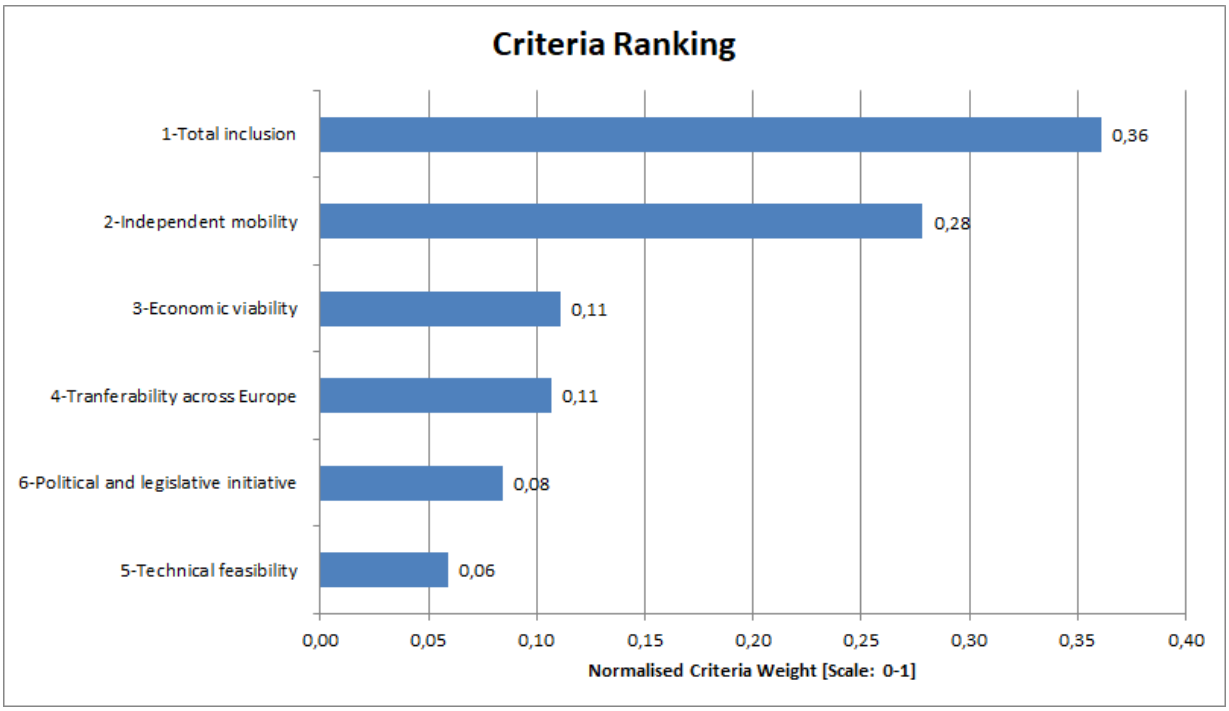
Once again, the pairwise comparisons by the experts were averaged leading to aggregated templates (one for each sector and each criterion – 12 in total) that were normalised and led to the combinational Figure 35 and

However, those combinational figures are not enough, since they do not incorporate the individual weights of each criterion that resulted from the first pairwise comparisons. Thus, according to the method explained in ANNEX 8, the overall ranking of the gaps/needs in each domain, taking into account the specific weights given to each criterion (reflecting their objective importance) was estimated and are provided in Figure 36, Figure 37 and Figure 38.

5.5.2.2 Results & Discussion

The ranking of the importance of the evaluation criteria (or expected impacts) is shown in the following figure.

Figure 37: Ranking of evaluation criteria (expected impacts).



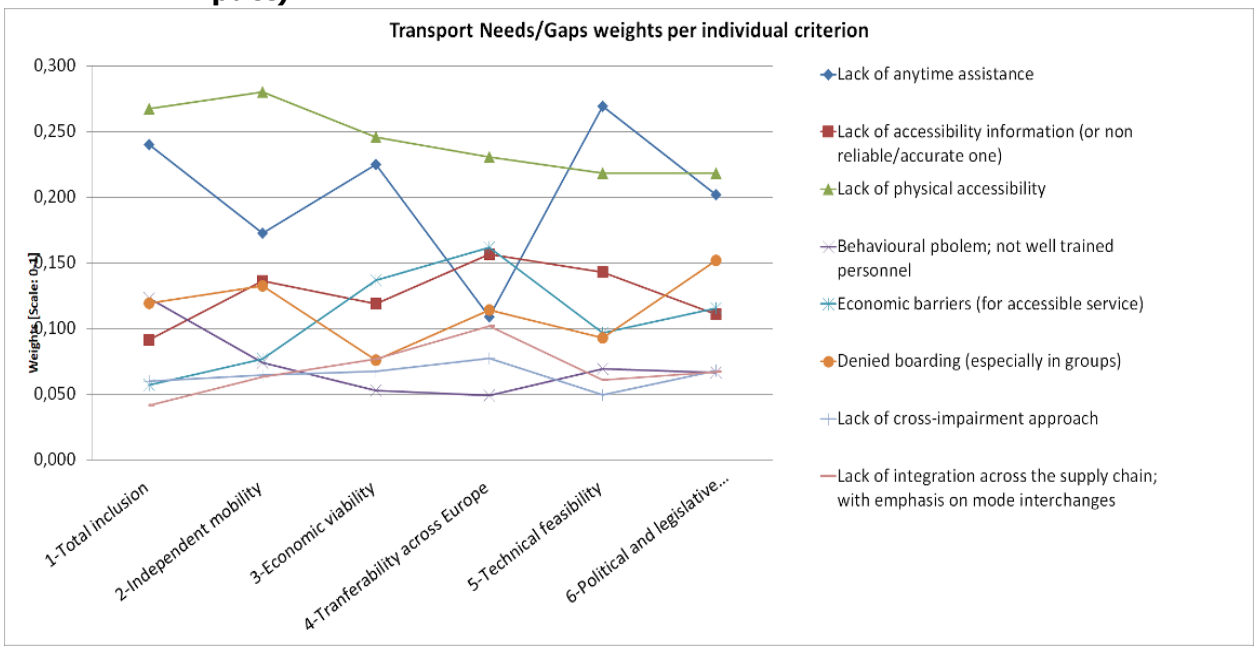
Source: Author's own elaboration

As it is obvious from the above figure, "total inclusion" (for all persons with reduced mobility and persons with disabilities) ranks first among the other criteria, which is absolutely expected, since one of the main research questions posed is how total inclusion is affected in general. Close to that, "independent mobility" follows, which seems again very natural. All the other criteria following are close to each other, revealing that the key demand is primarily about inclusion in all aspects, before anything else.

According to the decision makers participating, it seems that technical feasibility should not be a question (it is true that most barriers can be technically addressed nowadays). Still, transferability, allowing cross-border consistency in both domains, is considered as quite important.

