AlpInnoCT

Analysis report of projects, policies, strategies and support measures in the field of CT relevant for the Alpine Space

Deliverable D.T.1.1.1

February 2018

EDIT BY:
PP12 Eurac Research
Federico Cavallaro, Giulia Sommacal
Address: Viale Druso 1, 39100 Bolzano (I)
Contact: t. +39 0471 055 355
Mail: federico.cavallaro@eurac.edu

Document Title: Analysis report of projects, policies, strategies and support measures in the field of CT relevant for the Alpine Space			**Sub Title: -**	
Document History	**Version**	**Comments**	**Date**	**Done by**
1) Preparation of template (UM-EURAC) 2) PPs contribution (PPs) 3) Data harmonization and integration (EURAC) 4) PPs validation (PPs)	**Database_ AT 1-1_part 1**	Database about policies, bodies, measures and projects in the AS	**07/07/2017**	Federico Cavallaro Giulia Sommacal Contributing: Mitja Klemenčič Vlasta Rodošek Stanislav Božičnik
1) Preparation of template (UM-EURAC-CIPRA) 2) Data collection (EURAC) 3) Data check and integration (PPs) 4) Data harmonization and integration (EURAC) 5) PPs validation (PPs)	**Database_ AT 1-1_part 2**	Database about Transalpine Corridors and Intermodal Terminals - supply and demand – in the AS	**07/07/2017**	Federico Cavallaro Giulia Sommacal Contributing: Mitja Klemenčič Vlasta Rodošek Stanislav Božičnik
1) Outline of the Technical Report (UM – EURAC) 2) PPs comments (PPs) 3) Preparation of the Technical Report (EURAC) 4) WPL and CIPRA integrations (UM - CIPRA) 5) Harmonization of the contents (EURAC) 6) PPs integrations/ remarks (PPS) 7) Finalization according to PPs contributions (EURAC) 8) Validation by WPL and PPs (UM – PPs)	**Technical report (Activity A.T.1.1)**	Report based on the contents provided by the two databases	**24/11/2017**	Federico Cavallaro Giulia Sommacal Contributing: Mitja Klemenčič Vlasta Rodošek Stanislav Božičnik Jakob Dietachmair Robin Naumann
Published final deliverable – based on technical report	**Deliverable (D.T.1.1.1)**		**28/02/2018**	Mitja Klemenčič
Number of pages:				178
Number of annexes:				11

Prepared by: Eurac Research, University of Maribor, CipraLab **Contribution:** AlpInnoCT Project Partners (OBB, BHG, Eberl, TX, AKL, Bmvit, TPA, FVG, ZAI, UCV, ITTL, AI)	**Principal Author(s):** **Federico Cavallaro** **Giulia Sommacal** **Contributing Author(s):** **Mitja Klemenčič** **Vlasta Rodošek** **Stane Božičnik** **Jakob Dietachmair** **Robin Naumann**

Peer Rewiew	**Partner**	**Date**
Mitja Klemenčič	UM	15/02/2018
Approval for delivery	**AlpinnoCT Coordinator**	**Date**

Index

Summary

AlpInnoCT

After a prolonged economic crisis, freight transport in Europe has started to grow again. The **Alpine Region**, which involves both the mountain areas and the main metropolitan and urban centres at their fringes, plays an important role as crossroad. At the same time, it is also a sensitive ecosystem, which has to be protected from the negative environmental and societal effects. These **externalities** (which at the EU level count for about 4% of GDP) include *local and global air pollution, noise pollution, accidents, fragmentation of landscapes, congestion, water and soil pollution and urban effects.* More than 90% of such costs are caused by road transport, imposing a shift of freight transport to more sustainable modes, such as rail. The project **AlpInnoCT** aims to reconcile growing freight transport with the protection of nature and people in the Alps through the improvement of Combined Transport (CT).

CT in the Alpine Region: main features

In the Alpine Region, CT is performed primarily as **continental CT** (including road and rail systems). However, the presence of some important ports near its boundaries imposes the inclusion of **maritime CT** as well (mainly ship-road or ship–rail–road). Another distinction can be made according to the different types of service, which is **unaccompanied (UCT)** when the tractor unit does not accompany the load unit and **accompanied (ACT)** vice versa. CT is a transport mode that can take advantage from the **strengths** related to the cohesion between road and rail transport; at the same time, it suffers from some **weaknesses** (EC, 2015b). These weaknesses can be overcome by adopting adequate policies, measures and projects. Their analysis is the core of this technical deliverable.

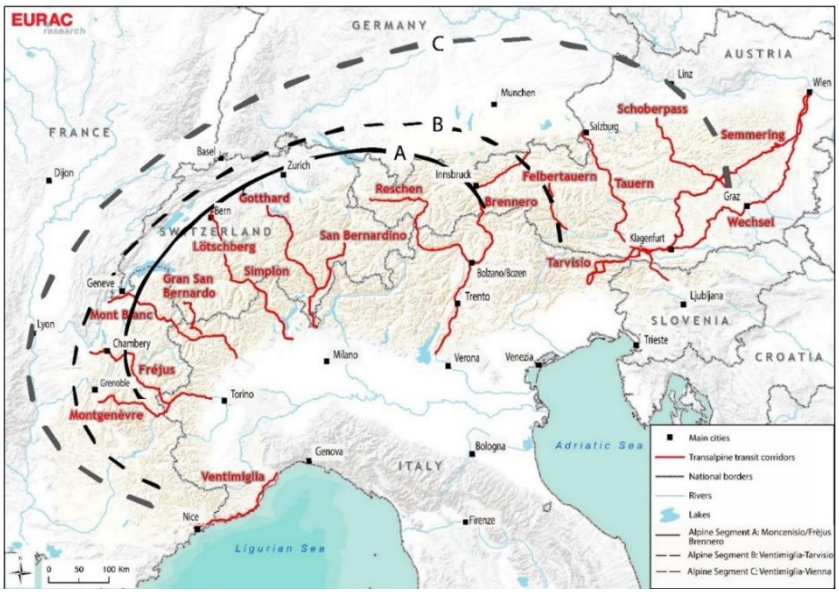
STRENGTHS OF CT	WEAKNESSES OF CT
Infrastructures	***Infrastructures***
• More concentrated location of infrastructures (reduced land use) • More efficient use of existing infrastructures • Synergies between intermodal terminals involving different transport modes	• Differences in energy and signalling systems in the EU • Insufficient train path capacity for CT trains (due to the use of the line for both passengers and goods) • Interoperability deficit of rail infrastructure (e.g. constraints related to maximum weight or to the length of trains) • Lack of maintenance of rail infrastructure / unsuitability of existing rail infrastructure • Low average commercial speed of trains • Low density of CT inland terminals in some countries • Uncoordinated infrastructural works
Management	***Management***
• Exemption from driving bans and other transport restrictions, liberalised initial and final road legs • Higher weight allowed for CT (payload adjustment) • Introduction of administrative measures to improve terminal access, operations and facilities • More reliability of the system (less risk of congestion, delays and theft) • Time of driver at ROLA seen as rest period • Transnational transport performed with less controls • Transport security (less accidents)	• Lack of open-access (market entry barriers) • Lack of service level guarantees (no synergies between infrastructure managers, railway undertakings and CT service providers)

Services • Area-wide flexibility of the trucks combined with reliability of the rail service • Different services in the intermodal terminals for the processing, storage and maintenance of goods • Bundling the good flows at infrastructural terminals • Higher transport capacity of the goods compared to road transport ***Environment and society*** • Less dangerous impacts for the environment • Less dangerous impacts for the health of citizens	***Services*** • Costly last mile • Deficit in cost-efficiency (e.g. handling costs, costs for short shipping) • Insufficient ICT capabilities • Lack of operational service quality • Lack of standardisation about technical aspects and administrative procedures • Non-harmonized terms and conditions for rail access

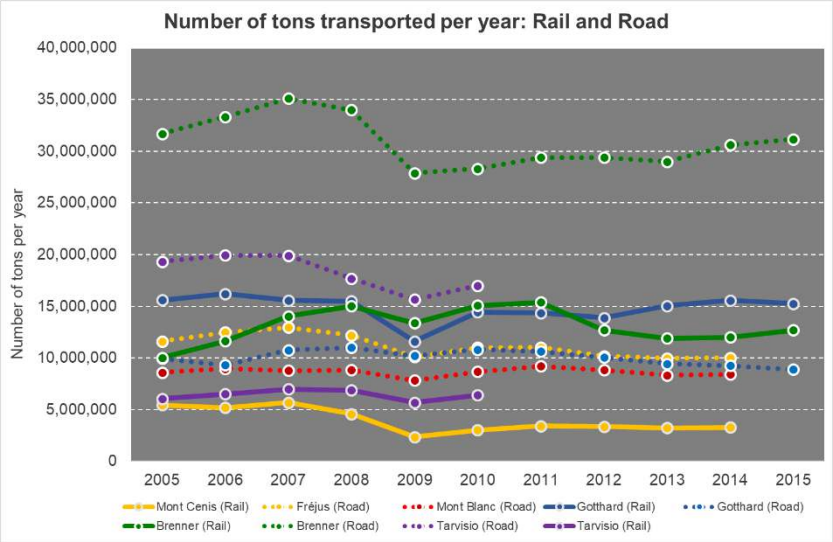
CT in the Alpine region: supply and demand

To ensure a competitive CT service, both punctual (as **intermodal terminals**) and linear (as **transport axes**) infrastructures are required. Referring to the former, we have provided a map in the report with the main alpine terminals. 100 intermodal terminals that offer CT services have been identified in the Alpine Region: 18 are located in Austria, 9 in France, 37 in Germany, 21 in Italy, 4 in Slovenia and 11 in Switzerland. All these terminals are characterized by their proximity to the main transalpine routes and by different types of transport modes handled in the terminals (rail, road, barges, boats or ferries).

Referring to the transport axes, the Alps are crossed by four main European corridors: the *Baltic-Adriatic* (direction north-east/south-east), the *Rhine-Alpine* and the *Scandinavian-Mediterranean* (direction north-south) and the *Mediterranean* (direction west-east). With an alpine focus, 16 main transalpine corridors can be identified: ten allow a multimodal road/rail (RR) connection, while six grant only a road (R) connection. From west to east, the Corridors are: Ventimiglia (RR), Montgenèvre (R), Mont Cenis/Fréjus (RR), Mont-Blanc (R), Gr. St. Bernard (R), Simplon (RR), Gotthard (RR), San Bernardino (R), Reschen (R), Brenner (RR), Felbertauern (R), Tarvisio (RR), Tauern (RR), Wechsel (RR), Pyhrn/Schoberpass (RR) and Semmering (RR).



In **absolute values,** the volumes of goods moved between Austria and Italy are the highest (more than 140,000 kilotons -kt- in 2015), roughly three times higher than the French-Italian and Swiss–Italian ones (respectively, 41,200 kt and 39,000 kt). Referring to the **modal split**, different conditions among corridors are visible. Along the Austrian-Italian direction, about 70% of the volumes are transported by road and 30% by train. These percentages are the opposite of those registered along the Swiss-Italian corridors. Along French-Italian corridors, the modal split is more road-oriented (more than 90% of goods). With reference to the **single corridors**, the Brenner registered the highest values, followed by the Gotthard. French corridors (Mont Blanc and Fréjus) present lower values.



Out of the ten corridors that offer a **CT service**, the 2013-2015 variation of goods transported with this system presents different trends: decrease along the Semmering (-6.6%) and the Gotthard (-1.8%), slight growth at Mont Cenis/Fréjus (+1.0%), Schoberpass (+0.3%) and Ventimiglia (+4.7%) and significant growth at Brenner (+7.4%), Tauern (+10.4%), Wechsel (+14.1%) and Simplon (+14.3 %). Regarding the type of service, **ACT** is more limited than **UCT**. Gotthard and Simplon lines, as well as the Brenner one, are the rail infrastructures mostly interested by such service.

Main tools to support CT

To overcome the weaknesses related to CT in the Alpine Region, *Chapter* 6 of the Technical Report identifies the most relevant **policies**, **measures** and **projects** at a multilevel scale, which includes the European, national, regional and local levels.

Policies are an important support for the implementation of CT services. They can include multiple proposals, also not directly referred to CT. On the one hand, they can be a form of regulation against road transport; on the other hand, they can encourage CT or rail services (for example by introducing specific subsidies). Concerning the themes, transport policy influences the production of CT services in terms of costs, speed and flexibility, especially through traffic-specific taxes and duties, technology and

infrastructure policy, international harmonisation and standards. As far as the territorial scale is concerned, transport policies about CT take place at all political levels, including the EU, the national, the regional and the local one. At the Alpine level, three long-term proposals have also been identified: the Alpine Crossing Exchange, the Alpine Emission Trading System and the Differentiated Toll System.

Usually CT measures combine both measures to discourage road freight transport (**push-measures**) and to support CT operations (**pull-measures**). The former are closely related to a more efficient and equitable transport pricing, seeking to require transport users to bear a greater proportion of the real costs of their journeys. We have classified them into three main fields: **restrictions, fines and taxations**.

PUSH-MEASURES					
ID	**FIELD**	**TEMPORAL HORIZON**	**NUMBER**	**MEASURE**	**COUNTRY**
1	**RESTRICTIONS**	Long Term	**1.1**	Weight limits for road freight vehicles	**AT, CH, DE, FR, IT, SL**
			1.2	Traffic ban for HGVs with a mass >7.5t in specific days and time slots	**AT, CH, DE, FR, IT, SL**
			1.3	Ban of older Euro classes of the vehicles along road tunnels	**CH, IT, FR**
			1.4	Sectorial driving ban	**AT**
			1.5	Low Emission Zone along specific highway sectors	**AT**
			1.6	Speed and overtaking restrictions	**AT, CH, DE, IT, FR, SL**
2	**FINES**	Short Term	**2.1**	Strict enforcement of road haulage regulation	**AT, CH, DE, FR, IT**
3	**TAXATIONS**	Long Term	**3.1**	Higher unitary tolls for highway sectors that generate higher externalities and/or are more costly to maintain	**AT, CH, DE, FR, IT, SL**
			3.2	Differentiation of highway tolls according to the Euro classes of the vehicles	**AT, CH**
			3.3	Differentiation of vehicle tax according to the Euro classes	**AT, CH, DE, FR, IT, SL**

Pull-measures are those measures implemented in order to discourage the use of HGVs by improving the attractiveness of existing alternatives. They are divided into five main fields: **exemption from bans, financial support** (incentives, aids or subsidies), **support measures, liberalization/permits and infrastructural development**. This last category, combined with the improvement of services to support CT, is considered an effective pull-measure. This field includes the renewal of the existing infrastructures and the new construction of railway lines and terminals, the financing of projects for a higher standard of safety or the optimization of support services.

PULL - MEASURES					
ID	**FIELD**	**TEMPORAL HORIZON**	**NUMBER**	**MEASURE**	**COUNTRY**
4	**EXEMPTIONS**	Short/Long Term	**4.1**	Derogation from Directive 96/53/CEE allowing higher weights or dimensions of HGVs in CT operations	**AT, CH, DE, IT, FR, SL**
			4.2	Exemption from traffic bans on weekends and bank holidays and from the holiday driving bans	**AT, DE, IT, SL**
			4.3	Exemption from the night driving ban for the lorries involved in CT	**AT**
			4.4	Exemption from road charges for foreign vehicles and from the traffic ban for all HGVs involved in CT	**SL**
5	**FINANCIAL SUPPORT A): TAX INCENTIVES**	Short/Long term	**5.1**	Reduction or reimbursement of vehicle tax for the initial and terminal hauls by road	**AT, FR, DE**
			5.2	Reimbursement for vehicles used in RoLa	**AT, CH, DE**
			5.3	Reduction of motor vehicle tax and road charges for vehicles in CT	**IT, SL**
6	**FINANCIAL SUPPORT B): AIDS AND SUBSIDIES**	Short/Long Term	**6.1**	Financial aids for rail infrastructures	**AT, CH, DE, IT, SL**
			6.2	Financial aids for terminal infrastructures and their related equipment	**AT, CH DE, FR, IT**
			6.3	Financial support for CT operations/services	**AT, CH, DE, IT, SL**
			6.4	Financial aids for the promotion of investment in systems and equipment necessary for CT	**AT, CH, DE, FR**
			6.5	Financial aids to support the water transport mode	**IT**
			6.6	Financial aids for the development of integrated solutions in the field of goods transport based on innovation of transport infrastructure and vehicle technology	**AT, SL**
7	**REGULATORY SUPPORT MEASURE**	Short/Long Term	**7.1**	Time spent by a lorry driver on the RoLa as a rest period	**AT, CH, DE, IT, SL**
8	**LIBERALIZATION/ PERMITS**	Long Term	**8.1**	Liberalization of the access to inland water transport	**AT, DE, FR**
			8.2	Liberalization of the access to the rail networks	**AT, FR, DE, SL**
			8.3	Liberalization of the areas for transport operations	**IT**
			8.4	Liberalization of the initial and final road leg in CT for motor vehicles registered within the EU or EEA and holding a Community licence	**AT, IT, FR, SL**
			8.5	Liberalisation of specific road corridors for initial and final leg of RoLa connections to terminals	**AT**
			8.6	Bilateral agreements on road goods transport for the promotion of CT with countries that are not EU members	**AT, IT, SL**
			8.7	Administrative measures to improve terminal access, operations and facilities	**FR**
			8.8	Intermodal Terminals: opening hours 24 hours, 7 days a week	**Only few terminals**
9	**INFRASTRUCTURAL DEVELOPMENT**	Long Term	**9.1**	Renewal of existing infrastructures (e.g. electrification of railway lines, removal of bottlenecks, introduction of new technical solutions – Nikrasa or Megaswing; see section 6.3)	**AT, CH, DE, FR, IT, SL**
			9.2	Construction of new infrastructures (e.g. new railway lines, new intermodal terminals; see section 6.3)	

The **synergic development of push and pull measures** is the only way to encourage the growth of CT. The responsible bodies related to the CT activities have been identified according to their different scale, competencies, roles and responsibilities. Roughly speaking, they can be divided into the institutional/political level and into the operational/executive level. The former mainly includes Ministries, Regional and Provincial Governments. The latter includes agencies, associations, carriers and operators, motorway and railway managers, service providers.

Conclusions

Within WPT1, the analysis about policies, measures, projects and bodies has to be integrated with deliverables A.T.1.2 and A.T.1.3 (the former about the processes and technologies and the latter about the trends in production that are relevant for CT), thus making the framework about CT exhaustive. These three deliverables form the basis for the detailed analysis of WPT2, which focusses on the pilot corridors Bettembourg-Trieste and Rostock-Verona. Furthermore, the deliverable A.T.1.1 has also been the basis for the development of activities carried out in other WPs. Particularly, it has been useful to define the starting condition of the study "Vision of Alpine CT in 2030+" (WPT3) and as technical support for the discussion about pull-measures during the second "dialogue event" of the project (WPT5).

Overview

Freight transport is essential for the economic development of the European countries. At the same time, it is one of the main causes of transport externalities, such as local and global air pollution, noise, congestion and accidents. The Alps have an important role as crossroad, but they are also a sensitive ecosystem, which has to be protected from these externalities. The project "**AlpInnoCT**" aims to reconcile growing freight transport with the protection of nature and people in the Alps, through the improvement of Combined Transport (CT).

This technical report summarizes the activities carried out between March and November 2017 in the framework of the WP1 "CT and production – analysis and basics", **activity AT.1.1** "Analysis of CT strategies, projects and funding structures". According to the Application Form, the main aim of this deliverable is to give an overview about projects, policies, bodies and measures specifically referred to CT in the AS.

The report is structured as follows: after the **introduction**, which describes the general issues related to freight transport in the Alps as well as the connections with the project "AlpInnoCT", **section 2** (written by CIPRALab) focuses on the negative effects caused by transport in the AS, revealing the importance of CT towards a better balance between different transport modes.

Section 3 defines the framework of this study by identifying the main European corridors involved and the geographical context considered in the analysis.

Section 4 provides quantitative data about relevant alpine infrastructures. For the sake of clarity, this section is divided into two main sub-sections. The former deals with the supply side and describes the characteristics of the main rail and road infrastructures and intermodal centres. Dedicated thematic maps contribute to a clear visualization. The latter deepens the issues related to the demand side by analysing the traffic volumes registered along the main corridors and in the main intermodal centres. A comparison with road transport is also provided.

Section 5 (written by the University of Maribor) presents the results of a survey among AlpInnoCT PPs and observers, whose aim is to understand the main barriers related to the diffusion of CT that different stakeholders currently encounter.

Section 6, which is the core of the deliverable, presents a list of relevant policies, measures and projects that contribute to a broader diffusion of CT in the Alps. They are distinguished according to the geographical scale, passing from the EU level to the national and to the regional ones.

Section 7 provides a classification of the main actors that are related to the CT activities, according to their competencies, role and responsibilities. This taxonomy can be helpful in order to understand the stakeholders, who are interested in the development of CT.

A chapter with **conclusions** ends the textual part of the contribution. Its main objective is to relate the outcomes deriving from this deliverable to the outputs of other project activities within WP1 and within other WPs. Finally, after a list of the abbreviations and a bibliographical section with the main references quoted in the text, all databases and documents realized during the preliminary phase of this activity are included into the Appendixes 1-11.

1. Introduction

The **Alps** are the highest mountain range in Europe and are not only a precious heritage, but often the expression of delicate and constantly evolving balances. Natural and anthropic processes, such as climate change and human activities cause impacts on the alpine environment. The temperature inversion conditions are typical of the Alps restrict vertical air movements, while the narrow valleys have a limited area and reflect the sound waves. All that makes the Alps highly sensitive to pollutant loads, noise emissions and impacts on the natural and cultural landscape. This precious heritage has to be managed in a balanced and sustainable way.

Thanks to the central position in Europe, **transport** has always been an important issue for the development of the Alpine regions. Its multiple impacts create both new opportunities and threats. Indeed, the Alps have an important role as crossroad; at the same time, they are a sensitive ecosystem, which has to be protected from negative social and environmental impacts.

In recent years**, environmental concerns** related to the development of road and rail transport in the Alps have raised sharp political debates. The freight transport to or from, as well as within and through, the Alpine area is one of the most controversial topics: due to the morphology and the presence of high slope, the transalpine transport generate relevant external costs that affect local population. Thus, together with agency and owner costs, operator's facility costs, user costs and operator's usage costs, externalities have to be included in a correct evaluation of transport infrastructures, measures or policies (Sinha and Labi, 2007).

Greenhouse gas emissions (GHGs) and particularly carbon dioxide (CO_2), are one of the most delicate externality. Transport is responsible for 24.3% of GHG emissions and it is the second emitting field after energy production. Furthermore, it is the only sector that has not shown a reduction in the last 25 years; indeed, GHG emissions have increased by about 22% in comparison to levels in 1990 (EC, 2016).

From a **policy** perspective, Europe has been particularly sensitive to this issue, not only limiting its commitment to GHG reduction fixed on the international level, but also elaborating its own continental strategy. The programme "20 20 20" (EU, 2012) imposes a decrease of the emissions by 20% by 2020; recently it has been integrated with the "2030 initiative", which aims at reducing the emissions by 40% within 2030 (EC, 2015a). However, in order to be effective, these policies should be supported by concrete **measures**, which the scientific literature classifies into *push*- and *pull*- categories (Nocera and Cavallaro, 2011).

Combined Transport (CT) is seen as a solution to develop a more sustainable freight transport in the Alps. CT presents a range of benefits:

- It is friendly towards the environment, with lower CO_2 emissions;
- It is friendly towards society, as it reduces accidents, road congestion and dependency on energy reserves;
- It allows a better use of existing capacity of existing infrastructures;
- It combines the flexibility of road with the economies of rail on long journeys for large volumes;
- It is well integrated in the logistics chain.

However, the efficiency of CT is often low, mostly due to the additional transhipment and to the higher costs that are necessary to realize such type of service. The Alpine Space project **AlpInnoCT** (Alpine Innovation for Combined Transport) aims to improve CT, reconciling the growth of goods moved with protection of nature and people in the Alps. The focus on CT, involving all transport chain actors, proposes to improve the competitiveness and efficiency of sustainable transport solutions, reducing negative environmental effects, which arise from freight traffic by road. The project is organized in different Work Packages (WPs) and activities (ATs). WP1 is the preliminary WP, which aims at providing all information necessary to develop the project. This **technical report** covers part of the outputs of activity AT1.1, which includes an Analysis of CT strategies, projects and funding structures. The main points covered by this report can be summarized as follows:

- description of existing corridors and intermodal terminals in the Alps;
- analysis of CT strategies, administrative and technical bottlenecks;
- definition of transports' negative effects in the Alpine Area;
- collection of relevant CT projects, policies, strategies, bodies and measures on local, national, Alpine Space (AS) and EU levels.

This report is structured in **seven sections** and **eleven appendixes.** Section 1 (*Introduction)* provides a brief description of the state of the Alps and of freight transport in the context analysed. Section 2 (*Transport negative effects in the AS),* which is elaborated by CIPRALab, describes the negative effects caused by transport in the AS, revealing the importance of CT towards a balance between transport modes and a more sustainable development of transport along the Alps. Section 3 (CT in the Alpine Region: definitions) provides the definitions of CT and the geographic area, the object of evaluation. Section 4 (*CT in the AS)* describes the alpine area, by analysing both the supply side (transalpine corridors and intermodal terminals) and the demand side (their volumes). Section 5 (*Barriers of CT in AS*), which is written by the WPL, University of Maribor, presents the results of a survey among PPs and observers. The aim is to understand the main barriers related to the diffusion of CT that different stakeholders currently

encounter. Section 6 *(Tools to support CT)* is the core of the deliverable. It describes the actions that can contribute to an increase of CT efficiency. They are divided into policies, measures and projects, collected on different scales: EU, AS, national and local. Section 7 (*CT bodies)* provides a list of the main actors that are related to CT, according to their competencies, roles and responsibilities. Section 8 (*Conclusions)* ends the report, by describing the practical implications of these analysis, in order to define a coherent contribution of these outputs to the activities of WP1 and other WPs. Finally, the 11 Appendixes collect all data and information gathered by Eurac Research and provided by PPs, harmonized and integrated into a common document.

2. Transport negative effects in the AS

Historically, the valleys of the Alpine Space have been important traffic and transport routes. With the construction of railway lines and the extension of the roads to an interstate highway network (mostly during the '60s and '70s), the **transport volume** in the alpine valleys has increased continuously. In 2015, it reached the highest values ever registered (iMonitraf!, 2017a).

On parallel, **negative effects on the environment and on the society** have increased, as well. The Alps are a sensitive ecosystem. They are one of the most biodiverse regions in Europe. The Alpine region is also an intersection of cultures and languages and traditions. The growth in transport menaces this fragile equilibrium. In the inner-Alpine arch, European traffic concentrates on five major freight North-South corridors: Fréjus, Mont Blanc, Gotthard, Brenner and Tarvisio (BAV, 2014a). Along with their central location and the strong concentration on a few corridors, the negative effects of transport are further exacerbated by the topography and meteorological conditions, also known as the "Alpine factor". The air pollution is even intensified by a so-called ground-level inversion situation, when cold air is lying on the bottom of the valley in winter and warmer air masses are layered over it (Figure 1, left side). With such weather conditions, pollutants are concentrated in a narrow space and their concentration can be up to six times higher than in normal conditions (BAV, 2013). The same applies to the noise: in the narrow valleys, the spread of the sound waves is reduced. In a direct line of sight to a highway or railway, traffic noises can be perceived three times as loud on mountain flanks, as from the same distance in flat terrain (Figure 1, right side). Due to the morphological conditions and the restricted available space, people tend to live closer to the highways and transport infrastructures. The closer people live to alpine crossing highways, the stronger the effect of pollution on health: BAFU (2016) has demonstrated that people living at a relatively short distance to the highway run a greater the risk of suffering from chronic cough or asthma.

Therefore, the environmentally compatible management of transalpine freight transport is an important concern in the Alpine regions. Surveys and data collection about air quality and noise emissions along the transit axes reveal a mixed picture. Although technical progresses and policy guidelines for air pollutants and noise have led to significant improvements, the burden on the environment caused by the alpine freight traffic is still high. Scenario assessments by 2020 make it clear that additional efforts are needed to ensure that the transit corridors regain their function as adequate habitats for the local population. In order to grant a good quality of life and to avoid the depopulation of these

areas, it is crucial to maintain healthy habitats and living spaces, without obstructing the free flow of transalpine transport.

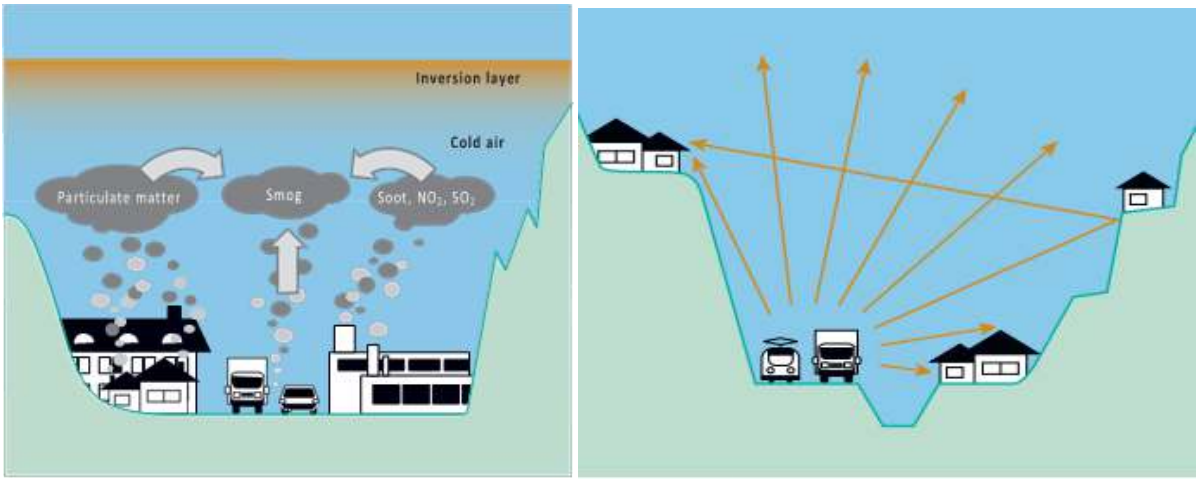


Figure 1: The diffusion of pollutants and noise in the Alpine areas. Source: BAFU, 2016

In the scientific literature, environmental and social effects caused by transport are known as **externalities**, because they are not completely covered by those that generate them and affect the community. In order to make a fair evaluation of transport externalities, the guidelines developed by the EU (Ricardo-AEA, 2014) suggest considering at last the following components: local air pollution, global air pollution (or GHGs), noise pollution, crashes, congestion, building and maintenance of the vehicles and infrastructures, fuel production and the infrastructural marginal costs, i.e. the additional costs of maintenance caused by a higher level of traffic. In the next subsections, the most critical aspects referred to freight transport and the Alpine area are presented.