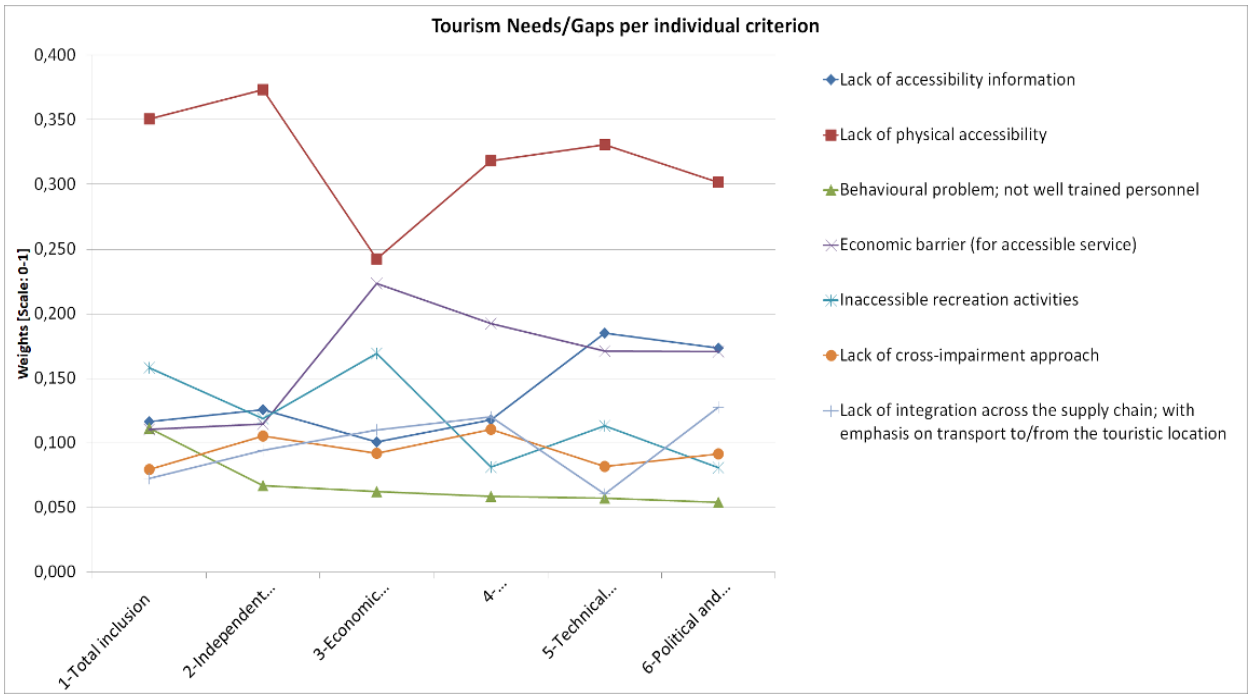
The ranking of the accessibility gaps/needs recognised in transport and tourism per criterion and overall is following in the figures below.

Figure 38: Transport accessibility gaps/needs per evaluation criterion (expected impact).



Source: Author's own elaboration based on MAMCA methodology [9]

Figure 39: Tourism accessibility gaps/needs per evaluation criterion (expected impact).



Source: Author's own elaboration based on MAMCA methodology [9]

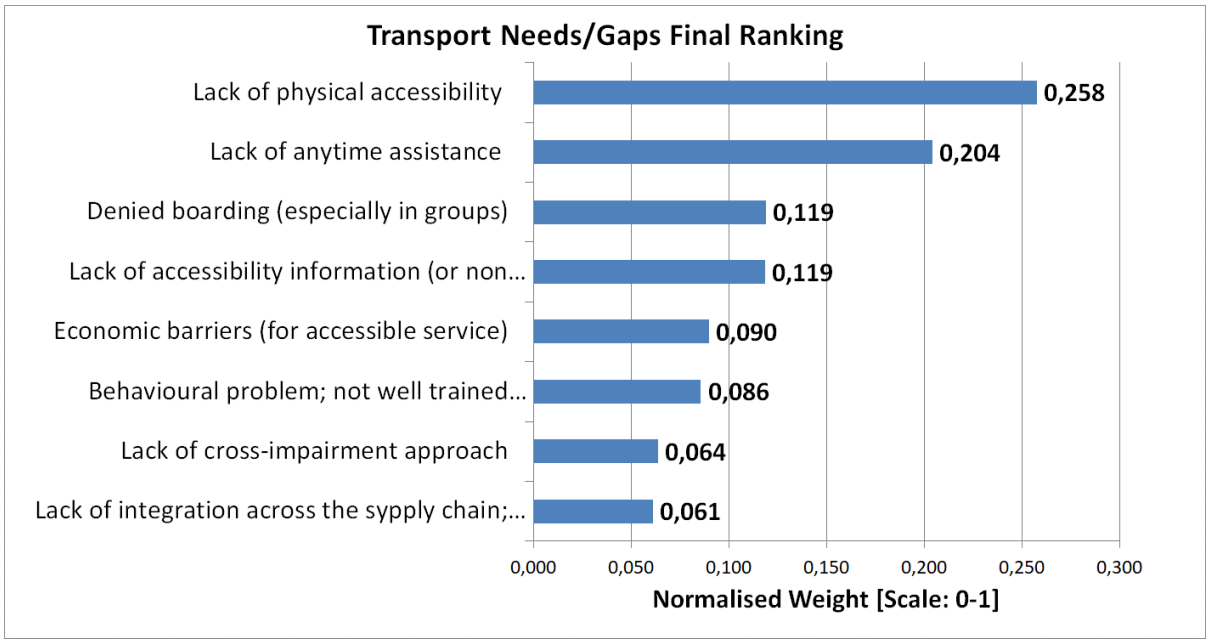
The above figures demonstrates the level up to which each of the recognised accessibility gaps is expected to influence each of the criteria/impacts/indicators. It is evident that in both cases, **lack of physical accessibility** is the primary gap influencing all aspects in both domains. On the contrary, **lack of cross-impairment approach** is rated lower. This is somehow contradictory to the "total inclusion" priority ranking. **Lack of anytime assistance** for transport and the **economic barriers** for tourism have got a high weight in most aspects correspondingly.

Finally, the following figures have emerged, which provide the overall ranking of the accessibility gaps/needs in the transport and tourism, having incorporated, the individual weight of each criterion (Figure 34) and the ranking of the gaps upon them (Figure 35 and Figure 36). As it was also revealed in the previous figures, **lack of physical accessibility** ranks first in both cases, meaning that this is the most important current barrier in all aspects, whereas **lack of anytime assistance** in transport and the **economic barriers** in tourism follow right after.

Lack of cross-impairment approach and **lack of integration across the supply chain** have ranked lower, perhaps due to the fact that they are issues that would follow; once the single mode and group accessibility issues were solved.

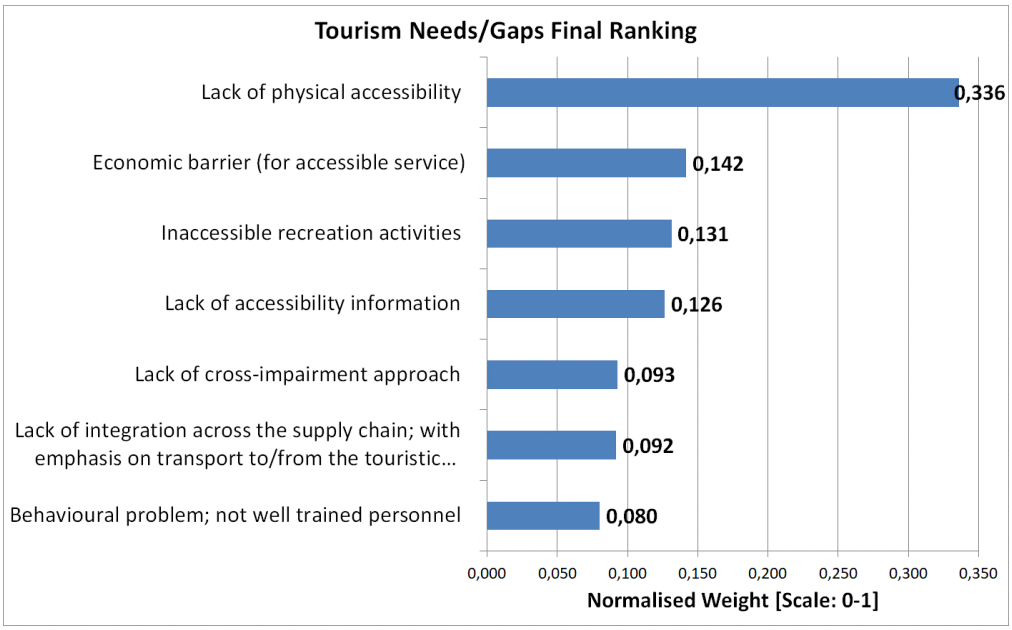
Nevertheless, it is remarkable that in both domains, the significance of the recognised gaps/needs is quite similar, which is rather due to the fact that the most important of them (i.e. lack of physical accessibility) are core to quality of life and functional everyday life in general and are rather seen as an absolute prerequisite overall. Indeed, they consequently affect all individual domains of life, such as mobility, tourism, etc. The fact that those crucial aspects are still unsolved in many cases, may partially explain the fact that all the rest needs/gaps are quite lower ranked, as they have physical accessibility as their prerequisite.