2.1 Local air pollution

The local air pollutants are carbon monoxide (CO), sulphur dioxide (SO_2), nitrogen oxides (NO_X), lead (Pb), particulate matter (PM_x) and ozone (O_3). Also known as criteria pollutants, they are responsible for health diseases. The most damaging traffic emissions for the health of inhabitants of the Alpine regions are nitrogen dioxide (NO_2) and particulate matter (PM_{10}). PM_{10} caused by combustion processes is particularly carcinogenic, whereas NO_X can form poisonous nitrogen dioxide NO_2 (BAV, 2013). NO_x limit values (40 µg/m³ in all EU countries, except for Switzerland and Austria, where the limit is 30 µg/m³) are still exceeded along the most important transalpine freight corridors. The highest concentrations in 2015 are measured along the Brenner (Figure 2, green colour scale) and the Gotthard axes (blue colour scale), those corridors with the highest

traffic flows, thus confirming the correlation between NO_x emissions and road transport.

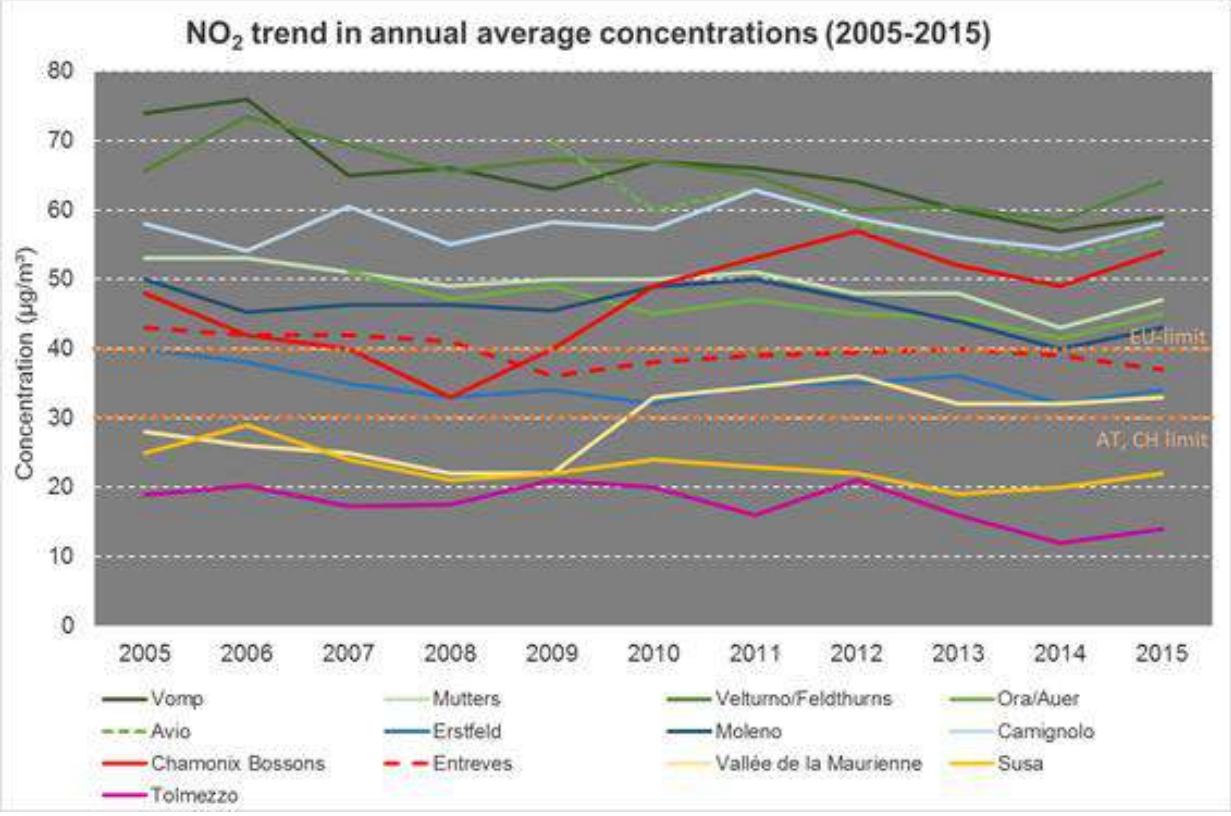


Figure 2: annual average concentration of NO_2 along main transalpine corridors, years 2005-2015. Source: iMonitraf!, 2017a

A similar trend is visible also for PM_{10}, even if average values are below the threshold fixed at the EU and Swiss level. In this case, not only the road transport is responsible for the emissions. Also rail causes PM_{10}, mainly through friction. However, this type of PM_{10} is noticeably less damaging than that emitted by a diesel engine and can be considered negligible (BAV, 2013).

2.2 GHG emissions

In last decades, the temperature in the Alps has risen at a rate about twice as large as the average of the Northern hemispheric (Auer et al., 2007). Also the environmental effects of global warming are stronger in the Alpine region than in the rest of Europe (CIPRA International, 2011). Despite some minority positions (labelled under the "climate change counter-movement"), the international community largely agrees that human activities are actively responsible for

climate change: the International Panel on Climate Change (IPCC), the most acknowledged international scientific body on GHG issues, defines climate change as unequivocal, and its causes as extremely likely linked to anthropogenic activities (IPCC, 2014). Carbon dioxide (CO_2) is the most important one, counting for about 75% of overall GHG emissions (IPCC, 2007). Together with methane (CH_4) and nitrous oxide (N_2O), it constitutes almost the total emissions of GHGs (EEA, 2016).

Transport is responsible for about ¼ of overall GHG emissions and their increase, compared to the levels of 1990, has been higher than 26%, being the only field not providing a reduction (EEA, 2016). As far as **road freight transport** is concerned, there is a strong link between the Euro-standards introduced to restrict emissions of NO_x and PM_{10} and the growth of GHG emissions: anti-particulate filters consume energy and have reduced the CO_2 efficiency of the engines. This resulted in no substantial improvements since the introduction of the Euro I standard (Rochefordière, 2013). Combined with the increase of traffic, this explains the growing CO_2 emissions produced by road transport. For **rail freight transport**, the amount of GHG emitted depends on the type of locomotives (diesel or electric) and on the energy source adopted to produce electricity. Transalpine corridors are normally electrified, hence the production of electricity is a main aspect. Whereas in Switzerland mainly hydroelectric power is used, energy production in countries like Italy and Germany is still strongly fossil based (BAV, 2013). Slovenia lies in the middle: 1/3 of electricity is produced from hydroelectric sources, 1/3 from fossil fuels and 1/3 from nuclear power plants.

2.3 Noise pollution

Noise causes cardiovascular diseases, cognitive impairment, and sleep disturbances. According to the World Health Organisation (WHO, 2011), noise is one of the major causes of death in Europe. It is the biggest externality generated by rail freight. Freight trains often operate at night, and historic railway lines pass through the town centres. This suggests that more people are affected by railway noise than by road noise. A Swiss case can be emblematic in this context: before the opening of the Gotthard base tunnel, about 30% of the population was affected by excessive railway noise between the towns of Erstfeld and Bellinzona, whereas the population affected by road noise was limited to 10% (BAV, 2013).

For rail freight transport there is still a good margin to improve the current condition. However, the building of the sound-absorbent barriers and the oiler devices equipped in some experimental sectors on the rails have produced good results, as well as the improvement of the technology regarding wagons. For road freight, there is a lower potential to reduce the noise generated by

HGVs. A lorry travelling at the speed of 100 km/h causes about the same amount of noise as ten passenger cars.

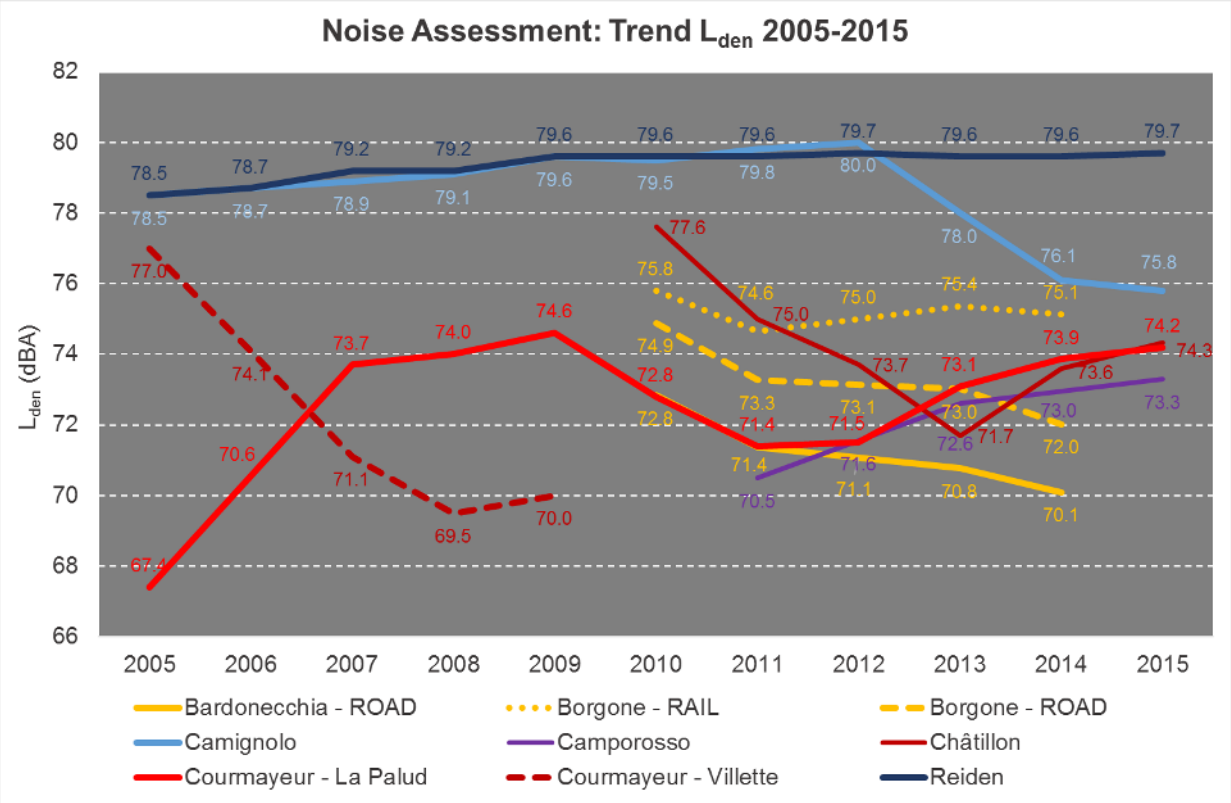


Figure 3: Noise concentration along main transalpine corridors, years 2005-2015. Source: iMonitraf!, 2017a

Noise data for different alpine corridors are more difficult to obtain than data on air pollution. According to the iMonitraf! data collection, the Gotthard and the Mont Blanc are the only corridors with continuous data collection for the period 2005-2015 (Figure 3). Two different indicators are collected: namely, L_{den} and L_{night}. The former defines the overall noise level during the day, evening and night and is used as indicator to describe the annoyance caused by exposure to noise. The latter is the indicator for the sound level during the night used to describe sleep disturbance. Swiss data shows that the noise level along highways is relatively stable. However, the installation of a new noise-reductive paving in Camignolo had a positive influence on the noise level (BAFU, 2016), reducing L_{den} from 80 to about 76 dBA.

2.4 Accidents

Another relevant externality is represented by road and rail accidents. The former are particularly relevant: whilst representing only 3% of vehicles in Europe, HGVs account for 15% of fatal accidents, which correspond to around 4,200 deaths per year (ETSC, 2013). Calculated on a comparable ton-kilometre basis, the safety performance of rail transport is ten times higher than trucks. This value rises up to 25 times, when fatalities are considered (UIRR, 2013).

2.5 Fragmentation of landscapes and other externalities

Land is a limited commodity in the Alpine valleys. Road and rail infrastructures cut valleys in two, limiting the movement of people and animals. Consequently, habitats and distribution of many species have been extensively diminished, degraded, and fragmented, causing a serious threat for their survival. Landscape fragmentation not only reduces the overall size of natural habitats but also leads to landscape "patchiness", which is the isolation of natural areas into distinct habitat islands that prevent essential ecological processes from taking place.

Biodiversity and ecosystem services provide important values to society and economy and generate economic value. Likewise, ecological connectivity represents an indispensable value for society and the economy. When the connectivity between habitats is lost, these habitats gradually degrade and biodiversity levels within them (and associated ecosystem services) decline. Hence, ecological connectivity is a determining factor for the survival, migration and adaptation potential of all plant and animal species present in a given habitat and – by extension – a determining factor for the preservation of ecosystem services (ECONNECT, 2011).

Some other externalities could be considered in this analysis, as well: **congestion** (even if some authors do not consider it as a direct source that affect the community, but rather as a cause of increased crashes, local and global emissions), **water and soil pollution**, **urban effects**.

Overall, it is estimated that the transport contribution of all externalities count for about **4%** of the **continental GDP** (CE Delft, 2011). About 93% of such costs are caused by road transport. This explains the reason behind the attempt promoted by the EU to shift freight transport from road transport to less polluting transport systems. CT is a form of transport that can contribute to this aim.

3. CT in the Alpine Region: definitions

3.1 CT: weaknesses and strengths

Combined Transport (CT) can be defined as "*the transport of goods between Member States where the lorry, trailer, semi-trailer, with or without tractor unit, swap body or container of 20 feet or more uses the road on the initial or final leg of the journey and, on the other leg, rail or inland waterway or maritime services where this section exceeds 100 km as the crow flies and make the initial or final road transport leg of the journey between the point where the goods are loaded and the nearest suitable rail loading station for the initial leg, and between the nearest suitable rail unloading station and the point where the goods are unloaded for the final leg, or within a radius not exceeding 150 km as the crow flies from the inland waterway port or seaport of loading or unloading*" (Council Directive 92/106/EEC).

With reference to the equipment, two types of CT can be identified: the **maritime** and the **continental** one[1]. In this report, the focus is primarily set on the latter, which includes terrestrial transport modes (particularly road and rail systems; CT RR), as they play the most important role in the Alpine area. However, the presence of important ports near the boundaries (e.g., Trieste, Venice) imposes the inclusion of maritime transport mode as well. This type of CT can be carried out either in two phases (ship – road; SR) or in three steps (ship – rail – road; SRR CT).

A further distinction concerns the type of service. We distinguish an **accompanied CT** (ACT, also called rolling highway, rolling road or RoLa) and an **unaccompanied CT** (UCT), where the tractor unit, respectively, does and does not accompany the load unit.

Finally, a third distinction may involve the scale, which can be either ***domestic*** (if the service is carried out between two terminals located in one country) or ***international*** *(*between two locations in separate countries).

In order to play a key role in Europe and to contribute to the reduction of the transport externalities mentioned in the introduction, CT requires efficient infrastructures and good interconnections between them. For the sake of clarity, they can be divided into two main macro-areas: ***transport corridors*** (rail, road, waterway), which define the arcs where the goods are moved; and ***intermodal terminals***, which are the nodes equipped for the transhipment and storage of

[1] According to KombiConsult GmbH et al. (2015), the former identifies movements of goods between European seaports and inland destinations and trans-continental cargo with origin or destination overseas. The latter is defined as the movement of cargo that is sourced in/bound for a location within Europe.

Intermodal Transport Units (ITUs), such as containers, swap bodies and semi-trailers suitable for the intermodal transport.

Ideally, CT merges the **strengths** of road and rail transport, using the area-wide flexibility of the trucks combined with reliability of the rail service, bundling the good flows at terminals and ship them by economically and environmentally favourable blocks with a higher transport capacity of the goods compared to road transport over long distances (Table 1). This transport mode causes less dangerous impacts to the environment and to the health of citizens (e.g. less air pollution, accidents and congestion). Longer transport routes entail a more international freight transport and an increase in transport speed. Indeed CT can benefit from exemptions in driving bans and other transport restrictions, liberalising the initial and final road legs, and performing the transnational transport with less controls.

Another important feature of CT is to consider the time of driver spent on the RoLa as a rest period. This measure, introduced to increase road safety and to ensure the working condition standards, permits more time efficiency in the CT service, without reducing the rest hours of the truck drivers (as registered by the *Digital Tachograph*).

CT allows a more concentrated location of infrastructures, with the need for less areas and a more efficient use of existing railways, disburdening roads and establishing synergies between intermodal terminals that involve different transport modes. In particular, the electrification of new railway lines, the removal of bottlenecks and the introduction of new technical solutions (e.g. Nikrasa or Megaswing) can improve both the railway sector and the related services.

Other important strengths of CT can be related to the management field with the possibility to have a higher weight for CT (payload adjustment), a more reliability of the system (less risks of congestion, delays and theft) and with the introduction of administrative measures to improve terminal access, operations and facilities (e.g. simplification in border procedures, in the authorization of rolling stock and in slot management on main corridors). Finally, CT guarantees better performances in terms of accidents, being the road component of transport more limited.

In practice, CT suffers from several **weaknesses** (EC, 2015 b), which can make the service not competitive: they may refer to the low density of CT inland terminals (with the consequence of high costs for pre- and on-carriage by road), handling costs, deficits in service quality and cost-efficiency. Departure delays may cause consequential knock-on delays, resulting in costs for mitigating the impacts and the inefficient use of resources. Further deficits can be related to the supply side of CT services, to the state of the rail infrastructure, to operational rules and to train operations. The constraints here may refer to train and axle weight, train

length, as well as loading gauge. Referring to the transnational level, the difficulties related to the standardisation of technical aspects and administrative procedures underlines that the results obtained so far (for example, about the CT reference wagon, used in codification of railway lines and the semi-trailer envelope) are not sufficient and more efforts are required.

A further barrier is the patchwork of energy and signalling systems in the EU, which may require a change of locomotives at the borders or the use of more costly multi-system locomotives. The deployment of European Train Control System has not helped but rather hindered the situation on some corridors (for example, the connection between Italy and Slovenia). More in general, the uncoordinated infrastructural works between countries is an important obstacle to the development of CT. Rail Freight Corridors, aiming to solve most of the problems of cross-border rail freight, have yet to deliver tangible results in the coordination of works. Another gap could be the insufficient train path capacity for CT trains: virtually all trunk routes of CT over rail are used both for passenger and for freight transport. The prioritisation of passenger services reduces the available train path capacity for CT services and generally penalizes them in terms of scheduling and reliability. Furthermore, a lack of maintenance of rail infrastructure on large sections of the EU network may result in low average speeds, which are not competitive with road haulage. Non-harmonised terms and conditions for rail access constitute another main issue. The lack of harmonisation may be related to numerous aspects such as train numbering, train path definitions, handover procedures at borders, exchange of operational data, or train monitoring. The rail industry has largely failed to establish effective services, due to the lack of synergies between infrastructure managers, railway undertakings and CT service providers. As a result, average commercial speed of freight trains is generally low (on some international routes it does not exceed 18 km/h; ECA, 2016), even if in some cases it is competitive with road transport (e.g., along the Rhine–Alpine corridor). Disproportionately high last-mile costs may arise if terminals are located near the main infrastructural line. In addition to other infrastructure-related bottlenecks, limited loading gauges also constrain the market coverage for CT service providers. Currently, in some countries, market entry barriers are high and open access terminals are missing. Finally, information may be another critical component. The CT rail/road sector in the EU lacks of an "open data" ICT platform for exchanging booking, operational, tracking and tracing data between relevant companies involved in the CT supply chain.

STRENGTHS OF CT	WEAKNESSES OF CT
Infrastructures • More concentrated location of infrastructures (reduced land use) • More efficient use of existing infrastructures • Synergies between intermodal terminals involving different transport modes ***Management*** • Exemption from driving bans and other transport restrictions, liberalised initial and final road legs • Higher weight allowed for CT (payload adjustment) • Introduction of administrative measures to improve terminal access, operations and facilities • More reliability of the system (less risk of congestion, delays and theft) • Time of driver at ROLA seen as rest period • Transnational transport performed with less controls • Transport security (less accidents) ***Services*** • Area-wide flexibility of the trucks combined with reliability of the rail service • Different services in the intermodal terminals for the processing, storage and maintenance of goods • Bundling the good flows at infrastructural terminals • Higher transport capacity of the goods compared to road transport ***Environment and society*** • Less dangerous impacts for the environment • Less dangerous impacts for the health of citizens	***Infrastructures*** • Differences in energy and signalling systems in the EU • Insufficient train path capacity for CT trains (due to the use of the line for both passengers and goods) • Interoperability deficit of rail infrastructure (e.g. constraints related to maximum weight or to the length of trains) • Lack of maintenance of rail infrastructure / unsuitability of existing rail infrastructure • Low average commercial speed of trains • Low density of CT inland terminals in some countries • Uncoordinated infrastructural works ***Management*** • Lack of open-access (market entry barriers) • Lack of service level guarantees (no synergies between infrastructure managers, railway undertakings and CT service providers) ***Services*** • Costly last mile • Deficit in cost-efficiency (e.g. handling costs, costs for short shipping) • Insufficient ICT capabilities • Lack of operational service quality • Lack of standardisation about technical aspects and administrative procedures • Non-harmonized terms and conditions for rail access

Table 1: Main strengths and weaknesses related to CT.
Source: adapted from EC, 2015b and UIRR, 2017a.

The weaknesses related to CT can be overcome by adopting some specific recommendations aimed at improving the efficiency of the system (Table 2). These advices were presented by Logistik-Kompetenz-Zentrum (LKZ, 2017a) during the second Mobility Conference, held in Bolzano on 25th October 2017 and discussed with Eurac Research. These points, which in most cases do not require huge investments, are complementary to the infrastructural interventions and policies described in section 6 and should be considered integrated aspects that increase the competitiveness of CT.

RECOMMENDATIONS TO IMPROVE CT	
Supply chain improvement and targeted investment	• Development of an optimal Supply Chain model for illustrating the CT-Processes to have a common basis of understanding and decision making • Identification of and undertaking low, focused investments in infrastructure bottlenecks with high leverage effects for railway transport • Improvement of interfaces between national networks and transitional corridors • Follow-up the potential of dry ports in the systems of the TEN-T corridors
New technologies	• Openness for technologies for Ct, leading to a balance of environmental protection and sustainable economic growth • Optimizing IT flows along the supply chains by electronic and standardized data exchange among terminals
Governmental spatial planning – regulations and incentives	• Development of the best practice concepts for an optimal freight village and terminal design and layout • Redesign of funding guidelines and implementation task-oriented subsidies for CT • Stronger connection of logistic aspects and spatial planning policies to optimize transport flows and land use in Alpine Space regions • Support approaches to corridor planning and coordination (in the frame of the new TEN-T) and thus increase potential for CT • Establish long-term governance structures for transnational transport corridors
Private companies involvement	• Development of new business models tailored to the needs of SMEs for the participation in CT • Involvement of public and private implementing partners in projects developing specific marked-oriented products to support sustainable freight transport • Optimize empty container management
Information and education policies	• Development and promotion of educational programmes to increase sustainability and competitiveness of (Alpine Space) CT
New measures standards / collection methods	• Collection of all existing standards in European rail transport in a knowledge pool as basis for harmonizing standards • Definition of a specific standard for the measurement of CO_2-emissions as basis for the evaluation of projects and economic activities in Alpine space • Development of both necessary and appropriate data collection (in cooperation with economy and politics) in CT sector

Table 2: Main recommendations to improve CT. Source: LKZ, 2017a

3.2 TEN-T corridors

The transalpine corridors are the backbone of the freight from/to Italy. The most important transalpine corridors are part of the ***Trans-European Networks Transport*** (TEN-T; EU Regulation 1315/2013), which constitutes the reference framework of transport infrastructures, both for passenger and for freight transport, on the continental level. The rationale behind the selection of the main corridors is to concentrate intermodal transport on a primary transport network, in order to avoid dispersion of traffic along the Alps. Accordingly, TEN-T, whose complete realization is expected by the year 2050, is composed by nine main axes, called "*Core Network Corridors*" (CNCs). The Alpine area is interested in four main corridors (Figure 4): the Mediterranean (direction east-west), the Rhine-Alpine and the Scandinavian-Mediterranean (direction north-south) and the Baltic-Adriatic (direction north-east/south-east).

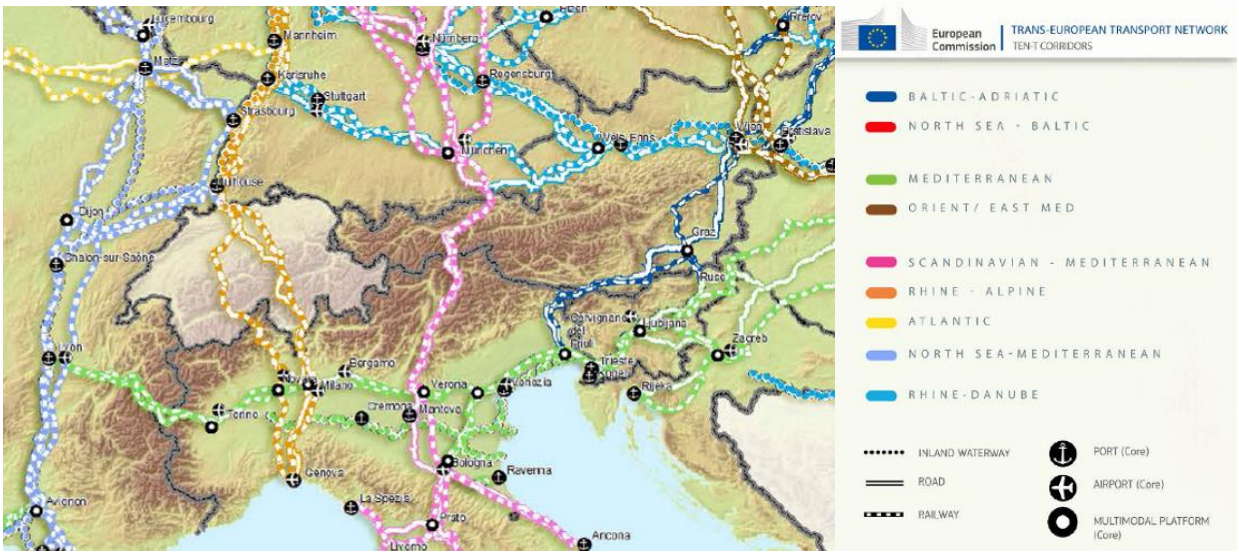


Figure 4: TEN-T corridors that cross the Alpine Space. Source: EC, 2017a

The ***Baltic – Adriatic corridor*** (from Gdynia/Gdansk to Koper/Trieste/Ravenna) is 4,606 km long and runs through six countries: Poland, Slovakia, Czech Republic, Austria, Slovenia and Italy. It connects the Baltic port of Gdansk/Gdynia in Poland with the ports of the Adriatic Sea (Trieste, Venice, Ravenna and Koper), passing through primary hinterland cities (Vienna, Graz, Klagenfurt and Udine). It comprises important railway projects such as the *Semmering* and *Koralm base tunnels* in Austria.

The ***Mediterranean corridor*** (from Algeciras to Budapest/HU border) is 9,765 km long and involves 6 countries: Spain, France, Italy, Slovenia, Croatia and Hungary.

It links the Iberian Peninsula to the Hungarian-Ukrainian border. It follows the Mediterranean coastlines of Spain and France, crosses the French-Italian Alps towards the Eastern Europe through Northern Italy, through the Adriatic coast in Slovenia and Croatia towards Hungary. Apart from the Po River and some other minor canals in Northern Italy, it consists mainly of road and rail infrastructures. Key railway projects along this corridor are the stretches between Lyon and Turin (France-Italy) and the section Venice – Ljubljana (Italy-Slovenia).

The ***Scandinavian-Mediterranean corridor*** (from RU border to Valletta) is 9,121 km long. It involves 7 countries: Finland, Sweden, Denmark, Germany, Austria, Italy and Malta. This Corridor is the other crucial north-south axis for the European economy. Crossing the Baltic Sea from Finland to Sweden and passing through Germany, the Alps and Italy, it links the major urban centres and ports of Scandinavia and Northern Germany, continuing to the industrialised high production centres of Southern Germany, Austria and Northern Italy, further to the Italian ports and La Valletta. The most important infrastructural projects along this corridor are the *Fehmarnbelt crossing*, an immersed tunnel that connects the Danish island of Lolland with the German island of Fehmarn and the *Brenner base tunnel (BBT)*, which will connect Innsbruck (Austria) and Franzensfeste/Fortezza (Italy).

The ***Rhine–Alpine corridor*** (from Rotterdam to Genoa) is 2,882 km long and runs through 7 Countries: the Netherlands, Belgium, Germany, France, Luxembourg, Switzerland and Italy. This corridor connects the North Sea ports of Rotterdam and Antwerp with the Mediterranean basin in Genoa along the River Rhine, used as inland waterway. It is also connected to Zeebrugge harbour (Be) via Cologne. It crosses Switzerland, some of the major economic centres in the Rhein-Ruhr, the Rhein-Main-Neckar regions and the agglomeration of Milan in Northern Italy. The corridor includes two base tunnels: the Lötschberg and the Gotthard Tunnels in Switzerland, respectively 34.6 km between Frutigen (Bernese Oberland) and Raron (Valis), and 57 km between Erstfeld and Bodio. The outstanding position together with the fact that this corridor carries the greatest transport volume in Europe, makes this corridor the pioneer for international rail freight transport.

Another classification of these corridors only considers the freight transport and the rail transport system. The ***Rail Freight Corridors*** (RFCs, Figure 5) are defined according to the *EU Regulation 913/2010*. In line with the TENT-T guidelines, this Regulation sets the basis for the realization, organization and management of international rail freight corridors. The aim of this regulation is to guarantee a competitive freight transport, by improving the transport cross-border connections. Since a key objective of RFCs is to foster intermodality between rail and other transport modes by integrating intermodal centres and terminals into

the corridor management and development, its implementation is particularly relevant for CT.

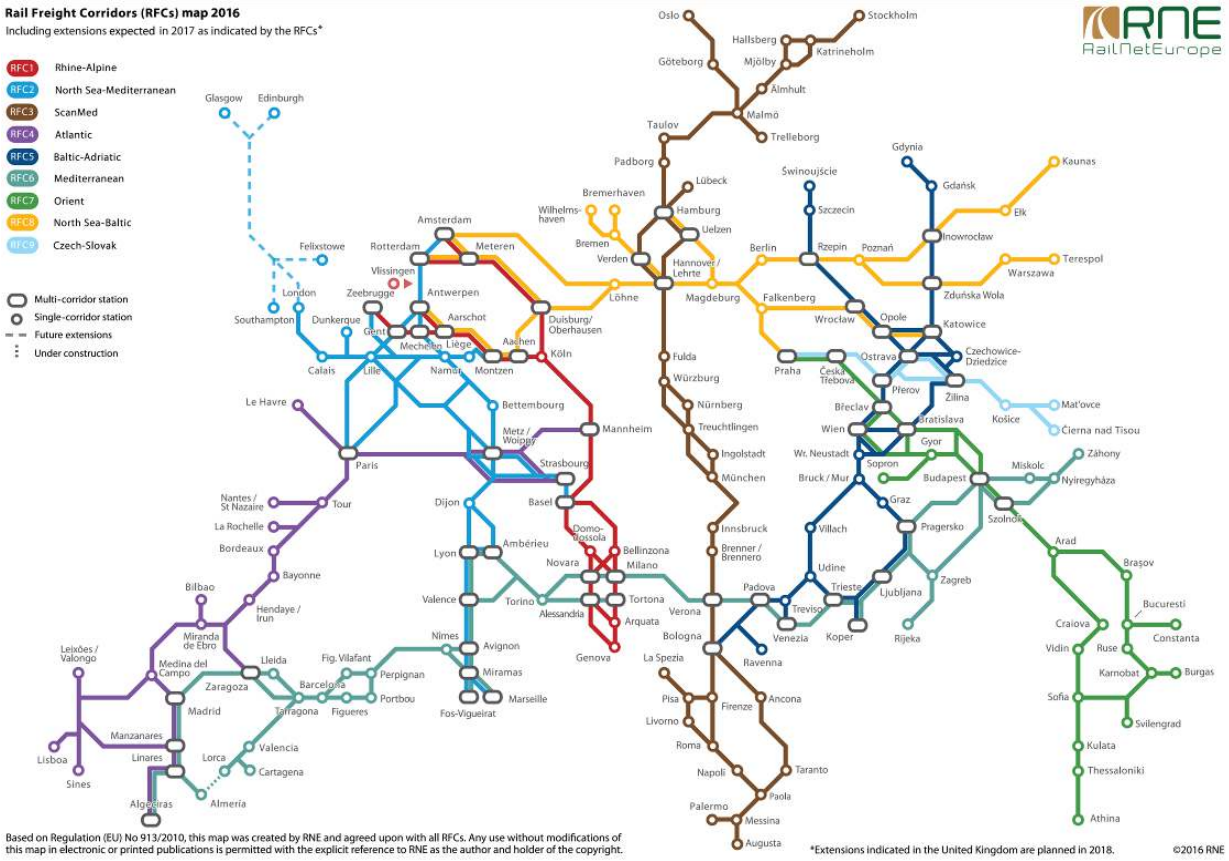


Figure 5: Rail Freight Corridors. Source: RNE, 2016

A third classification of rail freight corridors can be made according to the technological deployment (Figure 6). The ***European Railway Traffic Management System*** (ERTMS) is the standard for the Automatic Train Protection, which should guarantee the interoperability of the railway system. ERTMS, which is partly installed on the tracks and partly installed on board of the trains, enforces compliance by the train with speed restrictions and signalling status. According to this classification, there are two transalpine corridors (e.g., Scandinavian-Mediterranean, Mediterranean ones), which should be completely deployed by the year 2020, whereas the Rhine-Alpine and Baltic-Adriatic corridors should not.

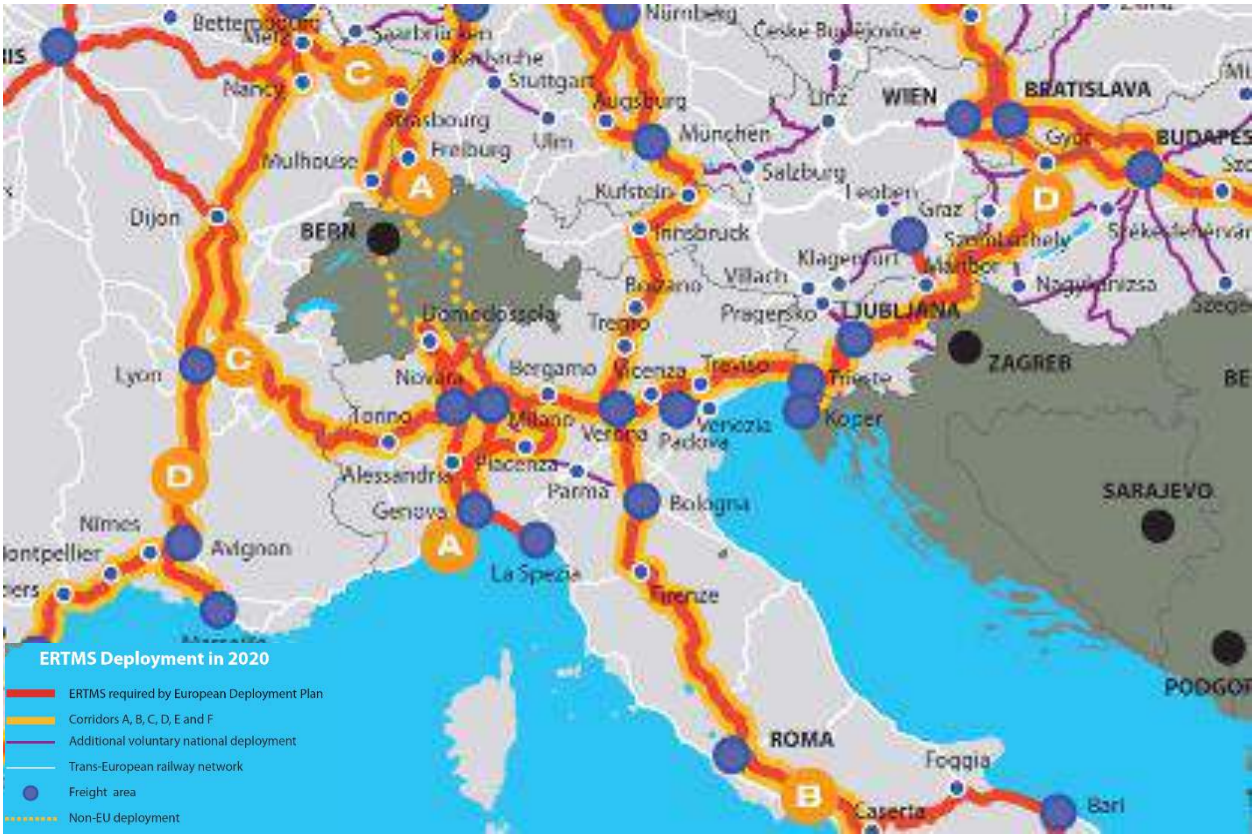


Figure 6: European Deployment Plan for ERTMS. Source: EC, 2017a.

The three classifications of transalpine corridors presented above do not perfectly correspond (Table 3). For a more detailed description, interested readers may also refer to *Appendix 1*, which shows the main characteristics of all TEN-T, RFC and ERMTS corridors in the EU and to section 4, where each corridor is analysed in terms of infrastructures, intermodal centres, and traffic volumes.

CORRIDOR	ORIGIN - DESTINATION	LENGTH (km)	COUNTRIES	CHARACTERISTICS
a) Baltic-Adriatic **b) RFC 5**	Gdynia/Gdank – Koper/Trieste/Ravenna	4,606	6 countries: PL, CZ, SK, AT, SI, IT	Connects Baltic ports in PL with ports of the Adriatic Sea. Core urban nodes: 14; Maritime ports: 8; IWW ports: 5; RRT: 20
a) Mediterranean **b) RFC 6** **c) ERTMS D**	Algericas – Budapest HU border	9,765	6 countries: ES, FR, IT, SI, HR, HU,	Links ports in the South Western Mediterranean region to the Ukrainian border. Core urban nodes: 14; Maritime ports: 4; IWW ports: 9; RRT: 19

a) Scandinavian-Mediterranean **b) RFC 3** **c) ERTMS B**	RU border/ Helsinki-Berlin-Palermo/ Valetta	9,121	7 countries: FI, SE, DK, DE, AT, IT, MT	Links urban centres in Germany and Italy to Scandinavia and the Mediterranean Sea. Core urban nodes: 18; Maritime ports: 25; IWW ports: 6; RRT: 44
a) Rhine Alpine **b) RFC 1** **c) ERTMS A**	Genova- Amsterdam/ Zeebrugge	2,882	7 countries: NL, BE, LU, DE, FR, CH, IT	Connects North Sea ports to the Mediterranean basin. Core urban nodes: 13; Maritime ports: 8; IWW ports: 22; RRT: 20
Notes: - in the column "Corridor", a) refers to TEN-T, b) to RFC and c) to ERTMS classification; - length of corridors taken from https://ec.europa.eu/transport/modes/rail/ertms/corridors_en				

Table 3: Main transalpine corridors according to the EU classifications

3.3 The Alpine region

In the previous sections of this report, the terms "*Alpine region*", "*Alpine Space*", "*Alps*" appeared several times. However, in the literature this concept is **not univocally** defined; indeed, it varies according to the sources. This subsection defines the boundary of the Alpine region for the purposes of our study. To this aim, we limit the analyses to the EU definitions, as provided by the Alpine Convention (AC, 2017), the EUSALP (2017) and the Alpine Space Programme (AS, 2017)[2]. Figure 7 illustrates the boundaries officially adopted by each of the three sources.

While the Countries involved are the same (Austria, France, Germany, Italy, Liechtenstein, Slovenia and Switzerland), the considered territorial context is different. The AC presents the smaller one, including only the mountainous area; on the other hand, both the ASP and EUSALP fully encompass the AC perimeter, and include its perialpine surrounding area. Their perimeter largely overlaps, except for the French region of Alsace, which is included in the ASP but not in the EUSALP and the German region of Baden-Württemberg, included in the EUSALP, but not in the ASP.

In order to carry out a comprehensive analysis and being aware that the alpine freight transport is not limited to mountain areas, but it involves also the main metropolitan and urban centres at the fringes of the Alps, the area chosen for our evaluations is the largest one, merging the EUSALP perimeter with the ASP one.

[2] The AC is an international treaty established by Alpine Countries to protect the Alps and to develop them in a sustainable way. EUSALP is the EU macro-regional strategy for the Alpine area, which aims at addressing common challenges faced by a defined geographical area, relating to Member States and third countries located in the same geographical area. The ASP is a European transnational cooperation programme for the Alpine region, which provides a framework in order to facilitate the cooperation between economic, social and environmental key players in Alpine countries.

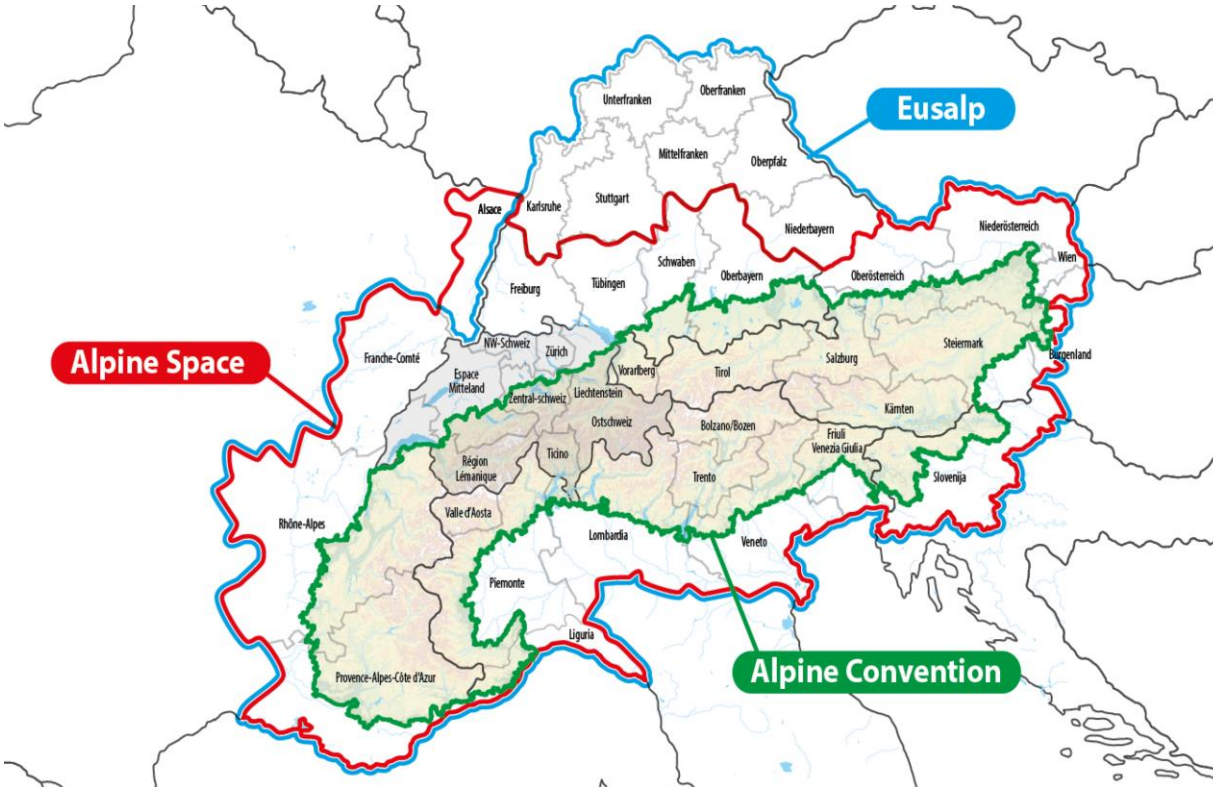


Figure 7: Definition of the Alpine perimeter according to AC, EUSALP and ASP. Source: EC, 2015c

4. CT in the Alpine Region: supply and demand

This section describes the Alpine stretches of the corridors highlighted in section 3.2 by providing a comprehensive vision in terms of infrastructural supply (section 4.1) and demand (traffic volumes registered along the corridors and in the main intermodal centres; section 4.2). A focus on the issues regarding CT is also given by identifying the existing types of relation and the characteristics of the service for each transalpine corridor.

4.1 Infrastructural supply

4.1.1 Transalpine corridors

Corridors represent an essential part of the network since they are able to guarantee the adequate **accessibility** to the regions and hence their international economic competitiveness (Dühr et al, 2010). However, their presence is not always an advantage: on the one hand, they reduce travel times between cities that are located along the lines, making future relations faster. On the other hand, this can cause a reduction of services on the secondary routes and can contribute to increasing differences between the stations and surrounding places. This effect, known as the **tunnel effect**, may lead to an unbalanced territorial development, which exacerbates the marginalisation of some peripheral areas and contributes to the increase of transport externalities (EC 1999). This is a main risk for the Alpine area, where relevant economic differences are still visible, even within regions crossed by the same transnational corridor (Alpconv, 2007).

If we refer to the main transalpine corridors of the AS, **16 main corridors** can be identified (Table 4, Figure 8). From west to east, they are: Ventimiglia, Montgenèvre, Mont Cenis/Fréjus, Mont-Blanc, Gr. St. Bernard, Simplon, Gotthard, San Bernardino, Reschen, Brenner, Felbertauern, Tarvisio, Tauern, Wechsel, Pyhrn/Schoberpass and Semmering. Among these corridors, ten allow a multimodal (**road/rail**) connection: Ventimiglia, Mont Cenis/Fréjus, Simplon, Gotthard, Brenner, Tarvisio, Tauern, Wechsel, Pyhrn/Schoberpass and Semmering, whereas Montgenèvre, Mont-Blanc, Gr. St. Bernard, San Bernardino, Reschen and Felbertauern grant only a **road** connection.

Country	Corridor	Specification	Rail (km)	Road (km)	Country	Corridor	Specification	Rail (km)	Road (km)
A-I	Reschen	Bludenz - Bolzano	0	227	CH-I	Gr. St. Bernard	Martigny - Ivrea	0	134
A-I	Brenner	Border D/A - Bolzano	195	186	CH-I	Simplon	Sion - Stresa Thun - Stresa	170	141
A-I	Felbertauern	St. Johann - Lienz	0	78	CH-I	Gotthard	Luzern - Chiasso	181	190
A-I	Tauern	Region Salzburg - Spittal	151	137	CH-I	San Bernardino	Chur - Chiasso	0	161
A-I	Schoberpass	Windischgarsten - Graz	162	145	F-I	Mont-Blanc	Region Geneva - Ivrea	0	202
A-I	Semmering	Region Wiener Neustadt - St. Michael	138	121	F-I	Mt Cenis/Fréjus	Region Chambéry - Region Torino	205	200
A-I	Wechsel	Region Wiener Neustadt - Region Fürstenfeld	140	184	F-I	Montgenevre	AC area	305	305
A-I	Tarvisio	Gemona - Tarvisio	60	60	F-I	Ventimiglia	Savona - Nice	142	141

Table 4: Main transalpine corridors according to the perimeter of the AC. Source: Suter, 1999

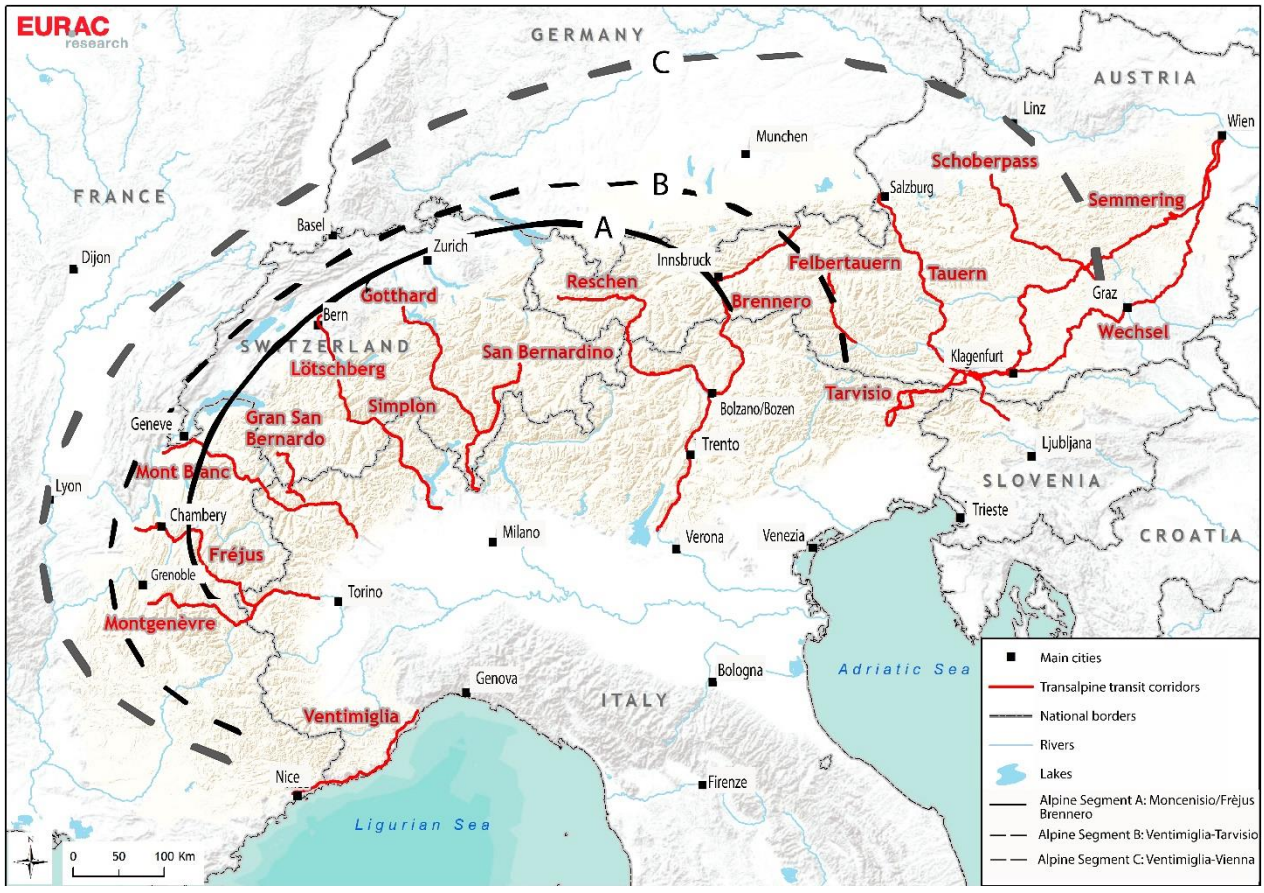


Figure 8: Main transalpine corridors

With particular reference to the transalpine **train connections**, Figures 9 and 10 show the main existing relations involving AS countries, both for UCT and ACT (further details can be found in Appendix 2). Also considering the minimum distance required to make such service competitive with road transport, it is not surprising that the main origins and destinations of **UCT** are located outside the alpine area, involving the main perialpine (Vercelli, Milano, Verona, Munich) and European (Paris, Rotterdam, Antwerp, Hannover, Hamburg, Köln) centres. The two Swiss (Gotthard and Simplon) and the Brenner axes are the rail infrastructures, which are mostly interested by such service (this is also confirmed by the traffic volumes, as reported in section 4.2.1).

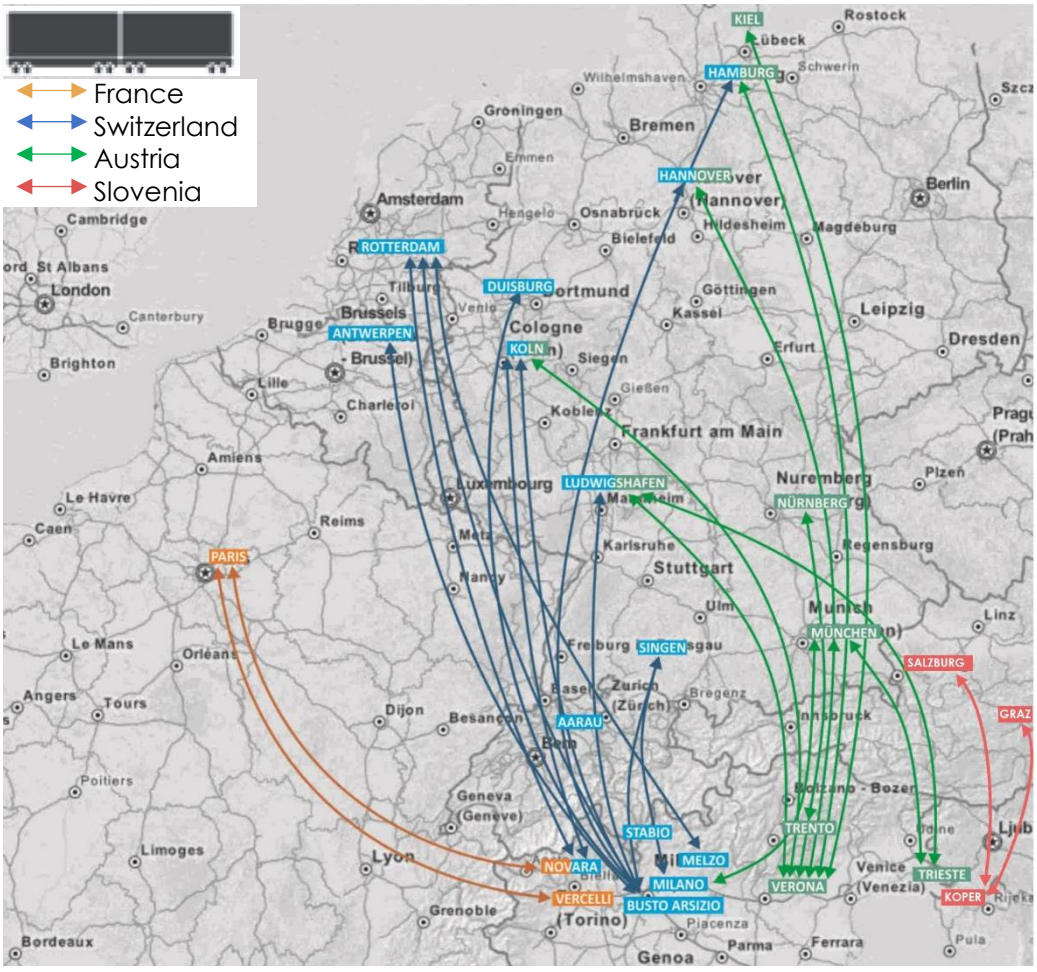


Figure 9: Main transalpine UCT relations. Source: OFT, 2016, modified.

As far as **ACT** is concerned (Figure 10), the relations are more limited. The only existing connection between **France** and Italy is the service between Aiton and Orbassano, along the Mont Cenis corridor. Five pairs of trains per day circulate along this line, covering the distance of 175 km in less than three hours. The

service is provided by AFA (Autostrada Ferroviaria Alpina), a company owned 50% by Trenitalia and 50% by SNCF-GEODIS.

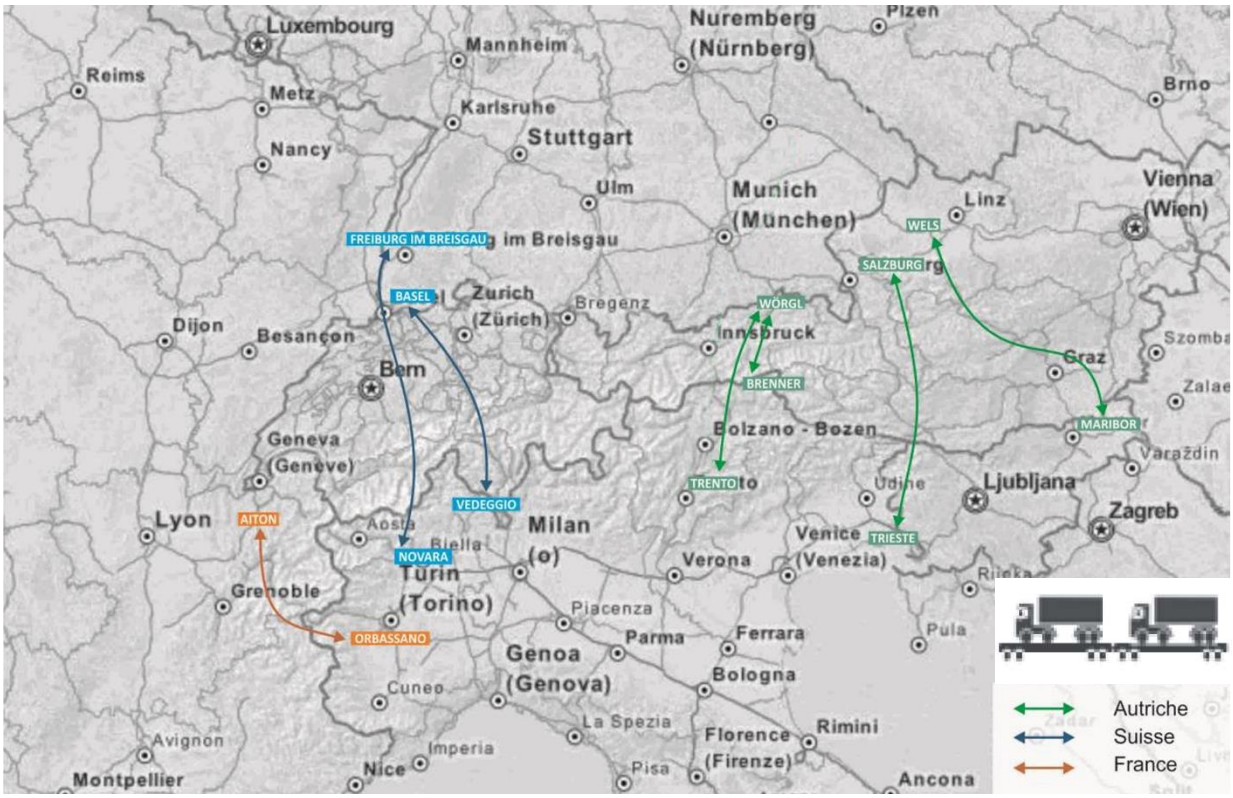


Figure 10: Main transalpine ACT relations. Source: OFT, 2016, modified

There are two connections along **Swiss corridors**: Freiburg-Novara and Basel-Vedeggio, respectively through the Lötschberg and the Gotthard corridors. They are both provided by the Swiss Ralpin AG. The former takes 10 hours to cover 414 km. It offers space for up to 22 trucks and provides 60 services in each direction each week. The latter (260 km) takes 5 hours. It offers space for up to 26 trucks and provides 5 services in each direction each week.