Figure 40: Transport needs/gaps overall ranking.



Source: Author's own elaboration

Figure 41: Tourism needs/gaps overall ranking.



Source: Author's own elaboration

The above gaps ranking was taken into account when prioritising and selecting the chapter 6 recommendations. Thus the recommendations are clustered according to those priorities in the table below.

Table 10: Correlation between ranking and emerging recommendations regarding transport.

Transport needs/gaps	Ranking	Relevant EU recommendation	Relevant research priority
Lack of physical accessibility	0,258	LO-E2, LO-E4, LD-E4	LO-R1, LO-R2, LO-R3
Lack of anytime assistance	0,204	LD-E2, LD-E5	
Denied boarding	0,119	LD-E1	
Lack of accessibility information	0,119	LO-E1	LD-R1, LD-R3
Economic barriers	0,09		LD-R2, LO-R4
Behavioural problems; lack of training	0,086	LO-E3, LD-E3	
Lack of cross impairment approach	0,064		
Lack of integration across the supply chain	0,061		

Source: Author's own elaboration

Table 11: Correlation between ranking and emerging recommendations regarding tourism.

Transport needs/gaps	Ranking	Relevant EU recommendation	Relevant research priority
Lack of physical accessibility	0,336	TO-E3	
Economic barriers (for accessible service)	0,142	TO-E2	TO-R1, TO-R2, TO-R3,
Inaccessible recreation activities	0,131	TO-E3	
Lack of accessibility information	0,126	TO-E1, TO-E4	
Lack of cross impairment approach	0,093		
Lack of integration across the supply chain	0,092		
Behavioural problems; lack of training	0,080		

Source: Author's own elaboration

5.6 Strengths, Weaknesses, Opportunities, Threats (SWOT) Analysis

Using the above data, the following SWOT analyses are performed for each area/sector.

5.6.1 Local Transport

Figure 42: SWOT analysis for local transport.

SWOT ANALYSIS for Local Transport

Strengths

- Good accessibility level in several major cities across Europe.
- Strong links between local DPOs with Municipalities in many cities/ regions across Europe.

Weaknesses

- ❑ Lack of European regulations and even national regulations in several states; mainly region dependent.
- ❑ Lack of integrated approach for seamless service provision between long-distance transport hubs (i.e. airports and their train stations) and local PT means connecting them to the city.
- ❑ Weak accessibility in most rural and suburban areas.

Opportunities

- ✓ The emerging concept of smart cities can boost accessibility, if this become an integrated attribute within the smart city definition.
- ✓ Emerging Sustainable Mobility Plans (SUMPs) of cities across Europe can also boost accessibility, if it is included as a key attribute in SUMPs definition.
- ✓ PT automation may enhance accessibility, if properly designed and implemented (i.e. using automately operated ramps and extending boarding time upon PRM recognition - through digital and standardised means).
- ✓ Mobility as a Service (MaaS) may enhance first/ last mile accessibility if enough properly adapted accessibility MaaS vehicles are included.

Threats

- ➢ Economic crisis in some states/regions delays the necessary investments to abolish physical barriers and also maintain accessibility attributes.
- ➢ PT automation may enhance accessibility barriers, if not properly designed and implemented.
- ➢ MaaS expansion may further reduce PRM accessibility if most/ all sharing/ pooling cars are not adapted to be used by PRM.

Source: Author's own elaboration

5.6.2 Long-distance Transport

Figure 43: SWOT analysis for long-distance transport.

SWOT ANALYSIS for Long-distance Transport

Strengths
- Good coverage under existing Directives (for Air, Rail, Bus and Coaches).
- Training of drivers/operators included in 2 of them.
- Good supportive documents and schemes for awareness creation in several countries and operators.
- Existence of NEBs.
- Existence of over 30 publically available digital tools for long-range transport accessibility info provision across Europe.

Weaknesses
- ❑ Training of drivers/operators not included in all relevant Directives.
- ❑ Possibility of Member states being exempted from bus and coach training obligations.
- ❑ Lack of Directive and regulations for multimodal terminals.
- ❑ Training not standardized/certified across countries and operators.
- ❑ Non-standardized performance of NEBs and complaints to them limited to single transport operators; which typically do not reach NEBs.
- ❑ Non standardized rail infrastructure within Europe leads to gaps and height differences at stations.
- ❑ Lack of a single registry and interoperability between the different digital tools offering long-distance transport access across Europe.
- ❑ Air carriers misuse sometimes the clause of boarding denial for "safety reasons".
- ❑ The lists of declared as accessible stations of bus and coaches terminals by the states seem to be either very limited or non-reliable for several states.
- ❑ Digital tools with accessibility info on long-distance transport lack in many cases properly accessible UIs and interoperability to AT devices.
- ❑ Mixed responsibilities on accessibility issues (and beyond) in multimodal terminals; that co-host different modes (related to commissioning but also management, assistance provision and maintenance).
- ❑ Lack of proper compensation sums for AT aids loss or damage.

Opportunities
- ✓ Revision of Directives (i.e. Directive 95/16/EC, Regulation 1371/2007 & Regulation 181/2011).
- ✓ Ending of exemption period for operators training for buses and coach Directive in 2018.
- ✓ Emerging EAA legislation.

Threats
- ➢ Economic crisis in some states/regions delays the necessary investments to abolish physical barriers and also maintain accessibility attributes.

Source: Author's own elaboration

5.6.3 Tourism

Figure 44: SWOT analysis for tourism.

SWOT ANALYSIS for Tourism

Strengths

- Europe is a major Global Destination with World Class attractions
- A number of member states actively support accessible tourism development across the value chain
- A number of NTOs and Regional Tourism Organisations provide or support relevant tools and resources for businesses to be more accessible
- Where accessibility is factored into tourism development it contributes to improving the experience for all visitors
- Where accessibility is being addressed at a local destination level, local communities will be enjoying the benefits this brings
- ENAT is uniquely placed as the only Global Accessible Tourism Network with strong institutional ties, a good understanding and extensive knowledge of good practices in accessible tourism, and is well placed to support future development in Europe.

Weaknesses

- ❑ Accessible Tourism is too often seen as a niche or specialist market, which it is not: (accessibility impacts on everybody at some time in their life).
- ❑ Accessibility across Europe and in Member States, even those supporting accessible tourism is patchy, which makes it difficult to reach the market.
- ❑ Europe has no clearly stated aims or time-frame to achieve universal accessibility in tourism, which would raise the awareness of Member States' Governments and/or their NTOs.
- ❑ There is no strategy at European level to create a framework to encourage and support member states to address this area of tourism development. This synergy is vital as tourists do not see administrative boundaries, just places they want to visit within Europe.
- ❑ Many of the tools and resources that are needed to help destinations and businesses be more accessible are not available in all member states in their own languages.
- ❑ Lack of clarity and consistency across the EU MS in standards for accessible tourism services and in Accessibility Information Schemes leads to confusion or disinterest among businesses and serves visitors with access needs badly.

Opportunities

- ✓ Large untapped potential market of disabled people, over 1 billion worldwide
- ✓ Impact of the ageing population, 'baby boomers' who are used to travelling, have time and the financial resources to continue travelling, they will have increasing accessibility requirements which will require adjustments of tourism offers.
- ✓ Increase in extended families taking breaks often across 3 or more generations with significant access requirements ranging from seniors to young infants.
- ✓ Improved accessibility of tourism services can help improve tourism offers - The Welcome and the Quality of Experience for everybody. For Destinations it can help meet business objectives, such as differentiate product and improve competitiveness.
- ✓ The ENAT/NTO Learning Group offers opportunities to support other NTOs to help develop this market across Member States.

Threats

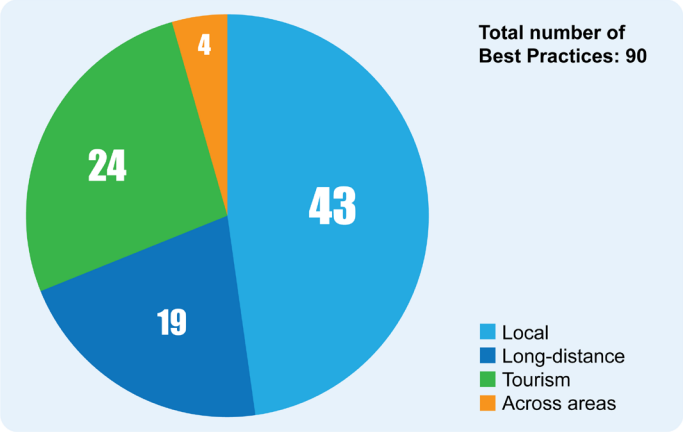
- ➢ It takes time to develop accessible businesses and destinations, if no action is taken in the immediate future it is likely that Europe will lose ground and a major opportunity by not tapping fully into the potential that the domestic market or overseas markets offer (untapped market of disabled people/impact of ageing population).
- ➢ Other global destinations are starting to realise the great potential that improved accessibility can offer their visitors, e.g. Australia, Canada, USA, South-East Asia, Middle East, Caribbean
- ➢ The tourism sector in EU is made up of at least 90% SMEs. Small businesses should not be overlooked when planning support measures for leveraging the growing accessible tourism market.

Source: Author's own elaboration

6 BEST PRACTICES

Through this study best practices have been recognised and are included in ANNEX 3, using a common format. Only cases where all the data required in the format could be gathered are included. These best practices cover all three areas, as shown in Figure 45 below:

Figure 45: The share of best practices per sector.



Source: Author's own elaboration

Rather than covering holistically all possible EU Member States, cities, sites, etc., the best practices are selected as offering representative examples of lessons learnt that can be transferred across the EU, transport modes and sectors.

6.1 Local transport

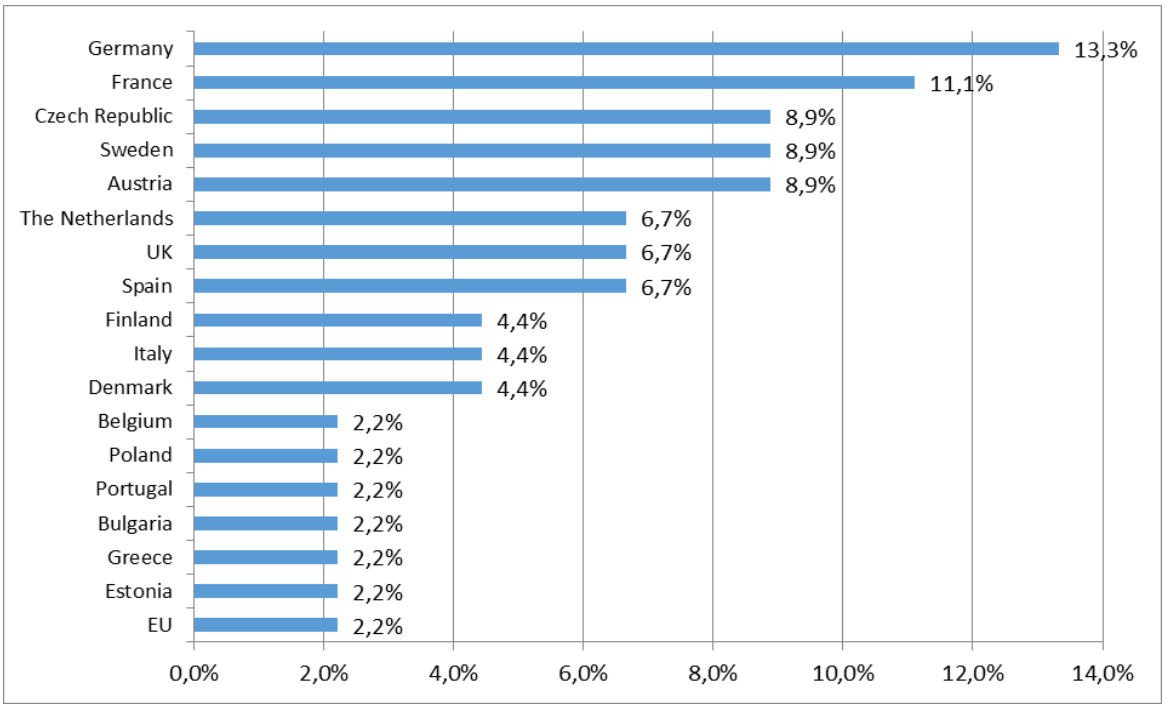
KEY FINDINGS & RECOMMENDATIONS

- EU legislation should provide a coherent framework for accessibility of local public transport (PT). Currently, we have a patchwork of different national laws and implementation levels.
- Adoption of accessibility competitions and awards for cities, transport operators or other stakeholders may have a significant multiplication effect and enhance awareness, as well as a commitment to accessibility among them.
- Most successful local transport accessibility measures and policies require involvement of the city (Municipality), local DPOs and all local transport operators.
- Successful local transport accessibility should be achieved as part of a wider city accessibility plan (through its SUMP), combining accessible transport, tourism and even persons with disabilities employability enhancement.
- Local accessibly can be enhanced by the emerging public transport automation. Already automated metro lines are fully accessible and this might be the case for future automated buses; provided they are built with appropriate equipment and safety provisions.
- Local accessibility needs to be designed and applied across routes and focus upon multimodal transport, including buses/trams/trolleys/metros, Demand Responsive Transportation (DRT) vehicles, taxis and future Mobility as a Service (MaaS) (vehicle sharing/pooling).
- Use of new technologies and especially ITS may radically support local transport accessibility, in terms of information, booking, payment and operation.
- Mobile units to fix dynamic accessibility barriers (i.e. accessibility equipment malfunction, wrongly parked vehicles, etc.) constitute an important asset to safeguard the accessibility level of the transport system.
- PT staff training and also PRMs awareness and familiarisation campaign are sine qua non-conditions to a successful level in accessibility schemes.
- Provisions need to be in place to secure local transport accessibility across its life-cycle.

Most local transport best practices are related to a single city-location; very few are broader. Nevertheless, they do have transferable results and lessons learnt.

43 best practices were collected on local transport from 17 EU Member States, as well as a few Europe-wide.