Along the Brenner corridor, the intermodal terminal of Trento (Interbrennero S.p.A.) is connected to the **Austrian** intermodal centre of Wörgl. The relationship between Wörgl and Trento (230 km) covers the whole distance and services between Wörgl and Brenner (at the boundary Italy/Austria) are also provided. Between Trento and Wörgl, the service is provided by Rail Cargo Operator - Austria GmbH/ROLA with three connections southward and four connections northward (which do not circulate daily, but according to specific timetables).

Rail Cargo Operator - Austria GmbH/ROLA also operates along the line Salzburg-Trieste, along the Tarvisio corridor. The service operates six days per week and it takes 10 hours. A connection is available also between **Slovenia** and Austria (centres of Maribor and Wels) with several pairs of train per day. Adria kombi, in

collaboration with RCO Austria, is offering a RoLa service for the development of the Western Balkan corridor with two to three pairs of trains per day.

4.1.2 Intermodal terminals

To ensure a competitive CT RR, both linear (corridor) and punctual (intermodal terminals) infrastructures are required. This paragraph focuses on the last aspect, describing the **most important intermodal terminals** that offer CT services in the Alpine area identified in 3.3. The main sources used to perform this analysis are: Suivi de Zurich (2014), Agora (2017), and UIRR (2017b). Intermodal terminals are transhipment points located near the main network, where the necessary techniques and equipment for the handling of the loading units are available. We have identified 100 Intermodal terminals: 18 in Austria, 9 in France, 37 in Germany, 21 in Italy, 4 in Slovenia and 11 in Switzerland (Figure 11).

Several factors concur in defining the appropriateness of an intermodal centre. The first point is the **proximity of the node to the main transalpine routes** (motorways, highways, railways, inland waterways). The location affects the importance of an intermodal terminal, the main markets, the origin and destination of the goods. This concept is normally referred to as *accessibility* and it is one of the main drivers that influence the economic development of a region.

The second important aspect involves the **transport modes** handled in the terminals. Referring to the geographic context of the Alps and its infrastructural network, road and rail are the most important modes. An exception is represented by those intermodal centres that are located along the rivers or ports that, in addition, also use barges, boats or ferries for their commercial trades.

A third important parameter is represented by the **technical characteristics** and the surface available for the intermodal activities. The deliverable AT.1.2 ("Analysis of CT processes and technologies") of the project AlpInnoCT deals diffusely with these aspects and we readdress interested readers to such document. In this paragraph, only some basic concepts are provided. The services can be classified in several ways, but the most common services offered by the main terminals are grouped into two groups. The first one is related to the basic handing of the different loading units, whereas the second involves the supplementary services regarding security, customs, container maintenance, container repair, container cleaning, dangerous goods, reefer, trucking, etc.

1	Aschaffenburg (DE)	26	MCT Mannheimer Container Terminal (DE)	51	Güterzentrum Wien Süd (AT)	76	Celje (SI)
2	Augsburg-Oberhausen (DE)	27	Nürnberg (DE)	52	Hall i. T. CCT (AT)	77	Koper Luka KT (SI)
3	Bamberg (DE)	28	Passau (DE)	53	Kapfenberg CCT (AT)	78	Ljubljana KT (SI)
4	Basel - Weil am Rhein (DUSS) (DE)	29	Regensburg Hafen (DE)	54	Krems a.d. Donau CCT (AT)	79	Maribor Tezno KT (SI)
5	Basel - Weil am Rhein (Rheinhafen) (DE)	30	Regensburg Ost (DE)	55	Lambach (AT)	80	Arluno (IT)
6	Burghausen (DE)	31	Schweinfurt (DE)	56	Linz Stadthafen CCT (AT)	81	Busto Arsizio-Gallarate (IT)
7	Cargo Center Bayern (Wiesau) (DE)	32	Singen (DE)	57	Port of Vienna (AT)	82	Cervignano (IT)
8	Container-Terminal Hafen Heilbronn (DE)	33	Stuttgart Container Terminal SCT (DE)	58	Salzburg CTS (AT)	83	Desio (IT)
9	Euro Terminal Kehl (DE)	34	Stuttgart Hafen (DE)	59	Salzburg Hbf- ROLA (AT)	84	Genova VTE - Port (IT)
10	Freiburg (DE)	35	Ulm (DE)	60	St. Michael CCT (AT)	85	Intermodal terminal of Mortara (IT)
11	Gendorf (DE)	36	Wackersdorf (DE)	61	Villach Süd CCT (AT)	86	Intermodal terminal of Rovigo (IT)
12	Hafen Deggendorf (DE)	37	Wörth (DE)	62	Wels Vbf. CCT (AT)	87	Intermodal terminal of Trento (IT)
13	Holf (DE)	38	Avignon (FR)	63	Wolfurt CCT (AT)	88	La Spezia Container Terminal (IT)
14	Ingolstadt (DE)	39	Lyon Terminal SA (FR)	64	Wörgl CCT (AT)	89	Melzo (IT)
15	Karlsruhe (Contargo) (DE)	40	Lyon Terminal Venissieux (FR)	65	Aarau (CH)	90	MGDV Vercelli (IT)
16	Karlsruhe (DUSS) (DE)	41	Marseille (FR)	66	Basel – Kleinhüningen (CH)	91	Milan CT-terminals (IT)
17	Kelheim Hafen (DE)	42	Marseille Port and Marseille FOS(FR)	67	Basel – Swissterminal (CH)	92	Nord-Est Terminal S.P.A. (IT)
18	Kornwestheim (DE)	43	Miramas (FR)	68	Basel Wolf (CH)	93	Novara CIM (IT)
19	Landshut (DE)	44	Ottmarsheim (FR)	69	Birsfelden (CH)	94	Oleggio Terminal (IT)
20	Ludwigshafen (Contargo) (DE)	45	Strasbourg Terminal Conteneurs Nord (FR)	70	Chiasso (CH)	95	Padua Interport Terminal (IT)
21	Ludwigshafen KTL (DE)	46	Strasbourg Terminal Conteneurs Sud (FR)	71	Frenkendorf (CH)	96	Port of Mantua – Valdaro (IT)
22	Mannheim Container-Terminal Contargo (DE)	47	Bludenz CCT (AT)	72	Lugano Vedeggio (CH)	97	Port of Trieste (IT)
23	Mannheim-Handelshafen (DE)	48	Brennersee (RoLa) (AT)	73	Niederglatt (CH)	98	Port of Venice (IT)
24	München CDM (DE)	49	CCG Cargo Center Graz (AT)	74	Rekingen (CH)	99	S.I.TO Interport of Torino Orbassano (IT)
25	München-Riem (DE)	50	Enns Hafen CCT (AT)	75	Stabio (CH)	100	Verona Quadrante Europa (IT)

Figure 11: Intermodal terminals in the Alpine region

The main geographical, infrastructural and technical features of all intermodal terminals identified in the AS are listed in the Appendix 3. Here, the intermodal terminals of **Verona Quadrante Europa (IT)** and **Koper Luka KT (SL)** are described as an example. The two terminals have both a supranational relevance, which is given by their position and their core business activities, closely linked to the intermodal supply chain. Being located at the merge point of the Scandinavian-Mediterranean and Mediterranean Corridors (see 3.2), the freight village of Verona is a perfect meeting point between the Torino-Venezia (East-West) and the Brennero–Modena (North-South) railway lines and respectively for the road side with the A4 Milano-Venezia and the A22 Brennero-Modena highways. Interporto Quadrante Europa of Verona extends its area over 2.5 millions square meters with a possible further expansion up to 4.2 million and includes more than 130 companies of shippers, logistics operators, railway undertakings, shunting and handling companies, Multimodal Transport Operators, couriers, freight forwarders, with 13,000 among direct and indirect workers. These characteristics made Interporto Quadrante Europa become one of the most important European intermodal centres, as witnessed by the first place awarded in the GVZ EU Ranking (the German association of Freight Villages), which aims at evaluating the best logistics hub based on more than 30 parameters. It is an organized and integrated logistics service system that merges traffic flows, multimodal connections and gives the access to European transport corridors operating with a high level of efficiency. The markets of this strategic node include the international goods transport traffic to and from central and north Europe via the Brenner Pass. Over 6 million tons of goods transit in the Interporto by rail and 20 million tons by road. The main rail services are with Germany, Denmark and Netherlands. There are also weekly connections with France, Belgium, Sweden and some Eastern European countries. Other important railway destinations are related to the Italian harbours, especially to the ports of La Spezia, Genova and Livorno. In the year 2016, 720,000 UTIs were handled and over 16.200 trains were moved. To guarantee these operations, the terminal offers a complete logistical service, fitted for loading and unloading of different freight. At the same way, it offers other supplementary services (security, customs, dangerous goods and trucking), which are essential for the improvement of the intermodal traffic flow.

The terminal of *Koper Luka KT* (270 km^2) is located near the intersection of the Baltic-Adriatic and Mediterranean TEN-T corridors. It covers different transport systems, such as road, rail, barge, ferry and short sea. It has regular weekly lines to the Far & Middle East and Red Sea and is connected via feeder services with important HUB ports in the Mediterranean (Gioia Tauro, Malta, Piraeus, Haifa, Port Said, Algeciras), which have regular connections with all continents in the world. Regular railway connections are established with the most important trade

centres in Central and Eastern Europe, such as Graz, Munich, Budapest, Vienna, Dunajska Streda, Ostrava, Bratislava, Krems, Villach (Luka Koper d.d., 2017). In 2016, 844,776 UTIs were moved with a capacity of interim storage equal to 19,130 TEU.

4.2 Transport demand

This section completes the overview about transport in the Alps by describing the traffic volumes along the main transalpine corridors (4.2.1) and intermodal centres (4.2.2). A brief overview of the European framework can be helpful to understand data specifically referred to the Alpine context. At the continental level, **road** freight transport plays the major role with about **¾ of the total volume**. **Rail** transport counts for about **18%,** while barge is limited to less than 7%. These values are rather stable in the last ten years, thus confirming that they are the result of a consolidated trend (UIC, 2017). This trend, however, is the result of different components (UIRR, 2017a), which are worthy to be investigated separately. Cross-border UCT registered a growth by 1.2% in terms of consignments and by 4.4% in terms of tonne-kilometres from 2015 to 2016. These positive figures have to be summed to the increase by 3.78% and 7.55% registered in the previous year. On the other hand, domestic UCT was rather stable in terms of consignments (+0.76%), but decreasing (-4.48%) regarding tonne-kilometres. Finally, ACT registered a 7.44% decline year-on-year, as well as the 4.6% overall share, confirming continuation of last year's negative trend. However, this last data may not be completely representative, as it does not include the performance of some important RoLa operators (which are not monitored by UIRR), such as Europorte, Viia and Rail Cargo Operator.

The aggregate values presented above are the result of very different conditions (Figure 12). The rail share of some Countries (e.g., Switzerland and Austria) is higher than 40%, while in other Countries such percentage is lower than 5% (e.g., the Netherlands, Greece). As far as the Alpine States are concerned, the percentages of Slovenia and Germany are close to 20% and 24%, respectively, while Italy and France present lower values (13% and 15%).

Rail freight modal share in 2013	Rail freight modal share in 2013 and trend between 2000 and 2013	
Above 40 %	↑	Austria (42.1 %)
	↓	Estonia (44.1 %) and Latvia (60.4 %)
Between 30 % and 40 %	↑	Sweden (38.2 %)
	↓	Lithuania (33.6 %)
Between 20 % and 30 %	↑	**Germany (23.5 %)** and Finland (27.8 %)
	↓	**Czech Republic (20.3 %)**, Hungary (20.5 %), Slovakia (21.4 %) and Romania (21.9 %)
Between 10 % and 20 %	↑	Italy (13 %), United Kingdom (13.2 %), Belgium (15.1 %) and Denmark (13.2 %)
	↓	**France (15 %), Poland (17 %)**, Croatia (17.4 %), **EU average (17.8 %)** and Slovenia (19.3 %)
Below 10 %	↑	Netherlands (4.9 %)
	↓	Ireland (1.1 %), Greece (1.2 %), Luxembourg (2.4 %), **Spain (4.6 %)**, Portugal (5.9 %) and Bulgaria (9.1 %)

Figure 12: Rail modal split of freight transport in EU in 2013. Source: ECA, 2016.

4.2.1 Transalpine corridors

This chapter provides an analysis of the freight **volumes** exchanged by France, Switzerland and Austria with Italy through the **main transalpine corridors**. Since the information is quite extensive, only the main aggregate outputs are provided in this section, referred to the years 1999-2015. Disaggregated data are presented in the excel file about "Transalpine Corridors – Demand" (Appendixes 4, 5), which provides a comprehensive information of traffic flows from 1999 to 2015.

According to the transport systems and the unity of measure considered, data provided are expressed as **road freight traffic** (in KHGVs), **road freight volumes** (in kt) and **rail freight volumes** (in kt). This last group is further distinguished between conventional transport (kt), UCT (kt) and ACT (kt and KHGVs). The histograms below (Figures 13-15) show the evolution of freight traffic volumes by country. In absolute terms, the connection Austria-Italy presents the largest movement of goods, with a total of more than 140,000 kt in 2015, roughly three times higher than the French-Italian (41,200 kt) and the Swiss – Italian (39,000 kt) ones[3]. Both in Austria and in Switzerland there has been a constant increase of values from 1999 to 2007-2008, while in France the trend is more fluctuating. In 2009, a significant decrease is visible in all three relations as consequence of the economic crisis. From that year onwards, a slow increase has been bringing the absolute values to the years before 2009[4].

[3] Differently from AlpInfo (BAV, 2014), the volumes presented in Figure 13 include all alpine corridors presented in section 4.1.1 (including Tarvisio).

[4] Volumes at Tarvisio for the year 2015 are not available. In order to have a comparable series, data of 2014 have been reported also for the year 2015.

Referring to the **modal split**, very different conditions among corridors are visible. Along the Austrian-Italian direction, about 70% of the volumes are transferred by road and 30% by train; these percentages are the opposite of those registered along Switzerland-Italian infrastructures. Finally, along French-Italian corridors, the modal split is more HGV-oriented (with more than 90% of goods transferred by road and less than 10% by train).

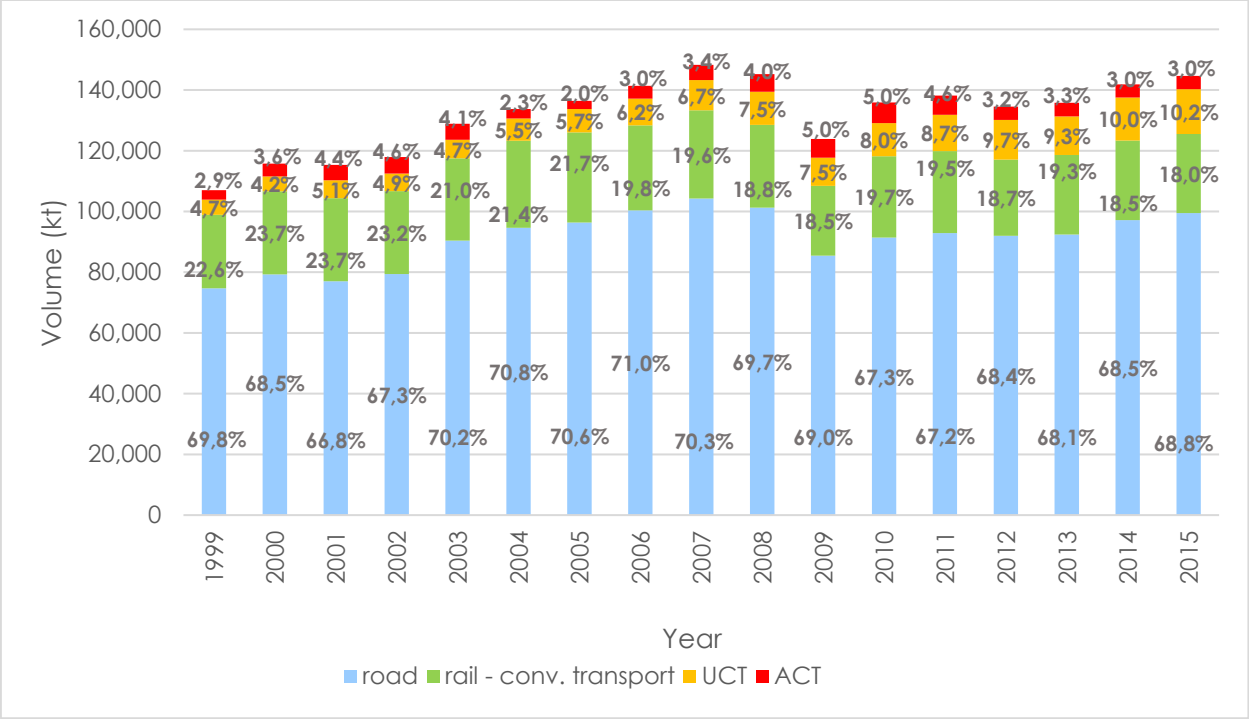


Figure 13: Freight traffic volumes between Austria and Italy, years 1999-2015

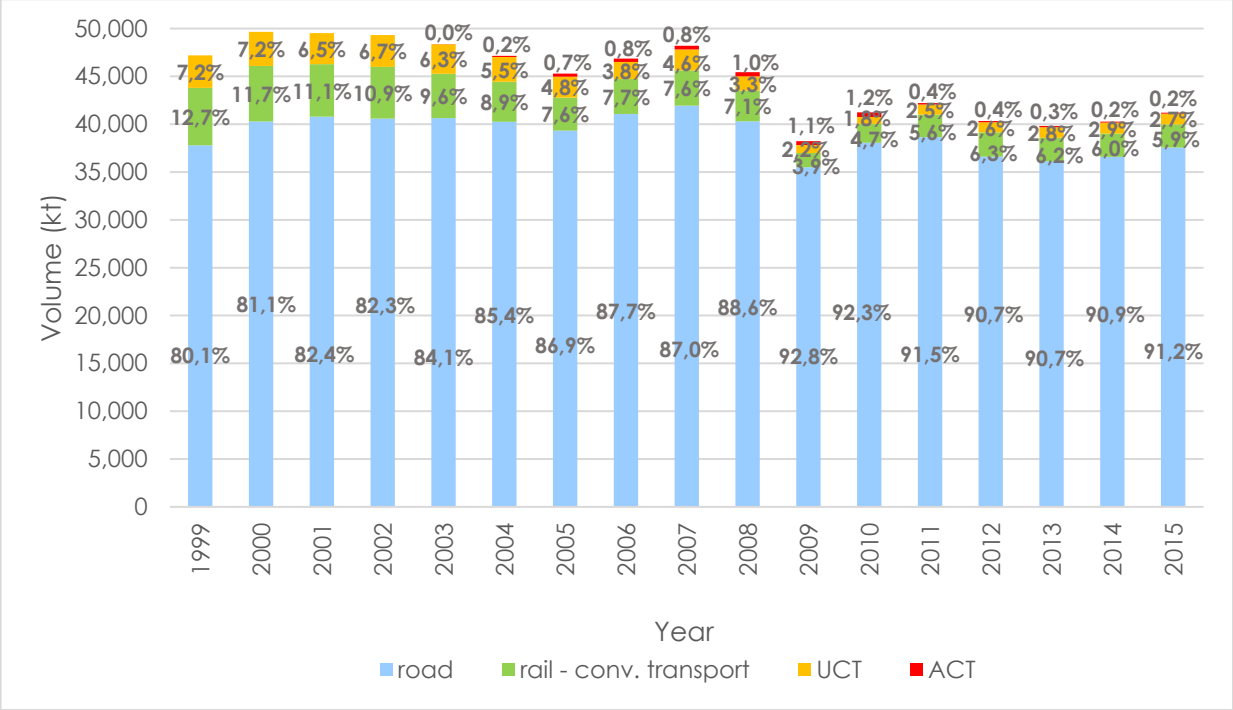


Figure 14: Freight traffic volumes between France and Italy, years 1999-2015

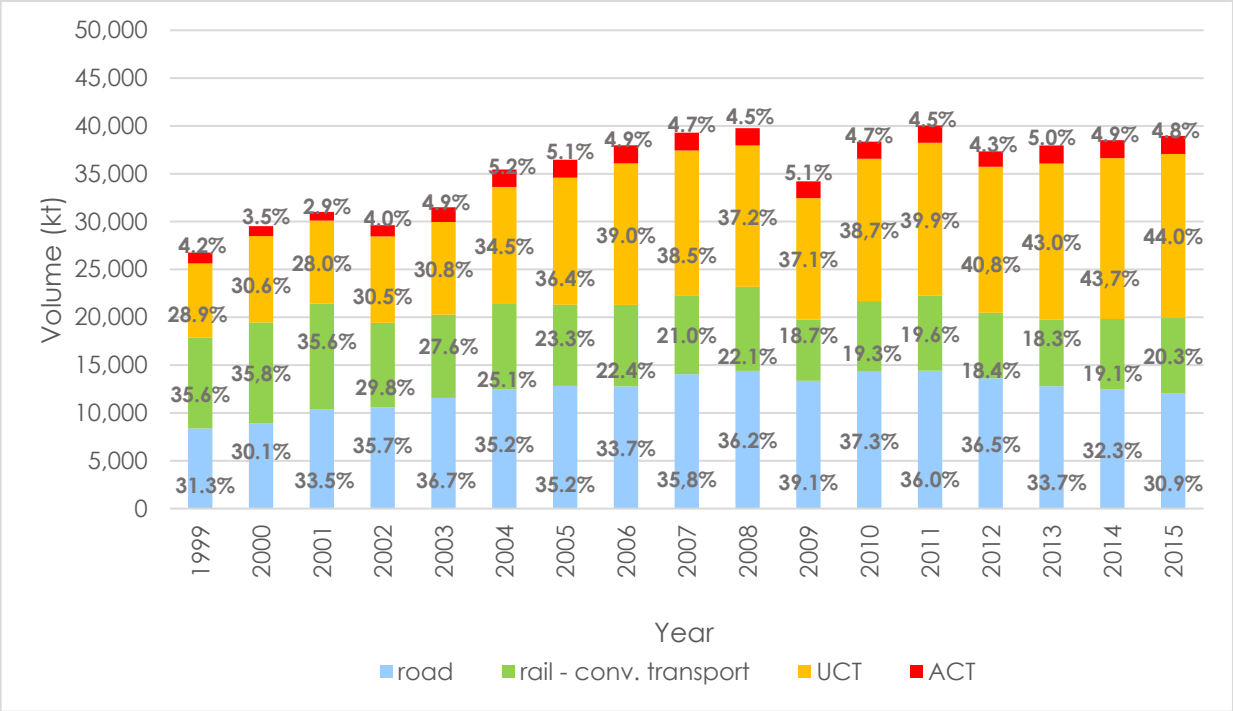


Figure 15: Freight traffic volumes between Switzerland and Italy, years 1999-2015

With reference to the single corridors (Figure 16), the Brenner registered the highest values by distance (more than 30,000 kt by road and about 12,500 kt by rail), followed by the Gotthard (about 15,000 kt by rail and 10,000 kt by road). French corridors (Mont Blanc, Fréjus) present lower values.

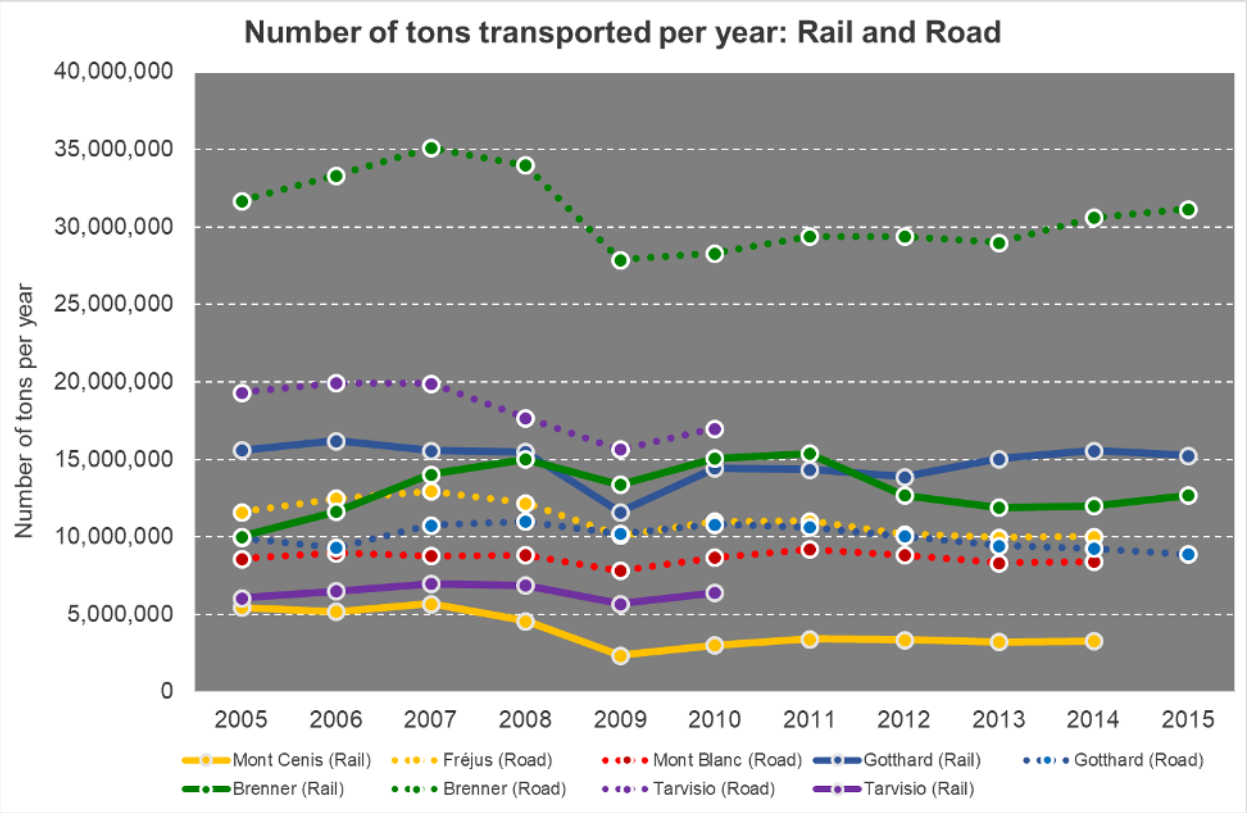


Figure 16: Freight traffic volumes between Switzerland and Italy, years 2005-2015. Source: iMonitraf!, 2017a

A specific focus is then provided for the ten corridors that offer a **CT service** (Austria: Brenner, Semmering, Schoberpass, Tarvisio, Tauern, Wechsel; France: Mont Cenis/Fréjus, Ventimiglia; Switzerland: Gotthard, Simplon, for further details refer to Appendix 6). In the last three years available (2013-2015), the total amount of goods presents different trends: decreasing along the Semmering (-6.6%) and the Gotthard (-1.8%), slightly growing at Mont Cenis/Fréjus (+1.0%), Schoberpass (+0.3%) and Ventimiglia (+4.7%) and significantly growing at Brenner (+7.4%), Tauern (+10.4%), Wechsel (+14.1%) and Simplon (+14.3 %).

As for the rail freight transport component, in 2015 **Gotthard** was the most important corridor with a total amount of goods transported equal to about

15,250 kt. Along this corridor, the most utilized service is UTC (62%), followed by rail conventional transport (37%) and by ACT (1%). The other corridors are listed below in decreasing order:

- *Brenner:* 12,560 kt, of which 17% conventional transport, 55% UTC and 28% ACT;
- *Simplon*: 11,688 kt,19% conventional transport, 66% UTC and 15% ACT;
- *Semmering*: 10,600 kt, 86% conventional transport, 14% UTC;
- *Tauern*: 9,296 kt, 70% conventional transport, 28% UTC and 2% ACT;
- *Schoberpass*: 4,530 kt, 78% conventional transport, 13% UTC and 9% ACT;
- *Mont Cenis*: 3165.6 kt 62% conventional transport, 35% UTC and 3% ACT.

For Tarvisio there is no available data of 2015, but in 2014 the total volume transported was 7,880 kt, out of which 59% by conventional transport, 39% by UTC and 2% by ACT. Finally, the quantity of goods transported along the Ventimiglia and Wechsel corridors is negligible: in the former case, 474 kt (conventional transport); in the latter, 323 kt (52% conventional transport, 48% UTC).

4.2.2 Volumes of the intermodal terminals

The different characteristics that concur to determine the efficiency of operations in alpine intermodal terminals were explained in section 4.1.2. These characteristics directly affect the total **volume of goods moved** every year in the nodes. This section presents the volumes (expressed in TEU) of some alpine intermodal terminals and their relations with the main markets. Data from 2012 to 2016 of the CT volume moved are available for **ten intermodal terminals** (see Appendix 7 for a detailed analysis), thanks to the contribution of the project partners. Four of these terminals are located in Germany (Aschaffenburg, Bamberg, Nuremberg and Regensburg Hafen), two in Italy (Port of Trieste and Verona Quadrante Europa) and four in Slovenia (Celje, Koper Luka KT, Ljubljana KT and Maribor Tezno KT). The histograms below (Figure17) show their evolution in the last five years. The main features of the nodes of Koper Luka KT, Verona Quadrante Europa, Port of Trieste and Nürnberg are presented, being those with the highest absolute values among the collected sample. For the Port of Trieste a more detailed analysis has been provided, since it is the origin/destination of the Bettembourg-Trieste corridor, which constitutes one of the pilot actions developed in WPT2.