Figure 46: Local transport best practices - Distribution per country.



Source: Author's own elaboration

Although there are a few related to recent actions, many date back to examples in the late 90's to early 00's, which still provide valuable lessons learnt. This reflects the reality that front-runners were unfortunately not followed by the vast majority of cities and transport operators. Relevant obstacles are related to:

- Lack of appropriate funding for making the vehicles, stations, hubs and routes accessible;
- Lack of appropriate funding and/or structure to maintain the above accessibility attributes (more frequently);
- Lack of integration of accessibility in relevant city plans (i.e. Sustainable Urban Mobility Plans - SUMPs); and
- Lack of awareness and collaboration by local DPOs.

Furthermore, architectural barriers in historical cities across Europe simply make the relevant challenges more difficult. From the best practices presented in ANNEX 3, a total of 5 representative examples have been selected to be presented as case studies. They can be found in ANNEX 4.

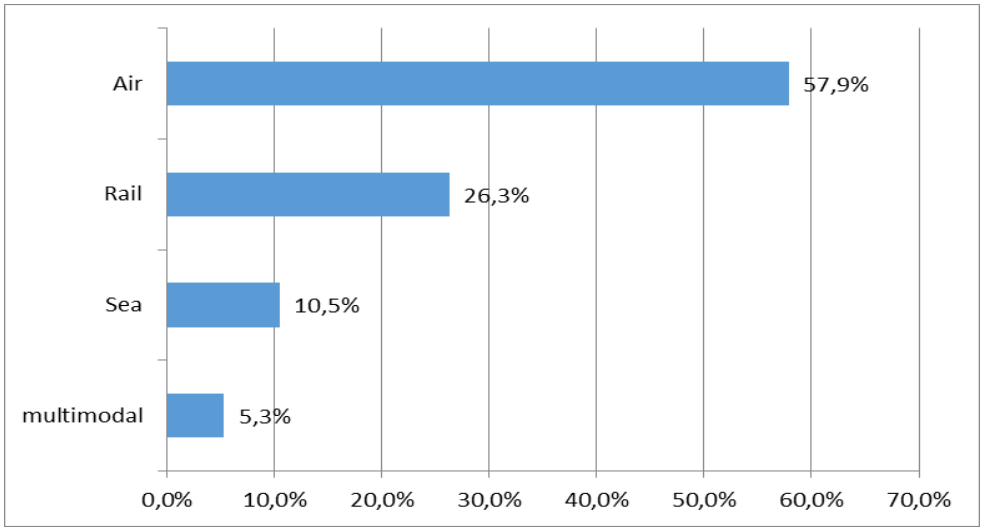
6.2 Long-distance transport

KEY FINDINGS & RECOMMENDATIONS

- Adoption of accessible competitions and awards for long-distance ransport services and their hubs may have a significant multiplication effect and enhance awareness and commitment. But keeping and publishing a record of non-conformity or of poor accessibility ones has an even higher effect.
- Key "details", like offering parking spaces for drivers with disabilities, electric wheelchair charging stations, relief areas for guide dogs, accessible changing facilities and accessible retail and catering areas may have a very significant impact on the travel experience of PRM; they need not to be forgotten.
- All persons with disabilities groups should be considered, with due emphasis on people with cognitive or hidden disabilities, because they have been previously neglected.
- Even if a long-distance transportation hub (train stations, airport, transport interchange hub, etc.) is considered to be accessible, the existence of mobility ramps and properly trained support staff is required to be stand-by.
- In disability awareness training sessions for the staff, it is beneficial to have trainers that are themselves persons with disabilities.
- Any information on service accessibility needs to include data on vehicles accessibility, station accessibility, staff assistance, booking and provision services, ticketing and payment accessibility in an one-stop-shop mode, all provided in an accessible for all PRM groups format.
- Better implementation and enforcement of existing EU and national legislation is needed, including further NEBs empowerment and uptake of PRM feedback on service accessibility.

19 best practices have been collected, covering the various means of long-distance transport, as shown below:

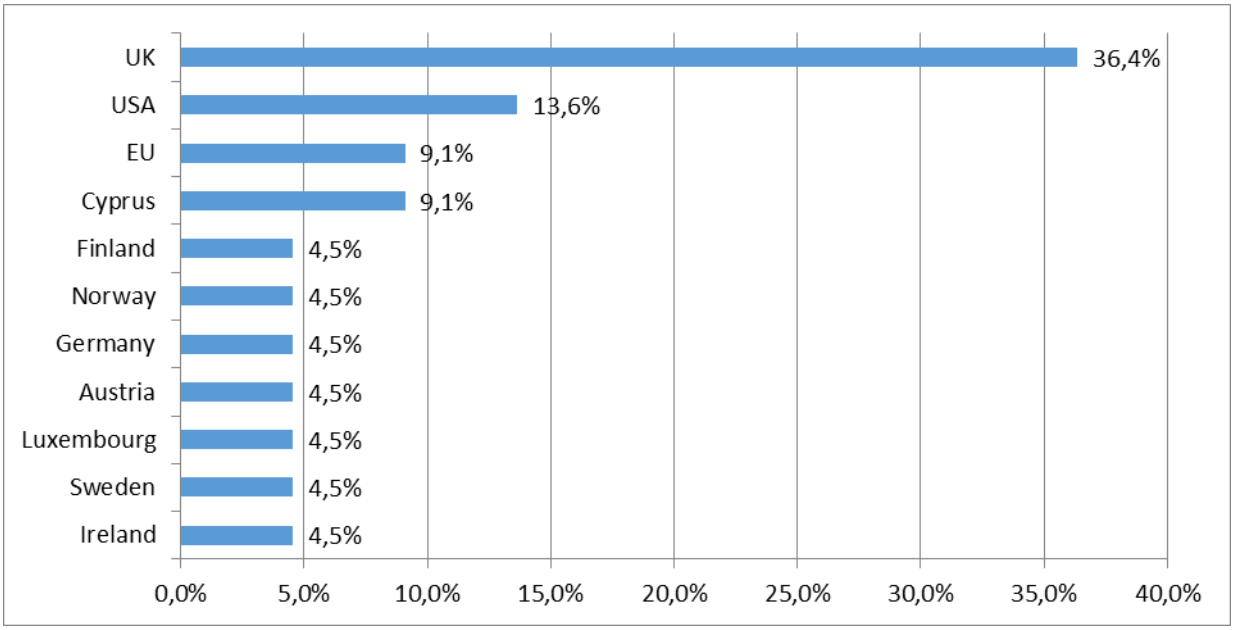
Figure 47: Long-distance transport best practices - Distribution per transportation mean.



Source: Author's own elaboration

They stem from 9 EU Member States, Norway, the USA and some that are pan-European; as seen in the Figure 48 below.

Figure 48: Long-distance best practices - Distribution per country.



Source: Author's own elaboration

Again, emphasis is on providing indicative examples and drawing on best practices rather than offering a thorough listing of such practices.

From the best practices presented in ANNEX 3, some representative examples have been selected to be presented as case studies (ANNEX 4).

6.3 Tourism

KEY FINDINGS & RECOMMENDATIONS

- Where National and Regional Tourist Authorities are leading accessible tourism development, multiple actions are required across regions and destinations to engage with businesses and stakeholders to effect a step-change in the way tourism is planned, managed, developed and marketed, placing with a clear focus on customer requirements, personalised service and service quality (VisitEngland, Flanders, Catalonia, Portugal, Germany, VisitParisRegion…).
- There are commercial and reputational advantages to be gained for "early adopters" of accessibility in the business sector, as shown by the example of Scandic Hotels, which is an acknowledged world-leader in its field.
- Accessibility Information Schemes (AIS) play a key role in assisting persons with disabilities and others with access requirements when browsing, selecting and booking a trip. Newer developments in this field (e.g. TUR4All) are employing a combination of expert data collection and crowd-sourced information with user reviews, to give a global view of each assessed facility.
- The most reliable AIS are those in which objective information is kept up-to-date, is gathered by trained experts and is displayed in detail in marketing and visitor information channels, e.g. Access Guides, websites and apps.
- Training and learning in disability awareness, accessibility and customer service play a vital role in delivering the necessary skills, knowledge and competences to managers and staff in the tourism and hospitality sectors. Only one country in Europe has established a nationally recognised, obligatory course in accessible tourism for students of hospitality, which was achieved through EU project funding (Perfil, Portugal). The tourism sector actors also need to address training in accessibility and inclusion, which ABTA the Association of British Travel Agents, has done, both with an e-learning course for its members and in face-to-face training sessions offered on a regular basis.
- The European Accessible Tourism Directory, Pantou, developed by ENAT and Partners under contract to the European Commission, provides a searchable online database of accessible tourism suppliers, using unified typologies for tourism services and user groups. This service was re-launched in 2017 as a global directory service, where European accessible tourism service providers can be found by visitors and potential business partners.

For all actors and stakeholders in the EU Member States, there is much to be gained from examining the examples of good practice in accessible tourism that are being developed and practiced at national, regional and city levels in Europe and overseas.

In particular, as indicated in this report and previous studies, regions such as Flanders and Catalonia and countries including Spain, France and the United Kingdom have long and wide experience in developing and implementing tourism policies, strategies and products for the accessible tourism market. Other "front-runner" countries that are making significant progress, include Denmark, Finland, Portugal, Germany, Luxembourg, while Italy, Cyprus, Lithuania, Malta, the Czech Republic and Hungary are focusing strongly on this area.

Best practices are sought as a means of exemplifying what can be can be done to solve problems or improve an existing difficult or dissatisfactory situation. In tourism, many problems (lack of access to services, an inaccessible built environment, etc.) are connected and it often takes a whole range of good practices to establish a truly useful, effective and economically viable solution, where all parties benefit.

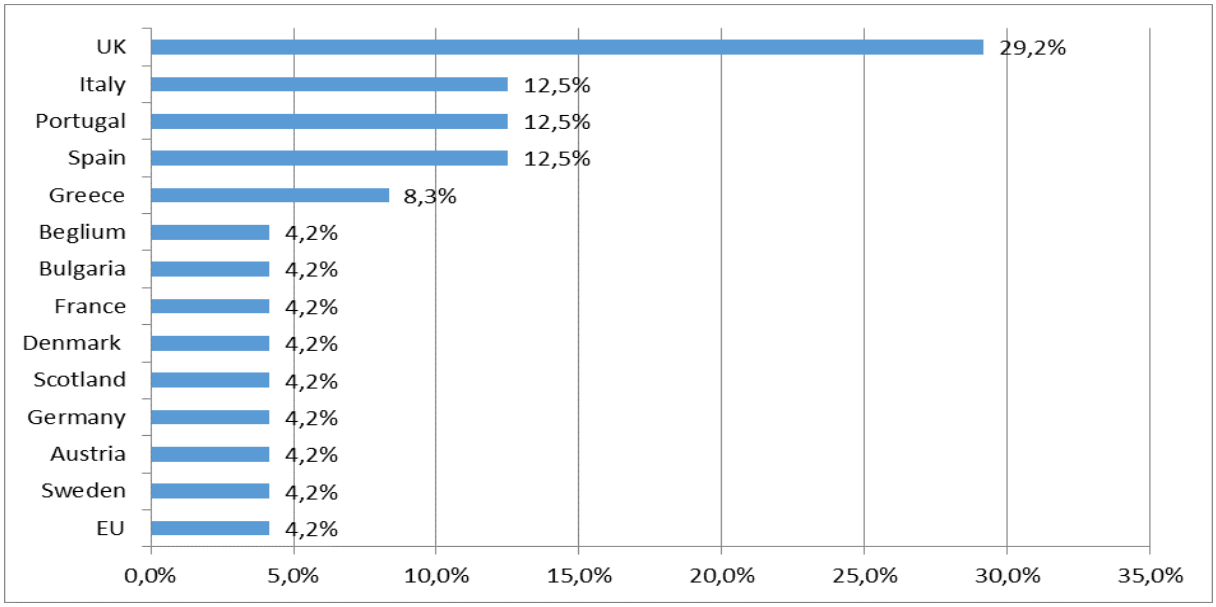
Working in isolation, tourism providers may be doing excellent work in their own area but they struggle to be recognised for their efforts and their initiatives may lack support from the businesses and public authorities in their area.

We should therefore look first at good practices from the perspective of destinations, in order to understand how successful initiatives can be helped or hindered by the broader tourism "ecosystem" of which they are a part. Where destinations play a strong role in supporting accessibility, good practices can grow and flourish more easily. Then it would not be surprising to find clusters of good practices in destinations that have clear policies on inclusion and accessibility in tourism.

It is important to see best practice in accessible tourism as something that most likely emerges from a blend of competition and cooperation between businesses operating in the same commercial space. Becoming a good or "best" practice invariably requires a sustaining, nurturing business environment, with positive relationships between different actors performing various functions in the tourism chain. Yet success also depends on having dynamic, innovative individuals or businesses who understand their customer base and come up with bright, attractive ideas which are transformed into effective and user-friendly services that meet their customers' needs.

In this study, 24 best practices have been selected from 14 European countries and internationally (i.e. Australia), presented in ANNEX 3, while some representative examples have been selected to be presented as case studies (ANNEX 4).

Figure 49: Tourism best practices - Distribution per European country.



Source: Author's own elaboration

The selected best practices, shown in ANNEX 3 refer to all types of touristic businesses, as well as destinations.

7 CONCLUSIONS & RECOMMENDATIONS

As seen in Figure 50, there is a great variety across the European Union concerning the accessibility of transport and tourism.

Overall, at European level, long-distance travel accessibility is covered best mainly due to the series of relevant Directives on each long-distance travel mode. This demonstrates the high impact that EU regulations can have in promoting accessibility. It should be noted that their full impact is not yet evident, since exceptions to the staff training procedures of the Bus and Coach Regulation (EU) No 181/2011 are ending in 2018 and most single mode Directives have only recently been fully implemented in most EU Member States' legislation. With the possible addition of a regulation on multimodal hubs, as well as the emergence of the European Accessibility Act (EAA), the set of EU regulations on long-distance transport accessibility will be complete (provided that staff training is included in all single mode regulations).

Local transport is on the other hand regulated differently in each Member State or even city/region. This leads to a lack of homogeneity across the EU. Small EU Member States and large cities display a very good accessibility level, whereas other EU Member States but also rural regions remain quite inaccessible in terms of local transportation. Thus, the European Commission Directorate General for Employment, Social Affairs and Inclusion (DG EMPL) presents some of the best examples of accessible cities in the annual EU Access City Awards, yet there remain many cities and regions where accessibility levels are poor in local transport.

Given the national character of local transport, this could be improved through coordinated national acts and incentives, such as relevant awards or the inclusion of accessibility criteria as a pre-condition to characterising a city as a "smart city". In 2018, the European Commission Directorate General for Internal Market, Industry, Entrepreneuship and SMEs (DG GROWTH) will launch a new award for "Smart Tourism Capitals of Europe" in which accessibility criteria will be included in the evaluation framework.