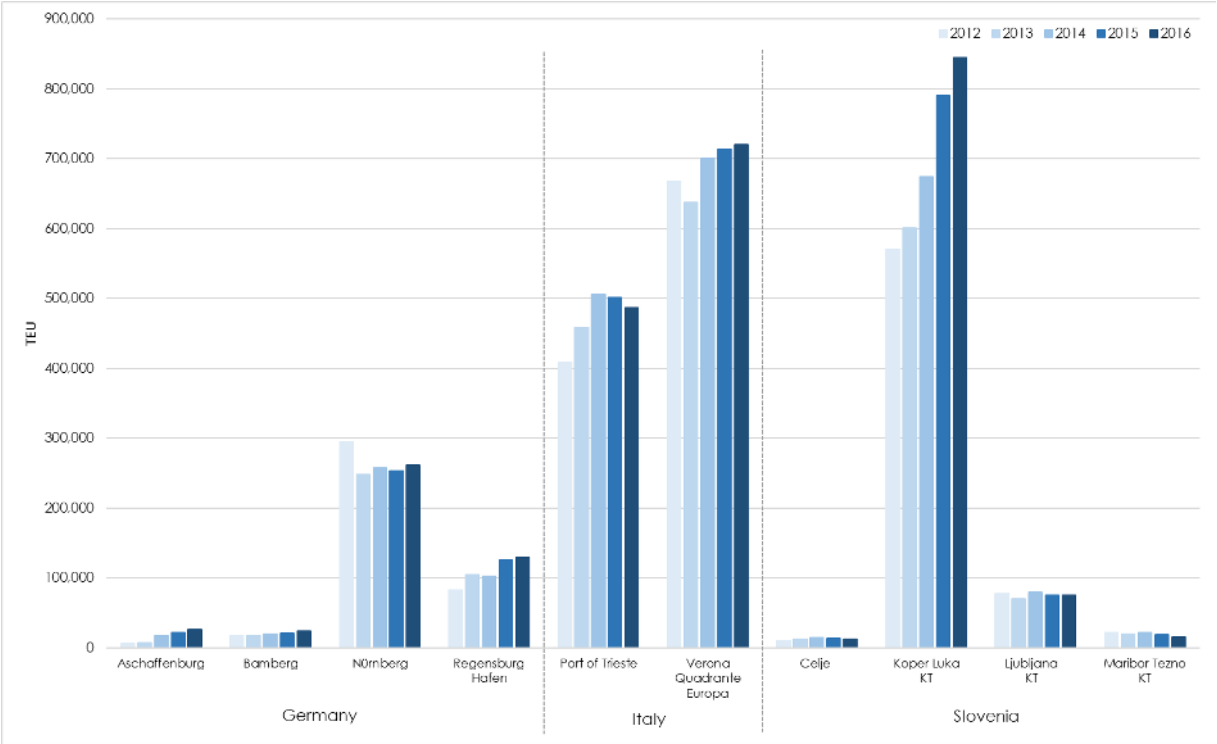


Figure 17: CT Volumes for ten selected Alpine Intermodal Terminals

In 2016, the **Slovenian** terminal of *Koper Luka KT* registered the highest volumes of goods. From 2012 to 2016, this terminal has shown a continuous growth, passing from 570,744 TEUs to 844,776 TEUs in 2016 (+48.0%). In absolute terms, the difference between it and other Slovenian terminals is very high: in 2016 the Ljubljana KT terminal, the second node after Koper, registered a total of goods moved equal to 75,129 TEUs. The volumes moved in Koper Luka KT derive from the connections with several EU and non-EU markets: railway connections with the most important centres in Central and Eastern Europe are available, as well as sea connections with the Far & Middle East, the Red Sea and with others ports in the Mediterranean. The main markets for the other Slovenian intermodal terminals are from/to Austria, Germany, Hungary, Slovakia, Czech Republic, Croatia and Serbia.

In terms of absolute values, the volumes of the **Italian** Verona Quadrante Europa and Port of Trieste follow Koper Luka KT. Indeed, the former presented absolute highest values up to 2014. Despite a decrease (-4.5%) from 2012 (667,578 TEU) to 2013 (637,372 TEU), then a gradual and constant growth until 2016 has been registered, with a total of goods equal to 719,964 TEU and 16,294 trains were worked. In 2015, 15,172 trains were handled in the terminal and the tons transported by train were equal to about 7.4M. The main markets of Quadrante Europa terminal are Northern Europe (Germany is the main destination, with

74.5% of total movements, while Belgium, the Netherlands and Denmark constitute other main relationships), followed by far by Western and Eastern Europe (Figure 18). The Italian market is another main relation, with about 10% of the overall movements.

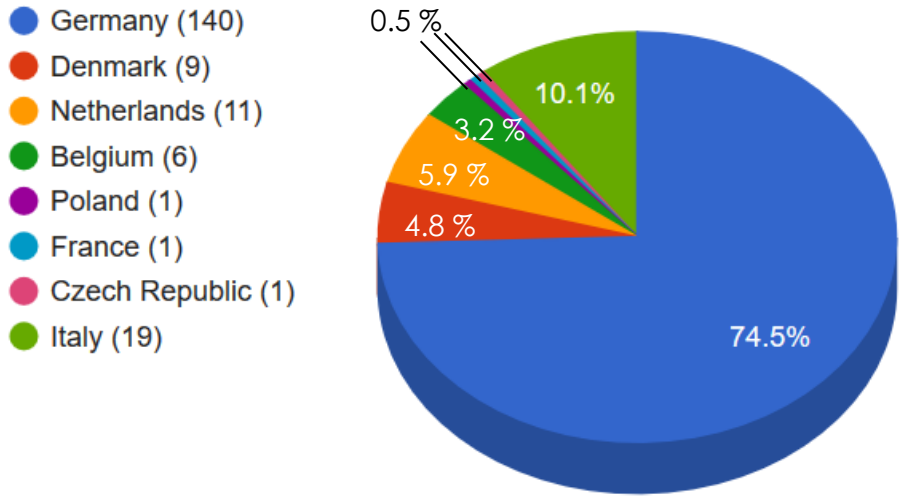


Figure 18: Main railway connections of Verona Quadrante Europa.
Source: Interporto Quadrante Europa, 2017

In absolute terms, the Port of Trieste handles smaller volumes than the two intermodal centres previously described (higher value in 2014 with 506,019 TEUs/year). The trend shows an increase from 2012 (408,023 TEUs) to 2014 (506,019 TEUs), followed by a decrease in 2015 (501,276 TEUs) and in 2016 (486,499 TEUs). The Trieste Marine Terminal is involved in the Baltic-Adriatic and Mediterranean TEN-T Corridors and the next depth analysis describes its main markets. For further information about the Port of Trieste, see the in-depth analysis at the end of this section.

In **Germany**, the group Bayernhafen AG plays a main role in the national context, operating in six different locations: Aschaffenburg, Bamberg, Nuremberg, Roth, Regensburg and Passau. The sites are centrally located on economic and geographic important nodes combined with different transport modes, including water, rail and road. Particularly, the terminal located in Nuremberg, which has the largest number of goods moved, Regensburg Hafen and Bamberg are crossed by the Scandinavian-Mediterranean Corridor, while the Aschaffenburg terminal is crossed by the Rhine-Alpine Corridor. Overall, about 30 million tons of goods are handled by ship, rail and truck yearly. As previously mentioned, the terminal in Nuremberg registered the highest values, even if values of the last five

years were fluctuating: a decrease by 15.8% from 2012 (295,200 TEU) to 2013 (248,500 TEU) is followed by a slight increase, which has stabilized the value at about 260,000 TEU/year. The main markets of this intermodal node for the national rail transport are Hannover, Osnabrück and the Seaports of Hamburg/Bremerhaven/Bremen. With reference to the main international markets, privileged rail connections are established with Chengdu (China), Verona, Vienna and Rotterdam. Finally, thanks to the geographic localization of the terminal near the Main–Danube Canal, there are also relevant relationships with Rotterdam by barge. The main markets for the other three German intermodal terminals are mostly national: Bamberg is mainly connected by rail with the Seaports of Hamburg/Bremerhaven, while Regensburg Hafen has privileged rail links with Nuremberg and with the ports of Hamburg/Bremerhaven. Finally, Aschaffenburg is connected by rail with Nuremberg, Regensburg, Kornwestheim and Hamburg and with the seaports of Hamburg/Bremerhaven. International connections are also available by barge with Antwerp, Strasbourg/Kehl, Zeebrügge and Rotterdam (this one performed also by rail).

In-depth analysis: Port of Trieste

Located at the intersection between the Baltic-Adriatic and Mediterranean TEN-T core network corridors, the Port of Trieste is an international hub for overland and sea trade with the dynamic market of Central and Eastern Europe, and it is the top ranking Italian port for total throughput, with more than 59 million tons (2016).

Figure 19: Port of Trieste. Source: Port of Trieste, 2017

	2012	2013	2014	2015	2016
TOTAL TONNAGE	49,206,870	56,585,708	57,118,804	57,161,201	59,244,246
Liquid Bulk	35,967,976	41,992,066	41,685,326	41,286,761	42,756,341
Dry Bulk	1,778,471	986,614	776,990	1,607,232	1,971,001
General Cargo	11,460,423	13,607,028	522,543	636,684	14,516,904
Number of Vehicles	212,633	271,519	296,700	301,114	302,055
Number of containers (TEUs)	408,023	458,597	506,019	501,276	486,499
Total TEUs (CTNRs, vehicles)	886,447	1,069,512	1,173,594	1,178,783	1,166,123

Table 5: Statistics 2012-2016. Source: Port of Trieste*, 2017*

Regarding the shipping routes, the Port of Trieste has established a strategic relationship with Turkey in the last decade, leading to the creation and development of what is now the Mediterranean's most crowded *"Motorway of the Sea"*. Several Turkish shipping

companies have started Ro-Ro ferry services between Trieste and ports such as Istanbul, Mersin, Cesme and Ambarli, producing around 5.5 million tons of traffic per year and hence a valuable source of cargo handling income for the Port. About a third of the total trade between Europe and Turkey passes through the Port of Trieste, including the regular shipments of automotive components sent from Germany, France and Britain to assembly plants in Turkey (Port of Trieste, 2017).

Also, the port of Trieste is the first Italian port for intermodal connections, with more than 100 trains a week connect Trieste port to the Italian North-East industrial sites, Southern Germany, Austria, Hungary, Slovakia and Czech Republic, and Sweden, totalling more than 7,600 trains in 2016.

	2015	2016	Δ %
TOTAL TRAINS	**5,980**	**7,631**	**+ 27.61%**
Industrial Port	932	1,831	+ 96.46%
New free port	5,048	5,800	+ 14.90%

Table 6: Trains moved in 2015 and 2016. Source: Port of Trieste, 2017

This growing trend has been confirmed in the first eight months of 2017:

January-August	2016	2017	% change
TOTAL TONNAGE	39,161,266	40,259,140	+2.80%
Liquid Bulk	28,141,645	28,328,837	+0.67%
Dry Bulk	1,335,118	1,011,316	-24.25%
General Cargo	9,684,503	10,918,987	+12.75%
Number of Vehicles	198,570	206,099	+3.79%
Number of containers (TEUs)	330,236	402,899	+22.00%
Total TEUs (CTNRs, vehicles)	771,873	861,064	+11.56%
Total trains	4,831	5,537	+14.61%

Table 7: Statistics 2016-2017. Source: Port of Trieste, 2017

During the first eight months of 2017, cargo handling of Port of Trieste increased by +2.80% compared to the same period of the last year, with a total of 40,259,140 tons. The most significant increase is recorded in the container sector (+22%), with 402,899 TEUs handled. The general cargo sector continues to grow marking +12.75%, RO-RO sector also increased by +3.78% to 198,160 units. Positive figures come also from the liquid bulk sector with 28,328,837 tons, an increase by +0.67%; whereas, the dry bulk sector decreased by -24.25%.
By converting the RO-RO semitrailers and swap bodies traffic into equivalent TEUs, the Port of Trieste achieved a total TEUs of 861,064 TEUs (+11.56%) during the first eight months of 2017.
The rail traffic in the Port of Trieste has continued the positive trend during the first eight months of 2017 with 5,537 trains, an increase of +14.61% compared to the same period in 2016.

5. Barriers of CT in AS

In order to analyze CT technologies, administrative and technical bottlenecks, trends and expected effects on AS, idea within the AlpInnoCT project was to up-build already identified **barriers** within EU project Hermes (HERMES project, 2012; Reis et al., 2013). Barrier is identified as a problem/obstacle that makes CT difficult or impossible. In project Hermes barriers in co-modal transport were structured according to different stakeholders (Public decision makers, Terminal operators, User Associations and Transport operators) and dimensions (Legal/regulatory, Institutional, Contractual, Informational, Physical and Economic). For evaluation of elaborated barrier, numerical values from 1 to 5 are used, where 1 mean the best and 5 most unfavorable value.

In order to elaborate an analysis of barriers of CT in AS, each partner and observer selects the level of a barrier for Alpine space from a different stakeholder viewpoint.
Based on this template, priority list of barriers of CT in Alpine space could be managed and the results used in other AlpInnoCT project WP-s. As added value it also could be helpful for further development of CT in Alpine space (proposing measures/recommendations).

Sample of answers is relative small and it is difficult to generalize presented average value to Alpine space or individual country – Austria, Italia, Germany and Slovenia are included. Most of received answers refers to Public decision makers, for other stakeholders, presented average value is calculated according to Italian and Slovene partner (ZAI and ITTL) and partly included comments of BHG.
However it is obvious, that Austria deviates from the average in the positive sense, unlike other countries that are quite uniform in their answers.
It can be expose that in legal part of public decision maker point of view in Austria implementation of existing intermodality policy by national governments and environmental rules curb the intermodality are well presented. Also in contractual part no absence of incentives for intermodality is recognized and coordinating authority to define informational standards is not the barrier.

Public decision makers:

Within the template table, the average values are presented.

Public decision makers:					
Legal/Regulatory	Complex legal framework	2,63	**Contractual**	Absence of common standards in contracts	2,29
	Hard to monitor a deregulated market	3,63		Absence of incentives for intermodality (transport operators)	2,86
	Absence of implementation of existing intermodality policy by national governments	2,75		Other	Incentives for road transport in Italy offset the effects of regional incentives for intermodal transport
	Environmental rules curb the intermodality (e.g.. Standards on noise)	2,22	**Informational**	Lack of a coordinating authority to define informational standards	2,88
	Other	lack of incentives		It is necessary to create an integrated information system	3,25
Institutional	Lack of coordinating authority	2,75	**Physical (Technological)**	Absence of cooperation	3,38
	Lack of cooperation between operators	3,63		No right to change or extend the interchange	3,17
	Lack of institutional cooperation between the central and the local level	2,63	**Economic**	Complex economic framework	2,5
	Several actors with different responsibilities	3,5		Other revenue should be charged to cross-subsidise facilities	2,75
	Other				

Table 8: Barriers related to CT as perceived by public decision makers

From public decision maker's point of view, main legal/regulatory barrier is difficulty to monitor a deregulated market, institutional barriers is lack of cooperation between operators and fact that several actors are with different

responsibilities. Absence of incentives for intermodality (transport operators) is presented as contractual barrier, while necessary of creation an integrated information system as informational barrier. Also absence of cooperation is recognized as well as charging of other revenue to cross-subsidize facilities.

Transport operators:
Within the template table, the average values are presented.

Transport oprators:					
Legal/regulatory	Long-winded planning and licencing processes before investments in infrastructure can be made	4,5	**Contractual**	N/A	
	Lack of simple technical standards	3 Different power systems; no standard language as in the air traffic	**Informational**	Absence of common standards in contracts	3
	Too much regulation on the issue	3,5		Absence on incentives for intermodality (transport operators)	3,5
Institutional	Too many institutions that want to control and coordinate	3	**Physical (Technological)**	Absence of common standards in contracts	2,5
	Cultural, political and institutional barriers that causes a lack of planning activities	4,5		Absence on incentives for intermodality (transport operators)	3,5
	Absence of an entity authority that coordinates the provision of operators	3,5	**Economic**	Absence of common standards in contracts	4
				Absence on incentives for intermodality (transport operators)	4,5

Table 9: Barriers related to CT as perceived by transport operators

From transport operator's point of view, main legal/regulatory barrier is long-winded planning and licensing processes before investments in infrastructure can be made, institutional barrier is cultural, political and institutional barriers that causes a lack of planning activities. Absence on incentives for intermodality

(transport operators) is recognized as informational barrier as well as absence on incentives for intermodality as physical, technological and economic barrier.

Terminal managers:
Within the template table, the average values are presented.

Terminal managers:					
Legal/regulatory	Interomodality has not been part of planning processes of existing infrastructure	4	Contractual	Lack of temporal coordination among transport operators	3,67 real time information regarding e.g. delayes would help to make handling processes more efficient
	Different regulations in different countries and cities	3,33		The economic aims of transport operators and terminal managers are different	3,33 various transport operators of have the same requirements on the handling time window, this leads to peaks in sense of handling capacities
	There are no homogenous standards for information services and safety aspects	4,33	Informational	Absence of common standards in contracts	2,67
	The planning times in the political process are too long	4,33		Absence on incentives for intermodality (transport operators)	3
Institutional	Lack of cooperation among transport modes	3,67 each transport mode has ist own association; cooperation and coordination between these associations could be helpful	Physical (Technological)	Absence of common standards in contracts	3,5
	The market is very irregular: there are a lot of players, with different agreements	3		Absence on incentives for intermodality (transport operators)	3
	Different authorities and directors lead to diffuse responsibilities	3,33 liabilities are clear	Economic	Absence of common standards in contracts	3,5
	There are often different own interest of politicians and transport operators	3		Absence on incentives for intermodality (transport operators)	4

Table 10: Barriers related to CT as perceived by terminal managers

From terminal manager's point of view, main legal/regulatory barrier is that there are no homogenous standards for information services and safety aspects as well as that he planning times in the political process are too long. Lack of cooperation among transport modes in institutional barrier; each transport mode has its own association and cooperation and coordination between these associations could be helpful. Lack of temporal coordination among transport operators is presented as contractual barrier, while absence on incentives for intermodality

(transport operators) as informational. Absence of common standards in contracts is recognized as physical, technological and economic barrier.

User associations:
Within the template table, the average values are presented.

User Associations:					
Legal/regulatory	Intermodality is not part of the planning process	3,5	Contractual	N/A	
	Lack of integration with soft modes such as bicycles	4,5	Informational	Absence of common standards in contracts	3
	There are not enough intermodal offers or they are not noticed by customers, which lead to a low demand	3		Absence on incentives for intermodality (transport operators)	3,5
	Different companies/organisations are involved when transport nodes are concerned and there is a lack of coordination among them	3,5	Physical (Technological)	Absence of common standards in contracts	3,5
Institutional	Lack of city or local participation in station activities	3,5		Absence on incentives for intermodality (transport operators)	3,5
	Transport operators are very competitive	3,5	Economic	Absence of common standards in contracts	3,5
				Absence on incentives for intermodality (transport operators)	3,5

Table 11: Barriers related to CT as perceived by users' associations

From user associations' point of view, main legal/regulatory barrier is lack of city or local participation in station activities as well as competitiveness of transport operators is institutional barrier. Absence on incentives for intermodality (transport operators) is informational barrier. Lack of common standards in contracts and absence on incentives for intermodality (transport operators) is recognized as physical, technological and economic barrier.

Main barriers – summary

The table below summarizes the main barriers identified according to different stakeholders and dimensions.

Main barriers public decision makers (Bodies responsible for CT)	
•Legal/regulatory:	Difficulty to monitor a deregulated market
•Institutional:	Lack of cooperation between actors, Several actors with different responsibilities;
•Contractual:	Absence of incentives (not in Austria)
•Informational:	Missing integrated information system
Main barriers – transport operators	
•Legal/regulatory:	Long-winded planning and licencing process before investments in infrastructure can be made
•Institutional:	Cultural, political and institutional barriers that causes a lack of planning activities
•Contractual:	-
•Informational:	Absence on incentives for intermodality
•Physical/Technological:	Absence on incentives for intermodality
•Economic:	Absence on incentives for intermodality
Main barriers terminal managers	
•Legal/regulatory:	Lack of homogenous standards for information services and safety aspects; The planning times in the political process are too long
•Institutional:	Lack of cooperation among transport modes; each transport mode has its own association
•Contractual:	Lack of temporal coordination among transport operators
•Informational:	Absence of incentives for intermodality
•Physical/Technological:	Absence of common standards
•Economic:	Absence of common standards
Main barriers Users/User associations (shippers, freight forwarders, transport/logistic companies)	
•Legal/regulatory:	Lack of coordination among responsible orgaisations
•Institutional:	Lack of city or local participation in station activities and competitiveness of transport operators
•Contractual:	-
•Informational:	Absence of incentives; Absence of common standards in contracts
•Physical/Technological	Absence of incentives; Absence of common standards in contracts
•Economic:	Absence of incentives; Absence of common standards in contracts
Main barriers NGOs/civil society	
•Legal/regulatory:	Lack of regulations on the maximum capacity of road freight traffic Alpine corridors can accept (per year)
•Institutional:	Lack of cooperation along the service chain, also involving consumer
•Contractual:	-
•Informational:	Lack of information on the negative effects of Alpine road freight traffic
•Physical/Technological:	-
•Economic:	Lack of true-cost pricing of Alpine road freight traffic

Table 12: Main Barriers - summary

Regardless of the stakeholder, it can be concluded that main barriers for CT implementation are: lack of incentives, insufficient standards in all levels as well as the lack of cooperation between actors and transport modes.

6. Tools to support CT

In order to reduce the transport externalities recalled in section 3, the EU has set different **tools** about freight transport, which privileges the use of the least polluting transport systems. One of the most concrete fulfilment of this objective is the enhancement of CT. Accordingly, it is necessary to develop a set of common policies to renew existing infrastructures and to build new ones in order to harmonize and strengthen both the legal framework and the infrastructural supply. All these elements concur in implementing the efficiency and productivity of CT. To this aim, this report identifies and analyses three main tools: **policies** (section 6.1), **measures** (section 6.2) and **projects** (section 6.3). For each of them, a multilevel analysis, which includes the European, national, regional and local levels, is carried out.

The realization of the final database, which constitutes one of the deliverables of the WP1, lasted from February to June 2017. Several documents have been analysed. The database *"Working Party on Intermodal Transport and Logistic"* (UNECE, 2017) constitutes the main initial source. This portal collects information about measures that promote intermodal transport in many EU member State, including Austria, France, Germany, Slovenia and also none-member state Switzerland. However, the database does not include comprehensive information about Italy, which a separate analysis has been carried out for. Other relevant analysed **sources** are: Alpconv, 2016; EC, 2015 b; EP, 2016; Nocera S., Cavallaro F., 2011; Suivi de Zurich, 2014.

Operatively, the **process** followed the steps about to be mentioned: first, the structure of the database has been proposed, discussed and prepared with the support of the University of Maribor, leader of the WP1. Then, a list of the main tools that support CT has been realized through an accurate desk research and ad-hoc requests to relevant bodies. Subsequently, it has been shared with project partners (PPs). According to their comments, modifications and remarks, it has been revised, integrated and sent again to PPs for their final validation.

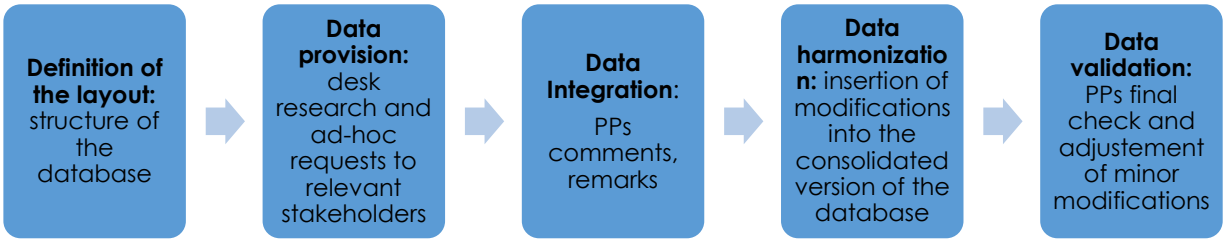


Figure 20: The process adopted to obtain the final version of the database about CT

At the end of this phase (whose main steps are summarized in Figure 20), an **updated and harmonized database** has been obtained (available in *Appendixes 8-10*), with all main aspects related to CT. This data collection is the essential key to identify both the current weaknesses and strengths of CT.

6.1 CT policies

International, national and local policies are a fundamental support for the implementation of CT services. The strategy that politicians could adopt is complex and it can include **multiple proposals** (also not directly referred to CT), which can lead to the same goal, i.e. the reduction of freight externalities. On the one hand, they could be a form of regulation against road transport; on the other hand, they could directly encourage CT services (for example by introducing specific subsidies). Concerning the **themes**, transport policy is able to influence the production of CT services in terms of costs, speed and flexibility, especially through traffic-specific taxes and duties, technology and infrastructure policy, international harmonisation and standards (Bendul, 2012). As far as the geographical scale is concerned, transport policies about CT take place at all **political levels**, including the EU, the national, the regional and the local ones.

By taking into account these content-related and territorial characteristics, a specific **database** about CT policies has been created. This study is based on the information provided by the EUR-lex website (EUR-lex, 2017), which gives information on the EU level; this information has been integrated with the national, regional and local policies. Rather than presenting each policy in detail (to this aim, interested readers may refer to Appendix 8), this section provides a legislative overview about CT on the European level (6.1.1). Then, it analyses how each Country has transposed the EU Directives and guidelines into the national and local legislations (section 6.1.2). Finally, section 6.1.3 describes some long-term proposals, which are valid at the alpine level.

6.1.1 European policies

In 1993, the creation of a single market, more open to competition, has noticeably improved the exchange of goods. With the enlargement of the EU in 2004 and in 2007, the free movement of goods has further increased. Within this framework, ten policies are able to influence the European CT market actively: the Council Directive 92/106/EEC and its amendment (which is currently ongoing), the Council Directive 91/440/EEC, the Communication from the Commission about the Community guidelines on State aid for railway undertakings (2008/C 184/07), the Directive 2011/76/EU and its proposed revision,

the Directive 2012/34/EU, the Regulation (EU) No 913/2010, the EUSALP and the White Paper on Transport (EC, 2011).

The **White Paper on Transport** (EC, 2011) sets a long-term strategy for the development of an integrated European transport system. The first version was released in 2001 (EC, 2001) and the updated version was released in 2011. In this version one of the goals is the shift of 30% of road freight over 300 km to rail and waterborne transport by 2030 and 50% by 2050. Two mid-term revisions of the White Paper have also been provided (EC, 2006; EC, 2015 a). In its final consolidated version, the White Paper underlines the importance of the TEN-T corridors as the main infrastructural elements that can guarantee a more balanced distribution of the traffic according to the different modes. As far as freight transport is concerned, shipments over short and medium distances (below 300 km) will remain on trucks to a considerable extent. It is therefore important, besides encouraging alternative transport solutions (rail, waterborne transport), to improve truck efficiency, through the development and the uptake of new engines and cleaner fuels, the use of intelligent transport systems and further measures to enhance market mechanisms. Regarding longer distances, freight multimodality has to become economically attractive for shippers. An efficient co-modality is needed. The EU needs developed freight corridors, optimised in terms of energy use and emissions, minimising environmental impacts. They need to be attractive for their reliability, limited congestion and low operating and administrative costs. The challenge is to ensure that structural changes enable rail to effectively compete and take a greater proportion of medium and long distance freight.

The ***Directive 92/106/EEC*** *on the establishment of common rules for certain types of CT of goods between Member States* (MSs) aims at reducing the negative side-effects of goods transport on environment (such as CO_2 and other pollutant emissions) and on society (such as congestion, accidents, noise, etc.) by supporting the shift from long distance road transport to long distance by intermodal transport, including rail, inland waterways and maritime transport. First, this Directive gives a definition of CT (see section 3.1), which has to be adopted by all MSs. It also specifies, in the context of CT operations, who should have the right to carry out initial and/or final road haulage legs that may or may not include the crossing of a frontier (exempted from compulsory tariff regulations) Furthermore, it is indicated that MS should draw up necessary measures to reduce or reimburse road taxes by a standard amount, or in proportion to the journeys that such vehicles undertake by rail. However, the constant evolution of transport modes and their technology, as well as the change of the market dynamics make some parts of the directive outdated and require a conceptual revision. Hence, the EC has recently started the amendment of the CT Directive (EC, 2017 b), approving a public consultation, in

order to increase regulatory efficiency and reduce costs and burdens. Results of this consultation should be soon available and concur in the amendment of the directive.

The ***Directive 2011/76/EU*** *amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures* advocates fair and efficient transport pricing. The first document sets common rules on distance-related tolls and time-based user charges (vignettes) for HGVs above 3.5t for the use of certain infrastructures. Tolls may include an "external cost charge", which reflects the cost of air and noise pollution. It introduces a fundamental concept towards a fairer European transport at the political level, i.e. the internalization of the external costs. The social and environmental costs of transport must be paid in line with the "polluter pays" principle. The ***proposed revision of the Eurovignette Directive***, dated 31 May 2017, aims at addressing the shortcomings of existing legislation to a better fulfilment of the legislation's objectives. The terms proposed would simplify certain provisions, by redefining the variation of tolls based on Euro emission classes, and by eliminating cumbersome notification requirements. In addition, it is discussed about the inclusion of buses, passenger cars and vans in the scope of the Directive, thereby ensuring more consistent pricing of infrastructure use across the road transport sector. Furthermore, it is also proposed that road charges include GHG emissions in a more consistent way.

The ***Council Directive 91/440/EEC*** *of 29 July 1991 on the development of the Community's railways* facilitates their adoption according to the needs of the single market. At the same time, they increase their efficiency by ensuring access to the networks of MSs for international groupings of railway undertakings and for railway undertakings engaged in the international CT of goods. It shall be granted access on equitable conditions to the infrastructure in the other MSs for operating international CT services.

The ***Community guidelines on State aid for railway undertakings*** (2008/C 184/07) emphasize how the rail transport has great potential for contributing to the development of sustainable transport in Europe. Underlining the importance of financial aids to support rail transport, they suggest aids both for railways undertakings and for purchase and renewal of rolling stock, setting also the rules to guarantee such aids at the national and local level. More in detail, the aids can take several forms: (a) aid for infrastructure use (i.e. granted to railway undertakings which have to pay charges for the infrastructure they use, while other undertakings providing transport services, based on other modes of transport, do not have to pay such charges); (b) aid for reducing external costs, designed to encourage a modal shift to rail because it generates lower external costs than other modes; (c) aid for promoting interoperability and to the extent to which it meets the needs of transport coordination, aid for promoting greater

safety, the removal of technical barriers and the reduction of noise pollution in the rail transport sector; (d) aid for research and development in response to the needs of transport coordination.

The ***Regulation (EU) No 913/2010*** of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight points out the rules for the establishment and organisation of international rail corridors. This regulation sets out rules for the selection, organisation, management and the investments. So far, nine Rail Freight Corridors (RFCs) along European transport axes have been established.

The ***Directive 2012/34/EU*** of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area lays down the rules applicable to the management of railway infrastructure and to rail transport activities of the railway undertakings established or to be established in a MS, the criteria applicable to the issuing, renewal or amendment of licences by a MS intended for railway undertakings which are or will be established in the Union and the principles and procedures applicable to the setting and collecting of railway infrastructure charges and the allocation of railway infrastructure capacity.

In order to implement the policies mentioned above in a complex area such as the Alpine one, it is necessary to develop a common strategy between the different Countries. This is the aim of ***EUSALP,*** the macro-regional strategy for the Alps, to which the States of Austria, France, Germany, Italy, Liechtenstein, Slovenia and Switzerland contribute. The Strategy is built upon three general action-oriented thematic policy areas and one cross-cutting policy area. One area is specifically dealing with mobility and connectivity (Connectivity for all: in search of a balanced territorial development through environmentally friendly mobility patterns, transports systems and communication services and infrastructures). Under this objective, there is a special action group, led by the Land of Tyrol and dealing with intermodality (Action Group 4: To promote inter-modality and interoperability in passenger and freight transport).

To summarize, the EU has defined (and continues to update) the **framework** and the objectives for the use of an efficient intermodal transport system. Furthermore, it provides recommendations, which each State has to adopt and to develop through a national legislation, as well as actions, measures and projects. However, the concrete promotion of intermodality and innovation in freight transport depends on the policies developed on the national, regional and local levels, as better explained in the next subsection.

6.1.2 National policies

The national policies of the Alpine countries are very numerous and a comprehensive vision cannot be provided in this document, due to the lack of adequate space. Interested readers may refer to Appendix 8. The MSs of the EU have adopted the Directive 92/106/EEC, defining the main aspects related to CT, as the definition and the dispositions about initial and final road haulage legs by hauliers established or not established in MSs of the EEA in their regulations. The reference documents in the following States are:

- Austria, the *Österreichische Kombifreistellungsverordnung, BGBl. II Nr.399/1997 (*Austrian regulation regarding the liberalisation for transnational combined transport of licence. Legal basis: BGBl. II Nr.399/1997);
- France, the *Arrêté du 25 septembre 1991, dernière modification: 5 mai 2010 (*Order of 25 September 1991 on the execution of the CT of goods between the MS of the European Economic Community, Last amendment: 5 May 2011);
- Germany, the *Verordnung über den grenzüberschreitenden Güterkraftverkehr und den Kabotageverkehr (*Directive on international (border-crossing) transport of goods and cabotage traffic of 28 December 2011);
- Italy, the *Decreto Ministeriale 15 febbraio 2001 (*Ministerial Decree 15 February 2001*);*
- Slovenia, the *Uredba o kombiniranem prevozu, published in Uradni list Republike Slovenije, 4/01 and 49/13,* (Decree on Combined Transport, published in the Official Gazette of the Republic of Slovenia, 19 January 2001, last update 7 June 2013).

In **Italy**, several laws and plans are in force both on national, regional or local levels, which define measures to promote intermodality. 25 items were identified, both to discourage the unimodal road transport and to increase the competitiveness of CT. An example of the first field is the *Decreto Legislativo 4 Marzo 2014 n.43* (Legislative Decree 4 March 2014, n.43), which contains regulations on tolls and user charges on HGVs used for the carriage of goods by road for the use of certain infrastructures. The *Decreto Ministeriale 14 luglio 2017, n. 125 (*Ministerial Decree 14 July 2017, n.125*)* belongs to the second field. It allocates financial resources to the services and states the criteria for the access to the financial aids for the implementation of CT. Practically, the Italian government promotes CT thanks to the Nuovo Ferrobonus (*New Ferrobonus*). This incentive has been created in accordance with the *Legge di Stabilitá 2016* (Stability Law 2016), for the three year period 2016-2018. The overall budget is 20 million euros, equally distributed per each year. The aim is to shift freight traffic from road to rail transport routes, by promoting CT from/to Italian logistics and port hubs. The new Ferrobonus is dedicated to companies operating intermodal

and/or combined rail transport services and to multimodal transport operators that purchase full train sets and commit to maintain the traffic volumes and increase them during the period of time covered by the incentive. This instrument includes also the overheads of part of the amount received to favour the companies operating rail transport services. The maximum aid cannot exceed 2.50 euro per train*km and the total distance covered must be higher than150 km, with the exception of intermodal rail transport services carried out between a port and an interport. In addition to the national aids, some provincial administrations in Italy support CT. On the local level, we can recall the Delibera n. 1769 del 27 Ottobre 2017 (Resolution n. 1769, 27 October 2017) of the Autonomous Province of Trento, which highlights that the EC supports an overall allocated budget of 3 million euros per year to promote the development of CT on the territory of the province (see EC Decision of 25 July 2017, SA.46806, 2016/N – Italy) (EC, 2017c). The aids advocated by the provincial resolution cover the railway sections between the Brennersee intermodal terminal and Trento and between Trento and Borghetto all'Adige (boundary with Veneto region). The aid will be granted to partially cover the higher cost related to the use of RoLa services. Only rail transport services that use electric-powered traction, are eligible for the aid. The aid takes the form of a grant per unidirectional intermodal consignment transhipped per journey at a maximum level of euro 33, which corresponds to a maximum amount of euro 0.15 per km. So far, the commitment of expenditure approved in the above mentioned resolution is equal to a total budget of 1.92 million euros and it is divided as follows: 0.6 million euros per year 2017, 2018, 2019 and 0.12 million euros per year 2020. In the same way, the Delibera n. 655 del 13 Giugno 2017 (Resolution n. 655, 13 June 2017) of the Autonomous Province of Bolzano/Bozen, grants aids to the companies located in the EU: to the OTM and to the railway companies that do freight services on rail in the provincial territory. The aids are pointed to the development of provincial CT. They are related to the rail freight services and to the building, the management, the adjustment or the extension of railway infrastructures and/or of intermodal terminals. On 6 December 2017, the EC (EC, 2017d) has approved state aids to promote shift of freight transport from road to rail in the Autonomous Province of Bolzano. The scheme, which has an overall budget of 9 million euros and will run until 2019, aims to increase the share of rail and intermodal freight transport through the Brenner Corridor. The public support will be provided to freight transport services carried out by railway companies and multimodal operators along the South Tyrolean section of the transport corridor between Brenner and Salorno. The estimated total budget is 3 million euros per year (2018-2020). Always at the local level, the Piedmont Region has approved a "*regional ferrobonus*". This local incentive is equal to 0.6 million euros (0.2 million euros per year for three years) in order to reduce goods transport costs by rail. Finally, in October 2017, the Council of the Autonomous Region of Friuli Venezia Giulia

approved a budget of 1.8 million euros for regional CT. The subsidies are in favour of those private entities working in the transport, trade and handling sectors of goods that have their headquarters in the region (FVG, 2017a, b).

In **Austria**, at least six policies are relevant for CT and worthy to be presented in this section. Two are national laws/regulations and four are strategy documents of national or regional relevance. The *Bundesgesetz vom 23. Juni 1967 über das Kraftfahrwesen, last update: BGBl. I Nr. 40/2017 (*Federal Law of 23 June 1967 on the transport of goods*)* defines the concept of CT, while the *Österreichische Kombifreistellungsverordnung*, *BGBl. II Nr.399/1997,* above mentioned, outlines the Austrian regulation regarding the liberalisation of licences for transnational CT. The shift of goods from road to rail is also supported by the *Gesamtverkehrsplan (*Austrian Masterplan for Transport*),* which fixes on the national level the main objectives, in order to increase the rail modal split up to 40% by the year 2025. At the regional level, the "*Brenner Memorandum 2015*" and the decision No. 17/2014 of the parliament of South Tyrol, Tyrol and Trento foster the shift of goods transport along the Brenner axis from road to rail, by introducing concrete support measures. The policies outlined above are translated into relevant measures for CT thanks to the development of five important national Programmes, whose total budget is divided as follows. 3 million euros per year are allocated for the *Innovationsprogramm Kombinierter Güterverkehr, 2015-2020* (Innovation Programme for combined freight transport, 2015-2020), whose purpose is the promotion of investments in systems and equipment, that are necessary for the transport or handling of goods in CT road/rail/ship. About 55 million euros per year (not including the support for single waggon traffic) are earmarked for the *Beihilfenprogramm für die Erbringung von Schienengüterverkehrsleistungen in bestimmten Produktionsformen in Österreich,* which supports financial aids for operations of rail freight services in Austria. The duration of the Programme is from December 2012 to December 2017 but a prolongation (2018-2022) by the EC, DG Competition was approved. Austria has also allocated resources for investments in terminals and in rail infrastructure. The *Programm für die Unterstützung des Ausbaues von Anschlussbahnen sowie von Umschlagsanlagen des Intermodalen Verkehrs* (Programme for the support of sidings and intermodal terminals (road/rail/ship) allocates about 8 million euros per year for investments in terminals, regarding construction, enlargement and modernization of transhipment points. The duration of the Programme is from 2013 to 2017 but, also for this Programme, the European Commission, DG Competition has approved a prolongation until 2022. 15.2 billion euros (in total) are assigned with the *Rahmenplan Schiene* in order to support rail infrastructure in Austria (duration: 2017-2022, on a continuing basis). Finally, about 15 million euros per year (2012-2020) are allocated in the *Programm "Mobilität der Zukunft"* (Research Programme Future Mobility). For further details on Austrian support

measures and its related Programmes, interested readers may refer to Appendix 9.

In **Germany**, five documents aim at improving the competitiveness of CT. The current *Bundesverkehrswegeplan 2030 - BVWP 2030* (German federal masterplan of transport infrastructure) contains the required planning of national wide construction and extension of infrastructure for all transport modes by the year 2030 and has an overall budget of about 270 billion euros. About 42 % are dedicated to rail infrastructure. This takes into account also important railway and terminal projects that influence the transalpine CT. The German national government, thanks to *Richtlinie zur Förderung von Umschlaganlagen des Kombinierten Verkehrs nicht bundeseigener Unternehmen vom 04.01.2017* (subsidy guideline), supports CT and the strengthening of the intermodal transport system. The subsidy guideline provides financial support (up to 80% of the eligible investment) for the construction and extension of private transhipment facilities for CT. The promotion of these private transhipment facilities is technologically oriented and can be carried out for vertical as well as horizontal transhipment technologies. The funding conditions include the fact that the facility has to be open to all users without any discrimination. An overall budget of about 93 million euros has been provided for the year 2017. In 2012, the Federal Ministry of Transport and Digital Infrastructure developed the *Erstellung eines Entwicklungskonzeptes KV 2025 in Deutschland als Entscheidungshilfe für die Bewilligungsbehörden,* a concept and framework for CT in Germany for the year 2025. The objective is to assist the approval authorities, by taking into account the networking function of the transhipment facilities. In addition to the national subsidy programme, some federal governments and authorities in Germany support CT through the development of own projects and the provision of guidelines. In Bavaria, for example, funding opportunities are available for pilot and demonstration projects that promote innovative logistics concepts, for new propulsion technologies and rail freight transport. In addition, grants and other expenses may be paid to municipalities for the planning and design of freight villages and centers, as well as grants to municipalities and administration units for infrastructural investments for the construction of freight transport centers. 2.2 million euros are available every year for this purpose. In addition, subsidies amounting to 0.54 million euros per year are available to municipalities and administration units for the construction of Inland ports (Bayerisches Staatsministerium des Innern, für Bau und Verkehr, 2017). Funding possibilities are also available in Baden-Württemberg (responsible is the Ministerium für Verkehr Baden-Württemberg, 2017). The objective is to foster CT as well as innovative and sustainable transhipment facilities, whit an overall budget of 0.5 million euros per year. Finally, on 1 July 2018 Germany extends the tolled road network to include all 40,000 km of federal highways (currently, it is

due only on German motorways and selected federal highways). This policy is included in the *Fourth Act amending the Federal Trunk Road Act (BFStrMG)* of 27 March 2017, entered into force on 31 March 2017.

In **Slovenia,** ten documents have been identified (three laws/regulations and seven strategy documents). The *Uredba o kombiniranem prevozu, published in Uradni list Republike Slovenije*, 4/01 and 49/13 (updated version), above mentioned, contains the dispositions regarding CT, such as the distance of pre- and on-carriage in road networks, their implementation, the total permissible weight of vehicles, the exemption from road fees for foreign vehicles, the exceptions to traffic restrictions for freight vehicles, etc. In addition, Slovenia promotes specific measures in favour of CT. Two examples are *UREDBA o nadomestilu dela stroškov za prevoze, raziskave in naložbe prevoznikom, ki opravljajo določene prevozne storitve v železniškem prometu, Uradni list RS, št. 108/2000 z dne 24 November 2000* (Regulation on the compensation of part of the costs of transport, research and investment carriers operating certain rail transport services traffic. Law of 24 November 2000) and the *Resolucija o nacionalnih razvojnih projektih 2007–2023* (Resolution on National Development Projects for the period 2007-2023). The former regulates the method of application of criteria, the importance of each criterion for assessing eligibility for state compensation, and the procedure for granting state compensation to carriers registered in the Republic of Slovenia, which carry out rail transport of passengers in international traffic, rail freight and/or CT. The State may support part of the costs for the carriers referred to this Regulation for these three fields: transportation, research and investments. These last define the priorities in terms of improvement of transport infrastructures, including the national railway lines. This document has a direct impact also on CT. Special priority is given to the development of logistics services, transhipment terminals and intermodal hubs, where partnership between the state and companies is foreseen. With regard to financial aids for CT, in Slovenia some incentives were legally prepared but not implemented yet due to lack of budget since 2003.

In **Switzerland,** six policies were identified (four laws, one decree and one International Treaty). The last one is *The land transport agreement between Switzerland and the European Union (21 June 1999*). After that Swiss people rejected accession to the EEA, Switzerland and the EU negotiated seven bilateral agreements, which were adopted in 2000. Within the land transport agreement, the EU accepts the Swiss transport policy (kilometre-based HGV tax, night and Sunday ban on road freight transport, etc.) and supports a progressive introduction of true costs in transport and the promotion of freight transport by rail. The EU has negotiated the replacement of the 28-ton weight limit for lorries by a 40-ton limit, accepting the introduction of the kilometre-based HGV tax. The amount of the HGV tax was limited. National policies foresee several dispositions

to dissuade road transport and to increase rail and CT, through a balanced combination of initiatives (see also 6.1) that are part of the so-called "modal shift package". This initiative, which is legally binding, aims at limiting the number of yearly crossings (650.000) of the Swiss Alps by HGVs after the opening of the Gotthard Base tunnels (year 2016). On the one hand, in 2001 the *Schwerverkehrsabgabegesetz* (SVAG) introduced the constitutional article on the kilometre-based tax on HGVs (ARE, 2015): this fee is based on a set of parameters, including the weight of the vehicle, the Euro class and the amount of kilometres covered. In order to promote less pollutant vehicles, differences are relevant according to the EURO classes: with the current fares, categories EURO 2, 1, 0 or older pay the highest rates (3.07 Swiss cent/tkm), while categories EURO 4,5,6 and later are charged the least (2.26 Swiss cent/tkm). HVC is valid for all the HGVs exceeding 3.5 t and it includes a constant and gradual update of the fares (in 2005 +45%; in 2008 +10%). Two-thirds of the revenues are adopted to realize the new HS railway infrastructures under the NFTA program, while the remaining one-third is distributed to the cantons, to be invested in the improvement of road infrastructure (Unterschütz, 2003). According to INFRAS (2010), HVC has led to a reduction of traffic volumes by 23% in comparison to the BAU scenario. On the other hand, the proposal for the *Bundesgesetz über die Finanzierung und den Ausbau der Eisenbahninfrastruktur (*Financing and Expansion of Rail Infrastructure, FABI*)* has been introduced. This initiative is part of the Strategic Development Programme for Rail Infrastructure and involves the first specific phase of expansion for the period up to 2025. Initially, the project was more ambitious: the "AlpTransit" initiative included the renewal of the entire infrastructural national line, but after a prolonged debate that involved all participatory levels, the final decision was to realize only the base tunnels (see section 6.3). In parallel, the introduction of the Rail 2000 programme (SBB, 2004) aimed at improving the railway national network (not related to HS), thus creating the basis for a more integrated national infrastructure. Based on the national law about freight transport (*Gütertransportgesetz*, 2016) the Swiss government promotes CT transhipment terminals and railway sidings with an overall budget of 250 million Swiss francs for the years 2016-2019. In addition, Switzerland awards direct grants for CT operations through the so-called "Tendering procedure for trans-Alpine UCT rail/road services". The current programme runs from 2011 to 2023. The overall budget for this in 2017 is about 150 million Swiss francs. It has to be emphasized that Switzerland does not oblige EU-framework regulations and could therefore be more flexible regarding funding and grant structures.

For the sake of clarity, the main fundings related to the development of CT in the AS are summarised in the table 13.

Extraction of main CT subsidies in AlpInnoCT countries in the AS				
Origin of funds (national/regional level)	**Combined transport (m €)**	**Period (year)**	**Funding/year (m €)**	**Beneficiary**
1. Italy	60	2016-2018	20	Incentives to companies operating rail services and multimodal rail operators
	173.4	2016-2018	2016: 45.4 2017: 44.1 2018: 83.9	Incentives for projects to create new maritime services for the CT or to improve services on existing routes from/to Italian ports, connecting ports in Italy or MSs of the EU or the EEA
1.1 Autonomous Province of Bolzano	9	2018-2020	3	Incentives to railway companies and multimodal operators (railway section: Brenner - Salorno)
1.2 Autonomous Province of Trento	9	2017-2019	3	Incentives to railway companies and multimodal operators (railway sections: Brennersee intermodal terminal - Trento and Trento - Borghetto all'Adige)
	1.92 (budget adopted by the Autonomous Province)	2017-2020	2017: 0.6 2018: 0.6 2019: 0.6 2020: 0.12	
1.3 Autonomous Region of Friuli Venezia Giulia	1.8	2017	1.8	Incentives to private entities working in the transport, trade and handling sectors of goods
1.4 Piedmont Region	0.6	2017-2019	0.2	Incentives to reduce good transport costs by rail
2. Austria	550	2012-2022	55	Rail freight operations
	18	2015-2020	3	Innovative investments in systems and equipment
	15,200	2017-2022	2,533	Rail infrastructure
	80	2013-2022	8	Intermodal terminals
3. Germany	93	2017	93	Investment in private transhipment facilities
3.1 Bavaria	2.2	yearly	2.2	For pilots, demonstrations, railway freight
	0.54	yearly	0.54	Municipalities for construction of CT terminals
3.2 Baden-Wurtemberg	0.5	yearly	0.5	Support of feasibility studies and intermodal terminal construction
4. Slovenia	*No direct funding for CT*			
5. Switzerland	212 (250 m sf[5])	2016-2019	70.6	Terminals and railway sidings
	127 (150 m sf)	2017	127	Operations

Table 13: Extraction of main CT subsidies in AlpInnoCT countries in the AS

[5]EUR/CHF = 1.18, Source: http://finanza-mercati.ilsole24ore.com/quotazioni.php?QUOTE=!CHFVS.FX&refresh_ce=1 [16/01/2018]

6.1.3 Long-term transalpine policies

This paragraph gives an overview about three policy proposals that regard the traffic management systems of transalpine road freight transport. Such policies are the Alpine Crossing Exchange (ACE), the Alpine Emission Trading System (AETS), the Differentiated Toll Systems (TOLL+). Except for the last one, which has been partially included in the directive "*Eurovignette*", the two other policies seem far from a concrete adoption, mostly because of the freedom of the movement granted to people and goods in the EU. However, such policies constitute the basis for a **transalpine** discussion about the issue. Their implications in terms of future CO_2 emissions have been thoroughly discussed in Nocera and Cavallaro (Nocera and Cavallaro, 2016).

ACE is a system that can be expanded to all Alpine corridors. ACE is based on two main elements: the Alpine Crossing Permits (ACPs) and the Alpine Crossing Units (ACUs). The former are documents (limited in number) required for a specific passage over an Alpine crossing. They are assigned to a specific vehicle and are not tradable. ACPs can be obtained in two different ways: either directly assigned (non-directly tradable ACPs) or by a conversion of the ACUs, which can be bought and sold on an electronic platform. Based on the length of the trip and the characteristics of the vehicle (size, emission class, loading), a different number of ACUs is converted to a single ACP. A defined number of ACUs can be freely traded. Their period of validity should be limited to 12 months, in order to manage the yearly traffic. The differentiation of tradable ACU from non-tradable ACP grants a certain flexibility. In this Alpine-wide dimension, ACPs can be used for all Alpine routes within the assigned area or countries; in specific cases, they can also be used as tools aiming to rebalance passages along the different corridors. Furthermore, special exemptions are possible for local and short distance traffic, which can receive a preferential treatment in order to avoid traffic obstruction between nearby economic areas on both sides of the Alps.

Conceptually, **AETS** is the opposite of ACE. This method is based on the adoption of emission certificates: for each emitted unit of CO_2, one certificate is required. For every time period, only a fixed number of emission certificates are available: this is the result of a political choice about the maximum threshold of emissions. These certificates are traded on the market by realizing an emission certificate trading exchange, similar to the ones adopted in other contexts (e.g. industries, air transport). The vehicle owner, who wants to make a transalpine journey, has to buy certificates according to the emission category of the vehicle and the distance travelled.

TOLL+ is a measure developed to determine fairer transport prices and to use the available physical capacity (including safety aspects) efficiently. To achieve these aims, TOLL+ internalises the external effects of road freight transport in terms of air pollution (here also including CO_2), noise and congestion, by implementing the "polluter pays" principle (see 6.1.1). In the TOLL+ concept, the external costs would be added as a surcharge on the already existing toll rate. Furthermore, it proposes a differentiation of toll rates according to the congestion of the road: higher prices would be paid at peak times, while more convenient rates would be charged for the rest of the day. In contrast to other systems, the price of the "passage permit" is the charged toll rate, which means lower implementation costs than ACE and AETS. Furthermore, the price per km is fixed (and known) in advance.

6.2 CT measures

Section 6.1 has identified the most important policies introduced in the recent years in the EU and in the Alpine countries in order to support the development of CT. The objective of this section is to understand how such policies have been transformed into practical measures. The database about **CT measures**, available in the Appendix 9, combines measures of different nature. Some of them discourage road freight transport, while others support CT operations. The former are called **push-measures,** the latter **pull-measures** (Nocera and Cavallaro, 2011). The main push and pull measures are collected in tables 14 and 15. In the third column, the relevance of the measures is also specified according to the temporal dimension considered: some of them work better in a **long-term** perspective, whereas others are more incisive in the **short-term**.

6.2.1 Push-measures

Push-measures include financial instruments (taxes, fees, charges and tolls), as well as technical and regulatory constraints (orders and bans). They are closely related to a more efficient and equitable transport pricing, seeking to require transport users to bear a greater proportion of the real costs of their journeys (including costs of pollution, accidents and infrastructure). Table 14 shows a list of the main push-measures. For the sake of clarity, we have classified them into three main fields: *restrictions, fines and taxations*.

Restrictions are **regulatory constraints** imposed to road vehicles, which limit their possibility to circulate. An example of this measure is the Austrian "Motor Vehicle Act", which defines the sum of the total weight and the sum of the axle weight

of motor vehicles and their trailers for transport of goods by road equal to 40 t. Another example is the Italian ban to circulate outside built-up areas for HGVs having a weight exceeding 7.5 t on public holidays and on others special days. French and Italian regulations prohibit HGV traffic across the Alps in summer from Saturday 7:00 to Sunday 24:00. The circulation along the alpine tunnels is influenced by road traffic regulations. According to the European Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), the Mont Blanc Tunnel and the Gotthard Road Tunnel are classified as category E, with restriction for all dangerous goods (except those goods with very limited danger). In the Mont Blanc Tunnel, the compliance with tunnel transit conditions is certified by a pass, issued after the dimensions of the vehicle, the nature of its load and the Euro class (transit is prohibited for Euro 0, Euro1 and Euro 2) have been checked. The Fréjus Road Tunnel is an ADR tunnel code C with restriction for the carriage of dangerous goods that may lead to a very large explosion, a large explosion or a large toxic release. Furthermore, Euro 0, 1 and 2 vehicles are not allowed to circulate (Euro 2 vehicles from 1 July 2017).

Fines and higher taxations are two examples of **financial instruments** that discourage the use of road vehicles and whose income can be used to finance alternative forms of transport. In Swiss, for example, the building of the Gotthard base tunnel was partially funded by the heavy vehicle tax. The taxation considers strict enforcement of road haulage regulations with the taxation for the infringement of the protocols for the HGV traffic. Fair pricing foresees a payment for the internalization of the external costs for charging the costs of traffic based on air and noise pollution, congestion accident and other forms of transport externalities. In Europe, the Directive 1999/62/EC, as modified by Directive 2006/38/EC and by Directive 2011/76/EU, is the reference document. The Directive is transposed into national tolls and user charges that must be applied to HGVs. To safeguard people by transport externalities, Germany has planned low emission or environmental zones (Umweltzonen, 2017), which require drivers to have a special environmental sticker or badge. Austria has introduced similar initiatives. The A12 Inntal Motorway between km 6.35 (Langkampfen) and km 90.00 (Zirl), is considered as Low Emission Zone (LEZ; *Fahrverbot für schadstoffreiche Schwerfahrzeuge*). Accordingly, to drive along the motorway, HGVs must be at least Euro III (Euro IV from the end of 2017 and Euro V from 2022). From 1st May 2017 the official Austrian sticker, that shows the Euro standard of the vehicle, has to be put on the windshield of the vehicle. Furthermore, in order to be allowed to drive at night or to transport certain types of goods, HGVs must be Euro VI, otherwise a night driving ban (*Nachtfahrverbot für Schwerfahrzeuge*) is operative. During the winter period (01.11 - 30.04), HGVs equipped with Euro 0-Euro V are not allowed to circulate from 20:00 to 05:00 (Monday to Saturday) and from 23:00 to 05:00 (Sunday and holidays). During the summer period (01.05 -

31.10), the ban is valid from Monday to Saturday from 22:00 to 05:00; on Sunday and during holidays, it is valid from 23:00 to 05:00. Finally, regulations regarding the limit of vehicle weights do not include tolerances. Stricter sanctions (such as stopping the vehicle) can be imposed if road safety is imperilled. Such condition can be reached quite easily: when the authorized total weight is exceeded by more than 2% or the maximum authorized axle weight is exceeded by more than 6%, the road safety is considered imperilled. Furthermore, Austria has introduced an additional toll (*GO-Maut*) on the routes that are more costly to be maintained. This measure is similar to the *Sondermaut*, which however is applied to light vehicles that run along the main Alpine routes, such as the Pyhrn, the Tauern, the Karawanken and the Brenner highways. The *GO-Maut* distance-related toll for twin-track vehicles with a maximum gross vehicle weight higher than 3.5 tonnes serves the surcharges of the infrastructure costs as well as the costs for traffic-related air and noise pollution. Switzerland introduced an intensification of HGV controls, as witnessed by the opening in 2009 of the control centre in Erstfeld and those expected in Monteforno for the Gotthard axis and in Roveredo for San Bernardino. Another example of financial instrument is the application of different highway tolls according to the vehicle and euro classes. For example, the toll to run along the Swiss part of the highway between Basel and Gotthard is equal to €129.14 for a Euro 6 Heavy duty vehicle (40 t, 5 axles), while for a Euro 2 vehicle with the same characteristics is €175.59.

PUSH-MEASURES					
ID	**FIELD**	**TEMPORAL HORIZON**	**NUMBER**	**MEASURE**	**COUNTRY**
1	**RESTRICTIONS**	Long Term	**1.1**	Weight limits for road freight vehicles	**AT, CH, DE, FR, IT, SL**
			1.2	Traffic ban for HGVs with a mass >7.5t in specific days and time slots	**AT, CH, DE, FR, IT, SL**
			1.3	Ban of older Euro classes of the vehicles along road tunnels	**CH, IT, FR**
			1.4	Sectorial driving ban	**AT**
			1.5	Low Emission Zone along specific highway sectors	**AT**
			1.6	Speed and overtaking restrictions	**AT, CH, DE, IT, FR, SL**
2	**FINES**	Short Term	**2.1**	Strict enforcement of road haulage regulation	**AT, CH, DE, FR, IT**
3	**TAXATIONS**	Long Term	**3.1**	Higher unitary tolls for highway sectors that generate higher externalities and/or are more costly to maintain	**AT, CH, DE, FR, IT, SL**
			3.2	Differentiation of highway tolls according to the Euro classes of the vehicles	**AT, CH**
			3.3	Differentiation of vehicle tax according to the Euro classes	**AT, CH, DE, FR, IT, SL**

Table 14: List of the push-measures related to CT in the AS

6.2.2 Pull-measures

Pull-measures are those measures implemented in order to discourage the use of trucks by improving the attractiveness of existing alternatives. They include the increase of the rail appeal on certain corridors either by constructing/developing intermodal terminals or by increasing the rail capacity in points identified as bottlenecks or by expanding the existing infrastructure. Table 15 shows a list of the main pull-measures related to CT. They are divided into five main fields: exemption from bans, financial support (incentives or aids or subsidies), support measures, liberalization/permits and infrastructural development. Due to the importance of the theme, this last one are discussed in a specific section (6.3, CT projects).