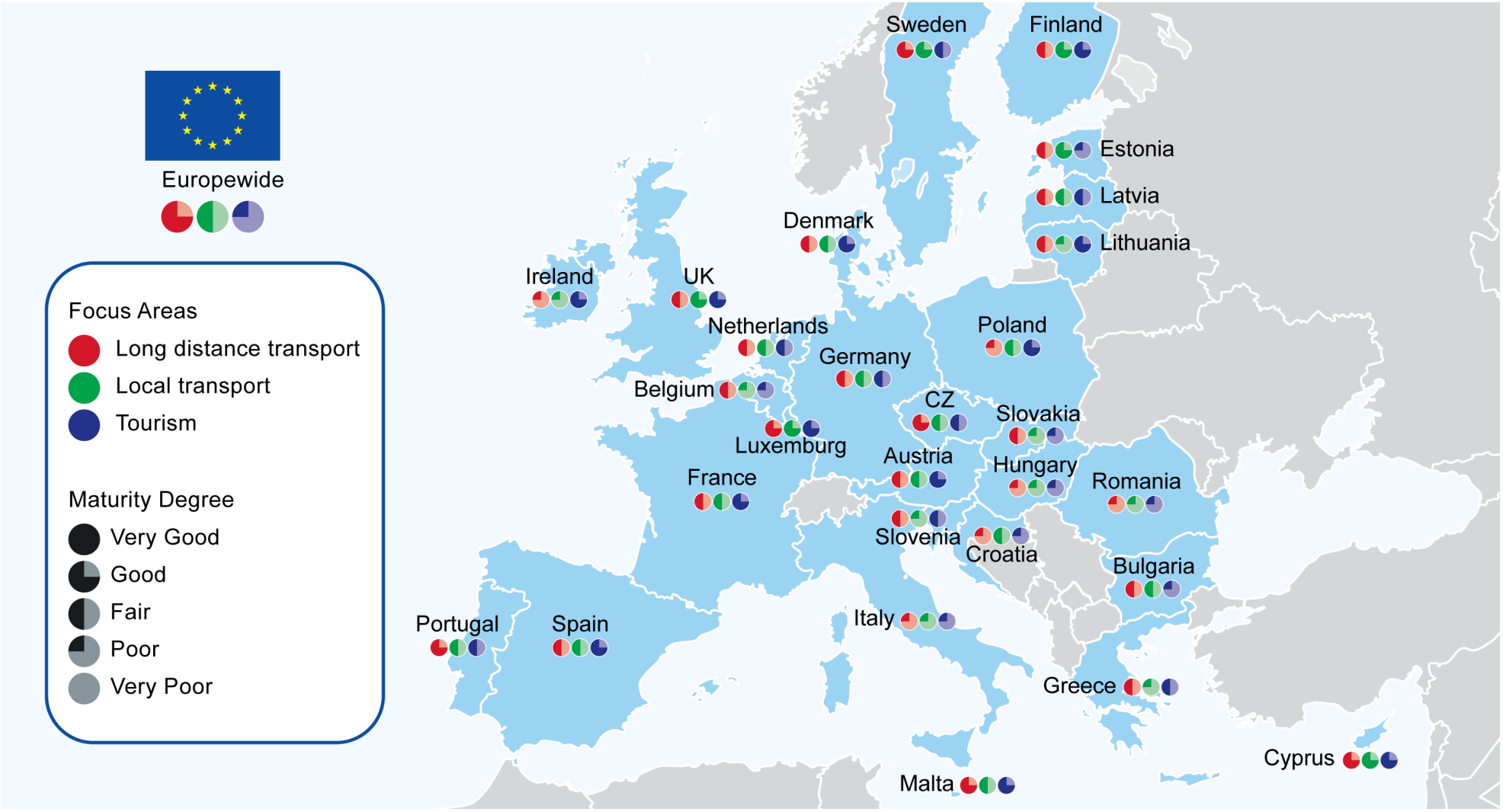
In both local and long-distance transport accessibility, the information on accessible vehicles, stations and networks is either lacking or covers a single mode or city/region. The need for integrated, seamless, cross-border access provided through a single and accessible interface, means that information on transport accessibility is imperative and needs to be prioritised. This would also require effective and harmonised procedures at all levels: local, regional, national and European, to ensure the reliability of the information, dynamically update it and guarantee a minimum Quality of Service (QoS).

As the EU's competence in matters of tourism policy is limited within the Lisbon Treaty to coordination and information actions, accessible tourism is also a national consideration, with a great variety of provisions among EU Member States. Different schemes on accessibility ratings of tourist venues and relevant services exist, ranging from none to many even within the same country. Past efforts to harmonise accessibility information schemes across the EU have not succeeded and, indeed the range of information sources continues to multiply. With new ICTs employing geo-location, sensing technologies, cloud computing and standards-based accessibility assessment, there is a possibility that accessibility ratings and information can be delivered to visitors covering all aspects of a Tourist Destination. This would include not only physical access but also hotel, food and

beverage services, excursions and events, transportation to/from the destination and within it, etc.. Such a scheme would also mainstream the currently isolated touristic market of persons with disabilities, enhance its value and - as a consequence - improve the accessible offer.

In the majority of EU Member States and regions, transport and tourism accessibility has improved considerably over the last 10 to 20 years and is still increasing, although not yet harmonised nor able to support seamless travel chains and tourist experiences at destinations. In this respect, the European Accessibility Act (EAA) comes at the right moment to strengthen and regulate this momentum.

Figure 50: Qualitative presentation of long-distance transport, local transport and tourism accessibility at EU level and in each EU Member State.



Source: Author's own elaboration

Independent note: The above figure is only qualitative and presents the authors' current view, based on available data. However, it is a very dynamic situation. It should only be viewed in a comparative framework.

The recommendations listed below stem from the previous chapters' work, though they do not constitute a strict repetition of relevant findings. Lessons learnt and recommendations coming from different sources (user and expert surveys, best practices, etc.) are combined, to result in a list of concise and short recommendations per area.

The ones listed below are just those that were selected as priorities during this study workshops and by a team of 10 study experts. More detailed recommendations on all areas are to be found across the text in several chapters (in the "key findings" tables). Among the ones listed here, there is no strict priority, i.e. the presentation order does not correspond to a priority.

Initially, the following generic recommendations are made:

Table 12: Generic recommendations for transport and tourism.

G1:	Develop an "EU Access Board" or European Agency, to contribute to the implementation of EU policies, Directives and Standards on accessibility and compliance mechanisms; supporting cooperation between the EU and national governments by pooling technical and specialist expertise from both the EU institutions and national authorities.
G2:	The major transport and tourism information, booking and epayment/mpayment websites and apps should support at least WACAG 2.0 accessibility for all person with disabilities groups.

Source: Author's own elaboration

As common research priorities it should also be added:

Table 13: Common research priorities for transport and tourism.

R1:	Research on users' functional accessibility requirements in daily living, (transportation and tourism), leading to typologies suitable for service delivery of multimodal transportation and tourism services.
R2:	Research the potential economic impact of achieving substantially higher levels of accessibility (as performed by the Government of Ontario in 2010).

Source: Author's own elaboration

7.1 Local Transport

Table 14: EU Member States clustering recommendations for local transport.

LO-N1:	EU Member States with relatively high levels of local transport accessibility (following the "front-runners", "self-regulated", "improvers" models presented in Table 6) should focus on harmonising it and transferring this level across the country, as well as in rural areas; avoiding the creation of non-accessible "islands". This is an even more important need for EU Member States of the "Provincial" model (of ANNEX 9).
LO-N2:	EU Member States that belong to the "gap of implementation" or "mixed" models (of Table 6) should consider innovative business models to enhance local accessibility; one example would be an "accessibility tax" (at national or local level) on the profits of certain services which would be available for financing of any required accessibility promotion projects.
LO-N3:	"Late-starters" and "Low-achievers" (of Table 6) should develop with local DPOs and implement persons with reduced mobility needs awareness campaigns at local and national level, to push relevant issues higher on the political agenda and mobilise local societies and politicians.