The first aspect mainly regards the **exemptions from driving bans for road vehicles involved in CT operations**. Each country provides specific traffic restrictions for HGVs. The incentives applied in some of the MSs exonerate the vehicles involved in the CT operations from the driving ban on Sunday and/or weekends and/or public holidays and/or at night, thus contributing to make this transport mode more appealing, if compared to road transport. In Austria, for example, the restriction of weight for the motor vehicles and their trailers increased to 44t for the initial and final road hauls in CT to/from the nearest technically suitable terminal in the country. Furthermore, the restrictions on traffic flow during weekend and holidays for HGVs are not valid in the context of CT for the journeys that do not exceed a radius of 65 km to or from specific terminals. In Slovenia, the restriction to the circulation described among the push measures (see 6.2.1) is not valid for all HGVs involved in CT. In addition to exemptions for specific days or hours of the year, for determined weights or dimensions of HGVs involved in CT operations, and in relation to geographical areas or routes, it is possible to identify two other types of exemptions: goods-based exemptions and vehicle-based exemptions. The former include the exemptions for the transport of specific types of goods: in Italy, for example, the schedule of driving restrictions for the year 2017 covers all HGVs with a total mass exceeding 7.5t, except for vehicles only used to carry medical products, fresh milk, newspapers and periodicals or perishable foodstuffs. Finally an example for the vehicle-based aspect can be the exemption of vehicles with electrical traction, as promoted by Swiss LSVA.

Financial support encourages the CT through the reduction or the reimbursement of vehicle taxes for HGVs used for CT operations, or through direct grants to strengthen the infrastructural supply. The aids are mainly directed at investment in CT operations, equipment and infrastructures. On the other hand, financial measures related to infrastructures concern mainly investments for the improvement or new rail infrastructure, as well as the creation or the extension of

CT terminals. In France, the initial and terminal hauls by road are exempted from the vehicle axle tax up to 75%. In Germany a subsidy equal to 80% of investment costs for the construction, renewal or improvement of CT terminals is forecast. Another example is the federal tax (LSVA) levied on the basis of total weight, emission level and the kilometres driven in Switzerland and Liechtenstein. This measure, which is due for all HGVs, foresees refunds and benefits applicable to UTC and other special categories (timber transports, bulk milk transport and transports of productive livestock).

Among the **support measures,** one of the main aspects regards the time a lorry spends on the RoLa as a rest period, thus giving the possibility to the driver to drive for more hours. In Slovenia, the time spent by a lorry driver on a RoLa is regarded as a time of availability or as a rest period, if the driver has access to bunk or couchette.

Finally, the measures to **liberalize** the access to rail network, to inland water transport and to the initial and final road legs, to give free access for vehicles regularly registered in one of the MS or other Countries in the European Economic Area have to be recalled. At the same time, some countries draw up bilateral agreements on road good transport with non-EU countries for the use of the railway services to enter and to exit from their national territory. In Italy, for example, the liberalisation of the initial and/or final road haulage legs that form an integral part of the CT operation and which may or may not include the crossing of a frontier for all hauliers established in a MS or in other Countries within the EEA is permitted. Finally, another important pull-measure concerns the opening 24 hours of intermodal terminals, 7 days a week. Currently, this measure is applied only in a few terminals, such as for the intermodal node of Koper Luka KT or for the Port of Trieste, open all day, 365 days a year.

PULL - MEASURES					
ID	**FIELD**	**TEMPORAL HORIZON**	**NUMBER**	**MEASURE**	**COUNTRY**
4	**EXEMPTIONS**	Short/Long Term	**4.1**	Derogation from Directive 96/53/CEE allowing higher weights or dimensions of HGVs in CT operations	**AT, CH, DE, IT, FR, SL**
			4.2	Exemption from traffic bans on weekends and bank holidays and from the holiday driving bans	**AT, DE, IT, SL**
			4.3	Exemption from the night driving ban for the lorries involved in CT	**AT**
			4.4	Exemption from road charges for foreign vehicles and from the traffic ban for all HGVs involved in CT	**SL**
5	**FINANCIAL SUPPORT A): TAX INCENTIVES**	Short/Long term	**5.1**	Reduction or reimbursement of vehicle tax for the initial and terminal hauls by road	**AT, FR, DE**
			5.2	Reimbursement for vehicles used in RoLa	**AT, CH, DE**

			5.3	Reduction of motor vehicle tax and road charges for vehicles in CT	**IT, SL**
6	**FINANCIAL SUPPORT B): AIDS AND SUBSIDIES**	Short/Long Term	**6.1**	Financial aids for rail infrastructures	**AT, CH, DE, IT, SL**
			6.2	Financial aids for terminal infrastructures and their related equipment	**AT, CH DE, FR, IT**
			6.3	Financial support for CT operations/services	**AT, CH, DE, IT, SL**
			6.4	Financial aids for the promotion of investment in systems and equipment necessary for CT	**AT, CH, DE, FR**
			6.5	Financial aids to support the water transport mode	**IT**
			6.6	Financial aids for the development of integrated solutions in the field of goods transport based on innovation of transport infrastructure and vehicle technology	**AT, SL**
7	**REGULATORY SUPPORT MEASURE**	Short/Long Term	**7.1**	Time spent by a lorry driver on the RoLa as a rest period	**AT, CH, DE, IT, SL**
8	**LIBERALIZATION/ PERMITS**	Long Term	**8.1**	Liberalization of the access to inland water transport	**AT, DE, FR**
			8.2	Liberalization of the access to the rail networks	**AT, FR, DE, SL**
			8.3	Liberalization of the areas for transport operations	**IT**
			8.4	Liberalization of the initial and final road leg in CT for motor vehicles registered within the EU or EEA and holding a Community licence	**AT, IT, FR, SL**
			8.5	Liberalisation of specific road corridors for initial and final leg of RoLa connections to terminals	**AT**
			8.6	Bilateral agreements on road goods transport for the promotion of CT with countries that are not EU members	**AT, IT, SL**
			8.7	Administrative measures to improve terminal access, operations and facilities	**FR**
			8.8	Intermodal Terminals: opening hours 24 hours, 7 days a week	**Only few terminals**
9	**INFRASTRUCTURAL DEVELOPMENT**	Long Term	**9.1**	Renewal of existing infrastructures (e.g. electrification of railway lines, removal of bottlenecks, introduction of new technical solutions – Nikrasa or Megaswing; see section 6.3)	**AT, CH, DE, FR, IT, SL**
			9.2	Construction of new infrastructures (e.g. new railway lines, new intermodal terminals; see section 6.3)	

Table 15: List of the pull-measures related to CT in the AS

In order to achieve a higher level of efficiency in CT, the scientific literature suggests a balanced use of both measures (Wolfram, 2005). Particularly, it aids to improve the rail sector and the financial measures for the intermodal centres development play a key role. On the other hand, the use of pull-measures alone (such as the construction of new infrastructures) can have even detrimental implications for transport sustainability, if applied alone (Nocera and Cavallaro,

2014): while they increase the overall freight demand by rail, they do not contribute to a reduction of the road component. Hence, the **synergic development** of push and pull measures is relevant for the growth of CT.

6.3 CT projects

The improvement of the railway network and intermodal centres are considered effective pull measures that increase the attractiveness of CT. Practically, this improvement can be obtained either through the **renewal** of existing lines and terminals or through the **construction** of new ones, or through the development of **services** that support the CT process. In line with the continental and national legal framework, the EU and the single countries of the AS are promoting specific projects that expand the railway network. Two main sources of EU funding for rail infrastructure projects are available. The first one consists in projects, which are co-financed by the ERDF and Cohesion Fund (up to 85%), under shared management between the Commission and the Member States. The second one is under the TEN-T Programme (up to 20% for works projects, 30% for cross-border projects and up to 50% for studies).

This chapter provides a multilevel analysis of completed, ongoing and future projects, related to the construction of new infrastructures (6.3.1), the upgrading of existing ones (6.3.2) and the provision of support services (6.3.3). A more comprehensive description of these projects, including their main characteristics, temporal horizon and stakeholders involved can be found in the Appendix 10.

6.3.1 New infrastructures

Currently, in the AS more projects that deal with rail infrastructure have been identified: this paragraph describes 13 of them implying in the construction of a new infrastructure. They are mostly related to the four TEN-T corridors identified in 3.2. Along these corridors, the construction of **high speed/high capacity** (HS/HC) **railway lines**[6] and, in particular, of **base tunnels**[7] to link the main cities faster and metropolitan areas of Europe (Figure 21) are planned.

[6] The term "High Capacity" (HC) identifies a railway line for the freight transport, whose maximum speed is equal to 160 km/h (according to the current international safety standards). The term "High Speed (HS)" identifies a railway line for the passenger transport that allows a speed of 250 km/h.

[7] A base tunnel is a flat railway tunnel that runs through the base of a mountain.

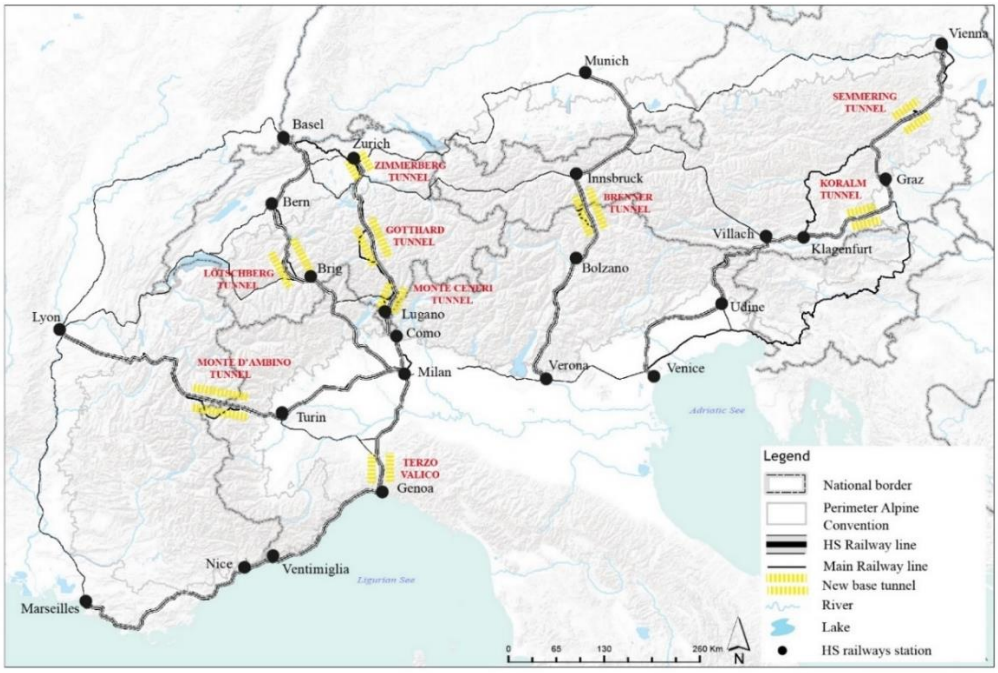


Figure 21: New main railway infrastructures along transalpine corridors
Source: Ravazzoli et al., 2017

The Baltic-Adriatic Corridor foresees the building of two main infrastructural works: the ***Semmering*** and the ***Koralm*** base tunnels. *Koralm* is a 32.9 km tunnel that will connect Styria and Carinthia. The overall costs of this tunnel, including those for the renewal of the existing railway line are expected to be about 5.4 bil €. The *Semmering* base tunnel, which is 27.3 km long, connects Styria and Lower Austria. The costs are expected to be about 3.1 bil €. Works for both tunnels, which started in 2012, are expected to be completed in 2024, thus creating a continuity to the line.

The Mediterranean Corridor has two main missing sections: the new cross border base tunnel called "***Monte d'Ambino***" between France and Italy and part of the stretch ***Lyon-Turin*** and the link between Italy and Slovenia (***Trieste-Divača***). The most important work on the line is the *Monte d'Ambino base tunnel* (55 km between St. Jean de Maurienne, F, and Susa, I), whose cost is preliminarily estimated at 10.5 bil €. The second main intervention is the construction of a second track and the modernisation of the existing Divača–Koper railway line (SL) in its total length of 26.4 km, as well as the connections with Trieste (IT).

The Rhine-Alpine Corridor connects the Northern Sea ports with France, Switzerland and Italy. Four base tunnels are part of this new line. Two of them (the ***Lötschberg*** and the ***Gotthard***) are already operative (see 3.2), even if the former has only been partially built (one third of the length has only one tube and another third has only been excavated, but not equipped with infrastructure).

Two other base tunnels, ***Terzo Valico*** and ***Monte Ceneri***, are expected to be completed by 2021. The former (34.0 km, 6.3 bil €) will connect Fegino and Novi Ligure (I), thus easing the connection between Genoa and Milan/Turin, which are two of the most important Italian markets; construction started in 2011. The latter (15.0 km long, 1.6 bil €), whose work started in 2007, will link Camorino and Vezia (CH). Furthermore, Switzerland promotes the initiative called "***4-metres Corridor"***, which reshapes a number of tunnels, platform roofs and catenaries along the Gotthard axis. Once that these interventions are finalized, semi-trailers with a 4-metre corner height can circulate along the entire length by 2020. The ***Bözberg*** tunnel is the most relevant action of this project.

Finally, the Scandinavian-Mediterranean Corridor has to be mentioned. Its central part (444 km) begins in Munich and ends in Verona, passing through the Lower Inn Valley, the Sill, Eisack/Isarco and Adige valleys (Figure 22). The new high speed/high capacity Brenner railway line is divided into three sections: the Northern access line (Munich-Innsbruck); the ***Brenner Base Tunnel*** (***"BBT***"); the Southern access line (Fortezza-Verona). In Germany, an important aspect is related to the construction of new rail infrastructures and to the expansion of existing ones. In particular, it must be mentioned the Munich-Rosenheim-Kufstein connection and, as additional alternative route, the extension and electrification of the line Regensburg-Landshut-Mühldorf-Rosenheim. *BBT* will connect Innsbruck (Austria) to Franzensfeste/Fortezza (Italy). The construction costs of BBT are estimated at 7.9 bil €. Preliminary works started in 1999, while the excavation work for the main tunnel started in 2011. In the ConnectingEuConf (21 and 22 September 2017) the BBT management declared the end of the work by 2026 and the open to the rail traffic in 2027.

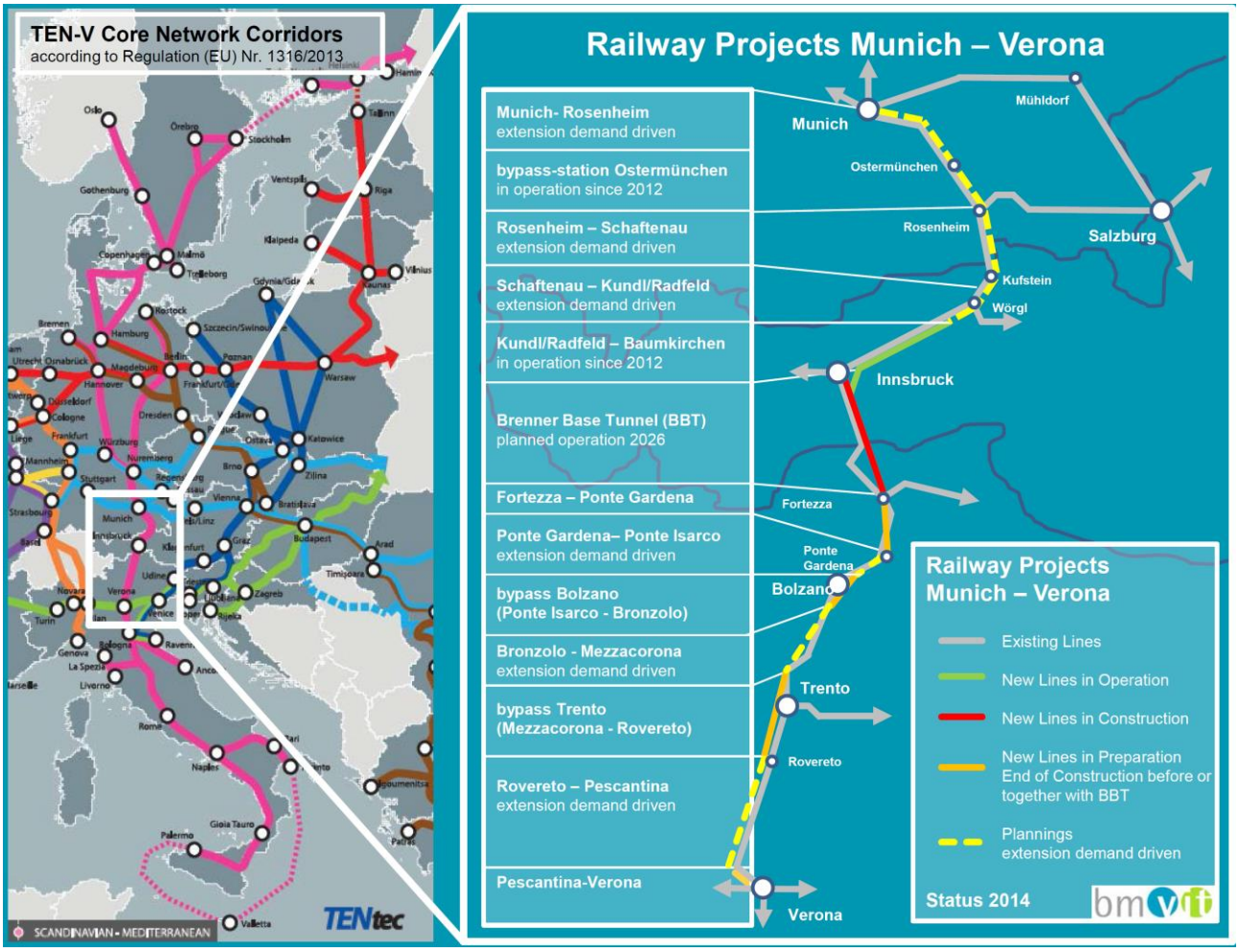


Figure 22: Railway projects along the Munich – Verona line. Source: BMVIT, 2014.

Another category of projects is not related to the construction of new railway lines, but rather to the provision of a new higher standard of safety to the circulation. The ***ERTMS/ETCS*** standard has been conceived with this specific aim. It will be used by three of the TEN-T Corridors crossing the AS (Scandinavian Mediterranean, Rhine-Alpine and Mediterranean). Allowing complete rail interoperability throughout Europe, it should grant the circulation of trains of different nationalities on the basis of common information, managed with interoperable components to land and on board.

The last type of project presented in this section is an example of a new infrastructural terminal: the ***new terminal for the motorway of the sea in Fusina***, port of Venice (***Fusina MoS***), whose operative start is expected for the year 2020. Over 2.6 million euros have been approved for MOS. The resources will mainly be dedicated to the construction of the second dock at Fusina Terminal. Other funds

will be used for studies to improve nautical accessibility and the development of the Adriatic Corridor, in collaboration with Motorways of the Sea (RAM) (Trail Nordest, 2017). In addition to the corridors, the intermodal terminals are another important element of the global freight shipping chain.

6.3.2 Renewal of existing infrastructures

In order to improve the competitiveness of the rail transport and in addition to the building of new infrastructures, the **renewal of existing infrastructures** can be an alternative or an integrative approach. These actions may refer to the **increase of the railway capacity** (by doubling or quadrupling a railway line) or to the **upgrade of the terminal services**.

As far as the first point is concerned, some examples on the national level could better illustrate the measure. Within the Contract of Program 2012-2016 (deed governing the economic and financial aspects of the concession relationship between the Italian State and the Railway Infrastructure Manager RFI), Italy has planned the **renewal of railway lines** that are directly connected to the Alpine area (Brenner–Verona, Chiasso–Milano, Domodossola-Novara/Milano, Luino–Novara/Gallarate, Ventimiglia–Genoa, Udine-Cervignano and Turin–Lyon). These works can be integrative parts of the TEN-T corridors, where historical lines already exist. However, after the introduction of new base tunnels (as described in 6.3.1), they are considered being not sufficient to guarantee an adequate capacity according to the expected traffic volumes. Along the Brenner corridor, the Southern access route is an example of such project: the quadrupling of the historical line from Fortezza/Franzensfeste to Verona, introducing the Bolzano and Trento bypasses, can help reducing the bottlenecks deriving from the opening of the BBT.

Regarding the upgrade of the **intermodal terminals**, two European projects and several national interventions are presented. The common aim of such projects is to make intermodal terminals more efficient and sustainable entry and exit points for handling UTIs, fully integrated with the land infrastructures described above. For this reason, in the last years the EU co-funded several freight project (e.g., the South East Europe projects "SEETAC" and "RAIL4SEE", sources: South East Europe, 2017 and Rail4see, 2017). However, this section deals with ongoing and future projects. Among them, we can recall the **Adriatic MoS Upgraded Services (*ADRI-UP*)** and the ***development of ports of the North Adriatic Ports Association - NAPA (NAPA4CORE***). *ADRI-UP* (2016-2020) is a CEF project that contributes to the development and the upgrading of the Motorway of Sea (MoS) in the Eastern Mediterranean Area, segment Trieste-Ancona-Igoumenitsa. The project operates on two different levels: first, it boosts the development of

port infrastructures in the three cities abovementioned; second, it contributes to improving the terminals of Fernetti and Igoumenitsa, by supporting facilities for their further integration. The project *NAPA4CORE* (CEF, 2014-2018) supports the development of the ports of Venice, Trieste and Koper, so enhancing freight services towards both Western and Eastern European and Central European markets. The specific objective of the project is the reconstruction of the port area in Trieste and the upgrade of the sea access and land connections in the port of Koper.

The implementation of infrastructure facilities in the intermodal terminals is also object of specific initiatives taken on the national level. During our research, we have been able to identify three main projects in Germany, two in Italy and one in Slovenia (whose beginning is scheduled for the year 2018, while the others are ongoing). In Germany, the projects concern the improvement of the nodes of Regensburg Süd, Regensburg Hafen and Straubing-Sand. In Italy, the main actions involve the improvement of intermodal terminals of Padua and Verona (two of the most important terminals in the Northern part of Italy). With specific reference to the Quadrante Europa, the opportunity of expanding Quadrante Europa rail services thanks to the construction of an innovative intermodal terminal, which is suitable for handling an increasing number of loading units, is already envisaged. It would be designed according to the new European standards (trains 750 meters long and up to 2,000 tons weight). A third project involves the inland waterway infrastructures of Sistemi Territoriali, along the navigable canal of Fissero–Tartaro–Canalbianco–Po di Levante and Po-Brondolo. This waterway currently allows the navigation of CEMT Class V (1500-1600 t). Finally, a Slovenian project will develop the existing intermodal logistic terminal in Ljubljana. All these projects are strictly connected with one or more of the TEN-T Corridors illustrated in 3.2[8], thus confirming their strategic role and the dependency with main freight axes.

6.3.3 Services to support CT

This group is constituted by those **technical solutions** that aim at rationalizing the handling systems in terminals and improving the network performances, thanks to the development of **shared information**.

[8] The two terminals in Regensburg are crossed by the Scandinavian–Mediterranean Corridor; the terminal of Verona is connected with the Scandinavian-Mediterranean and the Mediterranean Corridors; the terminals of Padua and Ljubljana are important, both for Mediterranean and for Baltic-Adriatic Corridors; the inland waterway infrastructures of Sistemi Territoriali are part of the Mediterranean Corridor.

The standardization of innovative transhipment technologies is one possibility to reach that aim. Indeed, one of the well-known problems related to CT is the non-flexibility of the system (see also section 5), with consequent increase of the fixed costs for transport operators. To obtain a higher flexibility, five projects have been identified: two of them, *Future Trailer - simply fits on and off the road (LKZ, 2017b)* and *NiKRASA (NiKRASA, 2017),* are developed on the European level, while the other three are more related to the national scale. The project ***Future Trailer*** (2016-2017) aims at creating a "Clearance Envelope" for the future intermodal transport, so that semitrailers can flexibly be used on road and rail. This is done by the development of specific and practical recommendations regarding infrastructure, wagon and semitrailer, which will then be adopted by wagon manufacturers. ***NiKRASA***-system (2015-ongoing) makes it possible to transfer non-craneable semi-trailers from road to rail within the existing standards and infrastructure. This transfer is done without any changes at the wagon, the semi-trailer or the business processes. The already existing transhipment sites in the terminals for CT can be used without any additional investment. *NiKRASA* allows freight forwarders to use their current equipment, thus guaranteeing lower barrier to use CT. Among the national studies, in 2014 the Austrian study KV-FTI commissioned by BMVIT should show the potential of research and innovation in CT and give new input to the Austrian research and innovation support program "***Mobility of the Future***" (MOBILITÄT der Zukunft, 2017). Finally, the initiative ***Fast Corridor*** (Agenzia delle dogane e dei monopoli, 2017) has been launched in Italy with the aim of reducing fixed costs thanks to the development of intangible infrastructures that use electronic goods, which track the simplification of the import/export cycle and the decongestion of port facilities. In Italy, the last Fast Corridor has been activated on 9th May 2017 and it links the port of La Spezia with the Interport of Padua.

The cooperation and the **common development of technical and informative solutions** is another relevant class belonging to this service group. The aim of such projects is to overcome or to minimize the negative effects deriving from the lack of a complete and integrated database on traffic flows, monitoring indicators and common measures. Most of the projects listed in this paragraph are developed on the European level; however, national projects can be identified as well.

The ***AGORA project*** (Agora, 2017) and the ***Piattaforma Logistica Nazionale (PNL)*** (UIRNet S.p.A., 2017) are two useful systems for sharing information, respectively on the European and on the Italian level. The development of a database with the main factors that describe the efficiency of terminals is a relevant point in order to improve the expertise of intermodal stakeholders. *AGORA*, which ended in 2010, improved management capabilities of intermodal terminal operators throughout Europe and increased capacity by a set of innovative, smart

operational measures. A "Good practice manual on efficient terminal management" and a dedicated website, where information is shared with end-users and stakeholders, contribute to widespread the knowledge about intermodal centres. In Italy, a similar system called *PNL, which should be* working on the national level, is under construction (expected by 2017). *PNL* is an Intelligent Network System that aims to connect all the logistic nodes in Italy (ports, interchanges, railway freight centres, and private operators) with the road or rail carriers.

Information can also be provided with reference to specific **environmental aspects and impacts of mobility** in the Alps. The following projects belong to this category: *Polycentric Planning Models for Local Development in Territories interested by Corridor 5 and its TEN-T ramifications (Poly5, 2017), Alpine Mobility* Check *(AlpCheck)* (IREALP, 2017), *Adriatic-Danube-Black Sea multimodal platform* (ADB Multiplatform, 2017*), Monitoring of road traffic related effects in the Alpine Space and common measures (Monitraf) (iMONITRAF, 2017b), NexTrust (2017*), *Green Intermodal Freight Transport* (*GIFT*) (GIFT, 2017), *Sweden-Italy Freight Transport and Logistics Green Corridor (SWIFTLY Green*, 2017*), Sustainable Freight Transport (SusFreight, 2017), Alpine Freight Railway (AlpFRail, 2017), Transalpine Transport Architects (TRANSITECTS) (Scandria, 2017), Fresh Fruit Corridor (ONtheMoSway, 2017), Integriertes Logistiknetzwerk KV in Österreich (ILKö) (BMVIT, FFG ,2013), SYSLOG+ (SGKV, 2017), Road-rail Combined Transport analysis and measures for its future development in Slovenia and Innovationen im alpenquerenden Güterverkehr: Schlussbericht (BAV, Bruckmann D. et all, 2014b)*.

POLY5 *(*Alpine Space, 2011-2014) shares a framework of actions to understand how large-scale infrastructure impacts on fragile territories as the Alps. ***AlpCheck*** (*Alpine Space,* 2006-2008) and its follow-up ***AlpCheck2*** (*Alpine Space,* 2009-2012) responds to a strategic need expressed at various institutional levels: gathering accurate information on the traffic flows along the Alpine road networks, which can be used as a basis for the implementation of more effective transport policies. In order to reach this goal, *AlpCheck2* creates a Transport Decision Support System (TDSS) dealing with the management and planning of the main road network of the whole Alpine area. This approach integrates transport information with environmental models for the estimation of atmospheric and noise emissions from road vehicles. Also the ***ADB Multiplatform*** (2012-2015) aims at the reduction of negative health and environmental impacts from transport in the Alps. This project promotes environmentally friendly, multimodal transport solutions from the ports in the SEE area to inland countries and other regions along a selected pilot transnational network; furthermore, it also focuses on the quantification of the external costs on pilot routes. With more than ten-year experience, ***Monitraf*** (2006-2009), its follow-up ***iMonitraf!*** (2009-

2012) and the ***iMonitraf! platform*** (2012-ongoing) create the basis for the development of a common strategy for transalpine rail and road traffic. An analysis based on environmental, economic and traffic indicators monitors the five main transalpine corridors and the trend of the last 10 years. Such data is available for end-users thanks to a yearly-report available on the website and in a WEBGIS platform. Furthermore, a yearly collection of the best practices and policies concerning freight and passenger transport in AS is also provided. As result of these analyses, the Tool+ policy (see also 6.1.3) has been identified as a realistic medium-term mechanism in order to harmonize toll levels across the Alpine corridors and thus accelerates the shift from road to rail.

NexTrust (2015-2019) is an ongoing project that creates interconnected, trusted networks, developing C-ITS cloud based smart visibility software to support the re-engineering of the networks, improving real-time use of transport assets. A specific focus of the projects is on CT. ***GIFT*** (SEE, 2012-2015) promotes innovative green intermodal freight transport corridors in the three Pan-European Transport Corridors IV, V and VII located in the SEE region. Furthermore, it develops an ICT tool for intermodal trip planning that will support the minimization of environmental impacts. Similarly, the ***SWIFTLY Green*** project, which ended in 2015, proposes the development of green logistic and transport in Europe and gives recommendations to "green" the TEN-T Corridors, especially the Scan-Med Corridor. The result was the drafting of about 130 measures uploaded in the Green Corridor Portal. Such measures cover many different sectors regarding infrastructure, logistic, transport technologies, guidelines and directives. ***Fresh Fruit Corridor*** (CEF Transport Program, 2016-2018) establishes innovative logistic chains for perishable goods that will link the Middle East countries with the main Central European markets via 3 Mediterranean core ports: Venice, Koper and Marseille (plus a feasibility study via the port of La Spezia and Cyprus). The project will create a platform to coordinate the transportation of reefer containers along the whole logistics chain, connecting the Motorways of the Sea coming from non-EU countries with the railway connections from the three Mediterranean ports to the inland market of Central Europe. For this objective, the project will also approach ICT solutions, improving tracing of cargo and speeding up the certifications for controls of perishable goods.