Source: Author's own elaboration

Table 15: European recommendations for local transport.

LO-E1:	Standardise in an accessible format information on local transport accessibility across EU Member States.
LO-E2:	At least 1/3 of local transport vehicles to be accessible, to provide a minimum acceptable frequency for local transport accessibility. This should be included as quota at relevant future public procurements.
LO-E3:	Harmonise the training of local transport staff (at vehicles, stations and operations) covering all types of staff (for information provision, booking, ticketing, assistance or vehicle control, as well as transport service planning); it should include awareness on behavioural aspects; it should include accessible equipment operation and maintenance, handling emergencies, as well as proactive thinking and the removal of obstacles.
LO-E4:	Regulation (EU) No 181/2011 should be extended to all bus and coach services (not only of 250km and above) to also include city buses and coaches.

Source: Author's own elaboration

Table 16: Recommendations for future research priorities for local transport.

LO-R1:	Develop a holistic tool for accessible urban transport design and planning across all modes (to be integrated within SUMPs).
LO-R2:	Research the accessibility of autonomous vehicles, related to persons with reduced mobility guidance, boarding, secure and safe transportation and emergency handling.
LO-R3:	Research the accessibility of emerging MaaS and the integration of accessible DRT vehicles with such schemes.
LO-R4:	Research the use of epayment, mpayment and contactless ITS for personalised accessible local transport information, booking, payment and operation.

Source: Author's own elaboration

7.2 Long-distance Transport

Table 17: EU Member States clustering recommendations for long-distance transport.

LD-N1:	EU Member States with relatively high levels of long-distance transport accessibility ("front-runners", "self-regulated", "improvers" and "mixed" models of Table 6) should develop and implement a harmonised life-long training for staff of all long-distance transportation modes and hubs on accessibility issues, and a digital national registry of long-distance transport accessibility attributes across the state (itself in an accessible format).
LD-N2:	EU Member States that belong to the "gap in implementation" model (of Table 6) should adopt realistic targets and prioritise action according to available resources (i.e. starting from the accessibility of main rail/coach stations, airports or harbours and gradually moving to smaller ones).
LD-N3:	EU Member States that belong to the "provincial", "late-starters" or "low-achievers" models (of Table 6) should regulate long-distance transport accessibility through a nation-wide relevant Act for all modes (rail, sea, air, etc.) and accompanied by a realistic national implementation plan.

Source: Author's own elaboration

Table 18: European recommendations for long-distance transport.

LD-E1:	The loophole in Regulation (EU) No 1107/2006 that allows airlines to deny boarding to persons with disabilities for "safety reasons" that are not sufficiently defined and have no common rules of assessment has to be closed. If an exemption of the right to travel for "safety reasons" has to remain, those reasons need to be clearly defined, limiting the right to travel of persons with disabilities as little as possible, and not be at the financial expense of the passenger but should be borne by the airline which imposes the restrictions.
LD-E2:	In the rail sector, the required maximum notice period to book assistance should be reduced from 48 to 24 hours for all stations, regardless of their size, and to 1 hour in major stations (defined as stations welcoming over 5.000 passengers per day). Further relevant assistance should be provided throughout the operational hours of each station.
LD-E3:	Concrete guidelines for staff training, similar to the ECAC Doc 30 in air travel, should be drawn up to facilitate the implementation of provision for staff training by EU Member States with minimum standards for a curriculum which can ensure the same level of training everywhere.
LD-E4:	The Commission should prepare a proposal on multimodal passenger rights, including accessibility of transport terminals.
LD-E5:	Denominate an "accessibility coordinator", in multimodal terminals jointly for all involved modes of travel. This new role will also assume responsibility for coordinating assistance to persons with reduced mobility in the terminal during their transfer.

Source: Author's own elaboration

Table 19: Recommendations for future research priorities for long-distance transport.

LD-R1:	Define and adapt suggested interchange transfer time to the specific persons with reduced mobility profile (i.e. slower travel speed for people with motor and visual disabilities, as well as older people).
LD-R2:	Cost efficient solutions for domestic excursion boat accessibility should be researched.
LD-R3:	The many digital tools across European countries for long-distance transport accessibly information need to be interfaced and integrated into a one-stop-shop application, to support seamless accessible travel within Europe.

Source: Author's own elaboration

7.3 Tourism

Table 20: EU Member States clustering recommendations for tourism.

TO-N1:	All EU Member States should gather statistics on the availability of accessible tourism services, the demand patterns and the levels of service delivery, including the regular use of visitor surveys addressing the accessible tourism market.
TO-N2:	Front-runners should consolidate their actions by ensuring that the furthest reaches of their territory and all parts of the tourism supply chain are engaged in the national and regional efforts to develop accessible, inclusive Tourism for All.
TO-N3:	Improvers and late-starters should learn from front-runners, in the accessible tourism field, for example by participating in relevant initiatives and fora, such as the ENAT "NTOs Learning Group", NECsTour, OITS-ISTO and Eurocities networks. Working from the basis of shared values and common challenges, those organisations that are further ahead can inform and encourage their colleagues by setting up seminars and workshops, in order to share their strategies, fostering a "trickle down" effect from the best practices. Through such peer-to-peer collaboration, tourism authorities are able to develop new joint projects and stimulate further innovation in their own countries.

Source: Author's own elaboration

Table 21: European recommendations for tourism.

TO-E1:	Eurostat should include in its services regular statistical data on the accessible tourism market and advise the EU Member States on the collection of relevant data, following the model of the "tourism satellite accounts".
TO-E2:	The EU, national authorities, EU Member States, regions and local authorities should work together with national and local destination management organisations to gather and disseminate "hand data" on Return on Investment (RoI) of accessible tourism and work using a common business case template to gather and analyse relevant data across the EU. This would demonstrate the financial and commercial advantages of investing in the accessible tourism market.
TO-E3:	Develop a common EU label on accessible tourism with harmonised accessibility standards and assessed procedures.
TO-E4:	Develop further the existing "Accessible Tourism Directory" that publishes accessible tourism businesses, public attractions, services, etc. to promote the European Union as an "accessible tourism destination".

Source: Author's own elaboration

Table 22: Recommendations for future research priorities for tourism.

TO-R1:	Explore new Action Research models to identify and remove barriers to SME business engagement with the accessible tourism market.
TO-R2:	Research to understand the communication channels that tourism SMEs use for their business advice and support.
TO-R3:	Research to understand and develop key communication messages that SMEs are likely to respond to in order to make their business and services more accessible.
TO-R4:	Research to explore the possibilities of using Artificial Intelligence (AI), Robotics, Environmental Sensing and other new technologies and applications to improve the delivery of tourist information – and information about accessible experiences - to persons with disabilities in ways that are more personalised, both when choosing a tourism experience or destination, when travelling and at the venue.

Source: Author's own elaboration

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This study has undertaken literature reviews, user and experts' questionnaires, interviews and workshop surveys, analysis of EU legislation, SWOT and Multi-Criteria Analysis, identification of best practices and analyses of case studies. This has led to a mapping of accessibility across the EU Member States (identifying relevant state clusters) for three different sectors: local transport, long-distance transport, and tourism. Specific policies, research priorities and recommendations are made per state clusters and for the EU, which can enhance accessibility in each of the three sectors.

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