Within the Suivi de Zurich process, a working group has developed a review of combined/multimodal/rail transport to give an overview of the existing services, the projects, which are already under construction or planned the specific framework conditions and the weaknesses that should be overcome. This overview presents the status quo updated to the year 2014 and gives information about measures for CT, infrastructures, CT-offers and CT-volumes in the countries of the Alpine region. Other EU projects that belong to this class are *Susfreight, AlpFRail* and *TRANSITECTS*. These AS projects have the common aim of creating

a more robust transport rail network. ***Susfreight*** (Alpine Space, 2013-2014) gives recommendations for future policies in order to find a balance between optimal transport flows, effective and efficient transport ways and sustainable land use. ***AlpFRail*** (Alpine Space, 2003-2007) focuses on the traffic of main AS economic centres, in order to grant a better handling of economic growth. ***TRANSITECTS*** (Alpine Space, 2009-2012) elaborates several measures to develop and implement attractive rail products and systems to disburden traffic bottlenecks in the Alps and to mitigate related negative effects of traffic. Innovative concepts for improving the functionality of intermodal nodes are part of this strategy.

Technical solutions are also developed on the national level: in Austria, ***ILKÖ*** (2014-2016) assesses an integrated end-to-end logistic network for rail freight transport, including CT. The main output of the project consists of innovative software architecture and an implementable organizational and business model. ***SysLog+*** (2017-2019) is an ongoing German project, which aims to enable staff in the freight forwarding and logistic sector to formulate a complex transport chain with efficient and resource-saving aspects and to evaluate them on a case-by-case basis. The tools to achieve this goal are a virtual logistics laboratory, seminars and workshops. In 2010, Slovenia has realized the study ***"Road-rail Combined Transport analysis and measures for its future development in Slovenia"***. It proposes national investments for the CT sector, also suggesting incentives to promote the use of CT and proposals on bi- or multi-lateral agreements with neighbouring countries. Finally, ***"Innovationen im alpenquerenden Güterverkehr: Schlussbericht"*** (2013-2014) is a Swiss study that investigates the potentialities of innovative measures in the freight transport, covering several sectors, such as rolling stock, infrastructure and operational services offered.

The complementarity of the projects presented above displays how many initiatives founded by the EU or by the AS Countries face the main issues linked to a sustainable transport to reduce negative impacts in the Alps. CT, with a particular focus on the development of rail infrastructures and intermodal centres, is one of the forms that could contribute to such reduction. The structure of the projects allows pointing out some interesting common characteristics that represent their common background:

- *Shift from less to more sustainable transport systems.* Although each project deals with a specific theme, they have a common goal, which is encouraging the shift of goods from road to rail or to barges.
- *Transnational approach.* The projects and programmes are part of a broader perspective, which identifies territorial contexts not strictly limited to the traditional political boundaries. This is a crucial point, because it confirms that the

theme of transport and the impacts that it generates have a transnational consequence, which requires transnational efforts.

- *Openness and accessibility of data.* These features belong to all EU-funded projects listed above. This open-access approach is very useful for increasing the common awareness about environmental issues, giving a participatory attitude to projects that is not typical of the traditional planning tools.
- *Open collaboration.* Another important point is the "vertical" collaboration between politicians and stakeholders at different scales (e.g. operators, users, terminal managers, and academia). This has a positive impact on the development of CT, because it involves the entire chain and every actor involved in transport issues.

7. CT bodies

This section identifies those **stakeholders** that play an important role in the development of intermodal transport. CT bodies are those individuals, groups, professionals or institutions that can guarantee a contribution to the development of CT infrastructures, services and operations. Due to their relevance in the development phase of CT, they can be considered as the main target group of AlpInnoCT. Consequently, their identification represents an important phase of the project.

If we limit our analysis to the economic issues, the main stakeholders are those who make investments, such as institutions, operators and carriers. However, such interpretation is quite restrictive. In a broader sense, local and national communities, where CT is carried out, environmental associations and politicians related to transport issues are also considered stakeholders. Accordingly, the CT bodies excel file (Appendix 11) provides a comprehensive classification and a description of the main existing **responsible bodies on the institutional, political, operational** and **executive levels**, at the different scales (EU, National and Regional level). We have divided them according to the following classes: Terminal operators, Agency, Association, Institution, Ministry, Operator, Carrier, Provincial and Regional Government, Service Provider. Appendix 3 focuses on a specific category of stakeholders, namely the terminal operators of the intermodal centres of the Alpine area (such as Trieste Marine Terminal S.p.A. - IT or TriCon Container-Terminal Nürnberg GmbH - DE), by providing detailed information and contacts.

A particular attention should be also paid for those **institutional actors**, **operators** and **carriers** that are involved in the modal shift from road to rail and particularly in ACT and UCT operations. A first category is represented by the **international responsible bodies** on the policy level, as the *Transport Working Group* of the *Alpine Convention* or the *Working Group "Intermodal Transport and Logistics"*, which provides a forum for exchange of technical, legal and policy information, as well as best practices in CT at the European level to promote CT in the 56 UNECE member countries and to ensure the maximum utilization of equipment, infrastructure and terminals. Another category is constituted by those operators and carriers that have their registered office in a non-AS region, but that operate in this area, such as the Bulkaul (whose headquarter is in United Kingdom) or the Dutch group Nord Cargo (whose offices are mainly in Spain and one in Netherlands).

When we refer to the **national scale**, those operators and carriers that have their registered office in the AS countries and within the AS perimeter, have to be mentioned, for example the Austrian RCA - Rail Cargo Austria, the Italian Adria

Kombi d.o.o. or Raplin, the French AFA, the Swiss Hupac, the German TX-Logistik. The list of the main operators/carriers in the AS can be found in Appendix 11. At the institutional level, several countries have a central political system. For example, in Italy the Ministry of Infrastructures and Transport is responsible for freight transport in terms of planning, financing, implementing and managing the infrastructure networks of national interest and for activities related to transport, viability and logistics on the Italian territory including navigation, safety, maritime and inland waterway transport, civil aviation and air transport, road traffic, safety and land transport. However, it delegates some operative tasks to the regional or provincial level, which have an active role in freight transport, through the development of specific policies, measures and projects, as those illustrated in the previous section six.

8. Conclusions

Being the first deliverable produced within the project "AlpInnoCT", the first aim of this technical report was to present an overview about the CT in the AS countries. To this aim, the first part of the report (sections 1-4) provided a conceptual and geographical **framework** that constitutes the basis for the entire project. Section two dealt with the numerous environmental and social motivations behind the necessity to support CT, while sections three and four presented the current infrastructural layout and the volumes transported along the main transalpine corridors and handled in the main intermodal centres. This analysis of the supply and the demand revealed relevant differences on the national level, both in terms of modal split and in terms of infrastructural equipment. Certainly, the diversified infrastructural and technological development along the main transalpine corridors, with consequent differences in terms of commercial speed and reliability of the service, play a major role. Where the difference with road transport is not pronounced, such as along the Rhine-Alpine corridor, the use of CT and rail transport is higher. Along other corridors, where the comparison is decidedly favourable to road, the modal share of rail component is much less.

The second part of the document (sections 5-7) tried to explain the reasons behind such differences. First, the main criticalities related to CT, as perceived by project PPs and observers, have been identified through a survey. Results reveal that CT presents some criticalities, which may refer to legal, institutional, information, technological and economic aspects. The priorities to be addressed are perceived differently according to the type of stakeholder considered (being them public decision makers, transport operators, terminal managers or users' associations). These findings are partially in line with those expressed by Kombiconsult GmbH et al. (EC, 2015b), thus suggesting that the problems are rather well known, but the solutions to address them are not so easily implementable. The **strategies** that the EU, Countries and Regions have recently adopted (or are going to adopt) for an increase in the use of CT, are presented in section 6. For the sake of clarity, we have distinguished them between policies, measures and projects, providing a multiscale and comparative analysis for each of them. These solutions can be directly connected to the improvement of CT, but can also be related to a discouragement in the use of road vehicles through the adoption of financial instruments and regulatory constraints. The combination of these two complementary approaches has guaranteed the best results in terms of modal shift towards rail and CT without curbing mobility, with positive consequences also in terms of reduction of CO_2 emissions. The Swiss approach confirms the importance and the effectiveness of a balanced approach: in 2015,

rail counted for about 70% of overall freight transport (see 4.2.1), while in 2002, before the introduction of several measures, this percentage was 64%.

Some **criticalities** during the phase of data collection have been found, such as the limited amount of information about CT services and volumes handled in the intermodal centres. This point constitutes a relevant barrier in order to understand the evolution of CT, as well as its real potentialities. Furthermore, it is often accompanied by the inconsistency of the methods adopted to collect such information. It would require a preliminary harmonization, which is not often performed. Despite these open issues, this document can provide a useful **contribution** to understanding the dynamics behind CT in the Alps. Thanks to the primary data gathered by PPs that are involved in the CT field and that belong to complementary sectors, it has been possible to increase the knowledge about policy-related issues of CT and its evolution within the AS.

With particular reference to the relations **Rostock-Verona** and **Bettembourg-Trieste**, which are the case studies addressed in the next WPs of the project, some relevant aspects can be underlined. Regarding the former connection, it is part of the Scandinavian-Mediterranean corridor (as described in section 3.2). Here, freight volumes are the highest registered along the transalpine corridors and the current modal split reveals a high percentage of road transport. To overcome this condition, which generates high externalities, local initiatives integrate the European and national framework (as deeply discussed in sections 6.1-6.3 and Appendixes 8-10). The Autonomous Province of Trento has introduced specific subsidies for incentivizing the rail transport; the Autonomous Province of Bolzano/Bozen has recently undertaken a similar process. Tyrol is particularly active in this field, and not only in terms of pull-measures. The sectoral driving ban, the driving ban for most polluting Euro classes and the overtaking ban, valid for the Inn Valley and the Brenner highways, are part of a broad set of push-measures. In this framework, the RoLa service (currently operating between Wörgl and Trento or Brenner) can become a relevant integrative service to enhance the rail service, and mostly for small forwarders. However, performances should become more competitive in terms of efficiency: in 2015, ACT along Brenner constitutes only 8% of total transported freight, whereas all forms of rail transport counts for 29% of total transport. The increased quantity of intermodal trains that connect Rostock and Verona, as well as between Halden and Verona can support this shift towards rail. Bettembourg-Trieste is also a relevant transalpine connection. There are currently six couples of train a week that run along this route. It is a mixed train, which carries both containers and semitrailers, leaving from Pier no. 5. It is operated by Trenitalia and TX Logistics (this one being partner of the project AlpInnoCT). In 2016, this service totalled 112 trains, with 60 TEUs and 2,866 semi-trailers, and a load factor of 89%. Over the first eight months of 2017, this relation developed 329 trains, for 392 containers and 9,348 semi-trailers, with

a tenfold increase compared to the same period of 2016, underlining the importance that the market attaches to this route. This increase contributed to the overall growth of intermodal links of the port of Trieste, which became the first Italian port for intermodal traffic in 2016 with 7,631 trains (+ 27.61% compared to 2016). This positive trend is continuing in 2017, with +14.61% over the first eight months of 2017 compared to the same period of the previous year. Against this background, Friuli-Venezia Giulia Region (project partner in AlpInnoCT) finances combined transport through Article 21 of the Regional Law no. 15/2004, foreseeing incentives for new intermodal and maritime services to/from the regional transport nodes.

The analysis about policies, measures, projects and bodies is not exhaustive of all issues related to CT, but it constitutes a first piece of a puzzle, to be completed by other deliverables of the WPT1. By combining the information gathered in this document with the one provided in deliverables AT1.2 and AT1.3 (the former about the processes and technologies and the latter about the trends in production relevant for CT), the framework about CT should be exhaustive. These three deliverables constitute the basis for the detailed analysis of WPT2, which focusses on the pilot corridors Bettembourg-Trieste and Rostock-Verona and analyses relevant actors, transport means, time schedules, route profiles, transport volumes, intermodal terminals. Furthermore, the Deliverable A.T.1.1 is also the base for the development of some activities carried out in other WPs (namely WPT3 and WPT5). As far as the former is concerned, the study "Vision of Alpine CT in 2030+" by Bmvit has taken into account infrastructural projects, policies and measures described in this report, to give a general vision of Alpine CT in 2020, 2030 and 2050. As for the activity related to WPT5, the technical measures presented in section 6.2 have been the basis for the discussion during the second "dialogue event" of the project, which took place in Bolzano on 24 October 2017 during the 6th Eusalp meeting of the AG 4. The event, organized by CIPRALab and Eurac Research, gave to the members of Eusalp the possibility to discuss about national pull-measures related to CT. The results of the "*Dialogue Events*" are included in the minutes of the event and constitute one of the output of WPT5. However, the main outputs of this dialogue event and the discussion during the second AG4 mobility conference (held in Bolzano on 25 October 2017) were useful also in the opposite direction. Indeed, they gave us the possibility to integrate some -points previously not considered with the adequate attention- into the final version of this deliverable.

Abbreviations

ACT	Accompanied Combined Transport
ACE	Alpine Crossing Exchange
ACPs	Alpine Crossing Permits
ACUs	Alpine Crossing Units
ADR	European Agreement concerning the International Carriage of Dangerous Goods by Road
AETS	Alpine Emission Trading System
AG	Action Group
ATs	Activities of a Work Package
AS	Alpine Space
CNC	Core Network Corridor
CT	Combined Transport
EEA	European Economic Area
ERTMS	European Rail Traffic Management System
EU	European Union
GDP	Gross Domestic Product
GHGs	Greenhouse gas emissions
HGV	Heavy Goods Vehicle
HS/HC	High speed/high capacity
IPCC	International Panel on Climate Change
ITU	Intermodal Transport Unit
IWW	Inland Waterways
KHGV	1000 * Heavy Goods Vehicles
Kt	Kiloton (1000 * Ton)
MoS	Motorway of the Sea
MS	Member State
ROLA	Rollende Landstraße (Rolling Highway)

RR	Rail-Road
PPs	Project Partners
RFC	Rail Freight Corridor
RRT	Rail-Road Terminal
SR	Ship-Road
SRR	Ship-Road-Rail
t	Ton
TEN-T	Trans-European Transport Network
UCT	Unaccompanied Combined Transport
WP	Work Package

List of Figures

List of Tables

References

AC, Alpine Convention, 2017. Homepage. Online at: http://www.alpconv.org/en/convention/default.html [18.09.2017].

ADB Multiplatform, 2017. Homepage. Online at: http://www.adbmultiplatform.eu/adb/ [18.09.2017].

Agenzia delle dogane e dei monopoli, 2017. Fast corridor. Online at: https://www.agenziadoganemonopoli.gov.it/portale/dogane/operatore/ecustoms-aida/progetti-aida/fast-corridor [18.09.2017].

Agora Intermodal Terminals, 2017. Homepage. Online at: http://www.intermodal-terminals.eu/content/e15/index_eng.html [18.09.2017].

AlpFRail, 2017. Homepage. Online at: http://www.alpfrail.com/ [18.09.2017].

Alpconv, Alpine Convention, 2007. *Report on the State of the Alps. Alpine Signals – Special edition 1. Transport and Mobility in the Alps*. Online at: http://www.alpconv.org/en/AlpineKnowledge/RSA/transportandmobility/Documents/RSA_eng_20071128_low.pdf [18.09.2017].

Alpconv, Alpine Convention, 2016. Analysis of innovative logistics solutions such as rolling highways or solutions for other sustainable modes of long-distance Alpine crossing transport. Synthesis document. Online at: http://www.alpconv.org/en/organization/groups/WGTransport/Documents/Annex%203_2016-07-25_Synthesis%20document%20innovative%20logistics_(WGT%20final).pdf [18.09.2017].

ARE, Federal Office for Spatial Development, 2015. Distance-related heavy vehicle fee (HVF). Online at: http://www.are.admin.ch/themen/verkehr/00250/00461/index.html?lang=en [22.06.2015]

AS, Alpine Space (Interreg), 2017. Homepage. Online at: http://www.alpine-space.eu/about/the-programme/what-is-the-alpine-space-programme- [18.09.2017].

Auer I., Böhm R., Jurkovic A., Lipa W., Orlik A., Potzmann R., et al., 2007. *HISTALP—historical instrumental climatological surface time series of the Greater Alpine Region*. Int J Climatol 2007;27:1 7–46.

BAFU, Bundesamt für Umwelt, 2016. *Umweltbelastungen des alpenquerenden Güterverkehrs.* B. f. BAFU, Ed. Online at: https://www.bafu.admin.ch/bafu/de/home/themen/luft/publikationen-studien/publikationen/umweltbelastungen-alpenquerenden-gueterverkehrs-2015.html [28.08.2017].

BAV, Bundesamt fü Verkehr, 2013. *Verlagerungsberichte*. Online at:https://www.bav.admin.ch/bav/de/home/themen/alphabetische-themenliste/verlagerung/verlagerungsbericht.html [28.08.2017].

BAV, Bundesamt für Verkehr, 2014a. Alpinfo. Online at: https://www.bav.admin.ch/bav/de/home/themen/alphabetische-themenliste/verlagerung/berichte-und-zahlen.html [28.08.2017].

BAV, Bruckmann D., Fumasoli T. Mancera A., 2014b. *Innovationen im alpenquerenden Güterverkehr.* Online at: https://www.bav.admin.ch/dam/bav/de/dokumente/themen/verlagerung/innovationen_im_alpenquerendengueterverkehr.pdf.download.pdf/innovationen_im_alpenquerendengueterverkehr.pdf. [18.09.2017].

Bayerisches Staatsministerium des Innern, für Bau und Verke, 2017. Kombinierter Verkehr. Online at: https://www.stmi.bayern.de/vum/handlungsfelder/gueterundlogistik/kombinierterverkehr/index.php [16.10.2017].

Bendul J., 2012. *Integration of Combined Transport into Supply Chain Concepts. Simulation-based Potential Analysis and Practical Guidance*. Springer Gabler.

BMVIT, FFG, Infonetz, 2013. ILKÖ, Integriertes Logistiknetzwerk KV in Österreich. Online at: https://www2.ffg.at/verkehr/projekte.php?id=1182&lang=de&browse=programm [18.09.2017].

BMVIT (Bundesministerium für Verkehr, Innovation und Technologie), 2014. Brenner-Achse München-Verona DE und EN, Status 2014.

CE Delft, INFRAS, Fraunhofer-ISI, 2011. External costs of transport in Europe. Update Study for 2008. Delft: CE Delft. Online at : www.cedelft.eu [13.12.2016].

CIPRA International, 2011. *Water in Climat Change*. *Compact*(03/2011). On line at: http://www.cipra.org/sl/dosjeji/23/CompactWater.pdf/inline-download [28.08.17]

Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways. Online at: http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:31991L0440&from=IT [30.10.2017].

Council Directive 92/106/EEC of 7 December 1992 *on the establishment of common rules for certain types of combined transport of goods between Member States.* [1992]. Official Journal of the European Communities, L368/38, 17.12.92. Online at: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=celex%3A31992L0106 [18.09.2017].

Directive 1999/62/EC – amending: Proposal for a Directive of the European Parliament and of the council amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures. Online at: http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:52017PC0275&from=EN [30.10.2017].

Directive 2011/76/EU of the European Parliament and of the Council of 27 September 2011 (amending Directive 1999/62/EC *on the charging of heavy goods vehicles for the use of certain infrastructures*) [2011]. Official Journal of the European Union, L269/1, 14.10.2011. Online at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32011L0076&from=EN [18.09.2017].

Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area. Online at: http://eur-lex.europa.eu/legal-content/EN/ALL/?uri=CELEX%3A32012L0034 [18.09.2017].

Dühr S., Colomb C., Nadin V., 2010. European Spatial Planning and Territorial Cooperation. Oxford, United Kingdom: Routledge.

EC, European Commission, 1999. European Spatial Development Perspective. Towards Balanced and Sustainable Development of the Territory of the European Union. Luxembourg: Office for Official Publications of the European Communities.

EC, European Commission, 2001. *WHITE PAPER. European transport policy for 2010: time to decide*. Online at: https://ec.europa.eu/transport/sites/transport/files/themes/strategies/doc/2001_white_paper/lb_com_2001_0370_en.pdf [18.09.2017].

EC, European Commission, 2006. *Communication from the Commission to the Council and the European Parliament. Keep Europe moving - Sustainable mobility for our continent Mid-term review of the European Commission's 2001 Transport White Paper.* Online at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2006:0314:FIN:EN:PDF [18.09.2017].

EC, Communication from the Commission Community guidelines on State aid for railway undertakings (2008/C 184/07), 2008. Official Journal of the European Union, C 184/13, 22.07.2008. Online at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52008XC0722(04)&from=EN [18.09.2017].

EC, European Commission, 2011. *WHITE PAPER. Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system*. EUR-Lex. Online at: http://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:52011DC0144&from=EN [18.09.2017].

EC, European Commission, 2015a. *Mid Term Review of the European Commission 2011 White Paper on Transport. Consultation response.* Online at: http://www.urbantransportgroup.org/system/files/general-docs/Mid%20Term%20Review%20of%20European%20Commission%202011%20White%20paper%20on%20transport%20June%202015_FINAL.pdf [18.09.2017].

EC, European Commission, 2015b. *Contract No FV355/2012/MOVE/D1/ETU/ SI2.659386, Analysis of the EU Combined Transport, Final Report*. Online at:

https://ec.europa.eu/transport/sites/transport/files/themes/strategies/studies/doc/2015-01-freight-logistics-lot2-combined-transport.pdf [18.09.2017].

EC, European Commission, 2015c. Regional Policy, InfoRegio. Online at: http://ec.europa.eu/regional_policy/index.cfm/en/policy/cooperation/macro-regional-strategies/alpine/ [18-09-2017]

EC, European Commission, 2016. Directorate-general for energy and transport. EU energy and transport in Figures. Statistical Pocketbook 2016. European Communities: Luxembourg, 2016.

EC, European Commission, 2017a. Mobility and transport. Trans-European Transport Network TENtec. Online at: http://ec.europa.eu/transport/infrastructure/tentec/tentec-portal/site/en/maps.html [18.09.2017].

EC, European Commission, 2017b. *Mobility and Transport. Clean transport, urban transport, Amendment of the Combined Transport Directive*. Online at: https://ec.europa.eu/transport/themes/urban/consultations/2017-CTD_cs [18.09.2017].

EC, European Commission, 2017c. *Aid to combined transport in the Province of Trento*. Online at: http://ec.europa.eu/competition/state_aid/cases/266882/266882_1931637_96_2.pdf [10.01.2018].

EC, European Commission, 2017d. *State aid: Commission approves public funding to promote shift of freight from road to rail in Bolzano region, Italy*. Online at: http://europa.eu/rapid/press-release_IP-17-5145_en.htm [10.01.2018].

ECA, European Court of Auditors, 2016. *Rail freight transport in the EU: still not on the right track*. Special Report. Online at: http://www.eca.europa.eu/Lists/ECADocuments/SR16_08/SR_RAIL_FREIGHT_EN.pdf [18.09.2017].

ECONNECT, restoring the web of life, 2011. *Towards ecologicalconnectivity in the Alps* . Online at: http://www.cipra.org/de/cipra/international/projekte/abgeschlossen/econnect/TowardsecologicalconnectivityintheAlps.pdf [28.08.2017].

EEA, European Environment Agency, 2016. Greenhouse gas emissions from transport. Online: https://www.eea.europa.eu/data-and-maps/indicators/transport-emissions-of-greenhouse-gases [10.06.2017].

EP, European Parliament, 2016. Directorate general for internal policies, Policy department structural and cohesion policies. *Research for tran committee – logistics in the TEN-T corridors*, Study. Online at: http://www.europarl.europa.eu/RegData/etudes/STUD/2016/573429/IPOL_STU(2016)573429_EN.pdf [18.09.2017].

ETSC, European Transport Safety Council, 2013. *EU releases 2013 road death Figures*. Online at: http://etsc.eu/eu-releases-2013-road-death-Figures/ [28.08.2017].

EU, European Union, 2012. Analysis of options to move beyond 20% greenhouse gas emission reductions and assessing the risk of carbon leakage. Online at: http://eur-lex.europa.eu/LexUriServ/LexUriServ.do?uri=COM:2010:0265:FIN:EN:PDF [18.09.2017].

EUR-lex, Access to European Union law, 2017. Homepage. Online at: http://eur-lex.europa.eu/homepage.html?locale=en [18.09.2017].

EUSALP - EU strategy for the alpine region, 2017. Online at: https://www.alpine-region.eu/ [18.09.2017].

FVG, Regione Autonoma Friuli Venezia Giulia, 2017a. Trasporti: Santoro, molto bene ok da Ue per aiuti a imprese Online at: http://www.regione.fvg.it/rafvg/giunta/dettaglio.act;jsessionid=C6EDF7ED5A0029FB910FD38FAA0C27C7?dir=/rafvg/cms/RAFVG/Giunta/Santoro/comunicati/&id=102122&ass=C08&WT.ti=Ricerca%20comunicati%20stampa [10.01.2018].

FVG, Regione Autonoma Friuli Venezia Giulia, 2017b. Imprese: Santoro, 1,8 mln euro per sviluppo trasporto combinato. Online at: http://www.regione.fvg.it/rafvg/giunta/dettaglio.act;jsessionid=E9C415E5AB101B71ADE8307850F4553F?dir=/rafvg/cms/RAFVG/Giunta/Santoro/comunicati/&id=102997&ass=C08&WT.ti=Ricerca%20comunicati%20stampa [10.01.2018].

GIFT, Green Intermodal Freight transport, 2017. Online at: http://www.gift-project.eu/index.php/en/ [18.09.2017].

HERMES project, 2012. High efficient and reliable arrangements for crossmodal transport, Deliverable 5, Case studies. Online at: http://web.tecnico.ulisboa.pt/vascoreis/projects/hermes/results/HERMES_WP5_TFK.pdf [14.11.2017].

iMONITRAF! 2017a. *iMONITRAF! Annual Report 2016.* Zurich, Switzerland. Online at: http://www.ferroviabrennero.provincia.tn.it/binary/pat_ferrovia/eventi/iMONITRAF_Annual_Report_2016.1489046087.pdf [28.08.2017].

iMONITRAF, Monitoring of road traffic related effects in the Alpine Space and common measures, 2017b. Online at: http://www.imonitraf.org/i4Def.aspx?tabindex=0&tabid=364&lang=en [18.09.2017].

Infras, 2010. Best Practice Guide, Transport Forum May 2010. Online at: http://www.imonitraf.org/DesktopModules/ViewDocument.aspx?DocumentID=Y65GMO8ddQQ= [26.07.2015]

Interporto Quadrante Europa, 2017. Online at: http://www.quadranteeuropa.it/en/interporto/railway-destinations.html [18.09.2017].

IPCC, Intergovernmental Panel on Climate Change (2007). Climate Change 2007: Synthesis Report. Geneva. Contribution of Working Groups I, II and III to the Fourth Assessment Report of the Intergovernmental Panel on Climate Change.

IPCC, Intergovernmental Panel for Climate Change, 2014. *Climate Change 2014: Synthesis Report. Summary for Policymakers.* Online at: https://www.ipcc.ch/pdf/assessment-report/ar5/syr/AR5_SYR_FINAL_SPM.pdf [20.12.2015].

IREALP, Istituto di Ricerca, per l´ 'Ecologia e l'Economia Applicate alle Aree Alpine, 2017. Online at: http://www.irealp.it/298,Projects.html [18.09.2017].

LKZ, 2017a. EUSALP AG4 Meeting, Modal shift of goods from road to rail in the Alpine Region (presentation), Bolzano, 25th October 2017.

LKZ, Logistik Kompetenz Zentrum, 2017b. Homepage. Online at: https://www.lkzprien.de/en/competence/projects/project-details/future-trailer-for-road-and-rail/ [18.09.2017].

LSCT, 2017. La Spezia Container Terminal. Online at: http://www.porto.laspezia.it/it/il-porto/il-porto-mercantile/port-operators/terminals-commerciali/lsct [18.09.2017].

Luka Koper, Port of Koper, 1957-2017. Homepage. Online at: https://luka-kp.si/eng/terminals/single/container-terminal-244 [18.09.2017].

Lyon Terminal, 2017. Home page. Online at: http://lyon-terminal.fr/#home [02.11.2017].

Marseille-port, 2017. Homepage. Online at: http://www.marseille-port.fr/en [14.11.2017].

MGDV, 2017. Magazzini generali Doganali. Vercell s.r.l. Online at: http://www.mgdv.it/eng/home.html [18.09.2017].

Ministerium für Verkehr Baden-Württemberg, 2017. Stärkung des Kombinierten Güterverkehrs. Online at: https://vm.baden-wuerttemberg.de/de/verkehrspolitik/nachhaltige-mobilitaet/kombinierter-gueterverkehr/

MOBILITÄT der Zukunft, bmvit, 2017. Homepage. Online at: https://mobilitaetderzukunft.at/de/projekte/guetermobilitaet/kv-fti.php [18.09.2017].

NexTrust, 2017. Homepage. Online at: http://nextrust-project.eu/ [18.09.2017].

NiKRASA, inspired by standards, 2017. Homepage. Online at: http://www.nikrasa.eu/en/home.html [18.09.2017].

Nocera S., Cavallaro F., 2011. *Policy Effectiveness for containing CO2 Emissions in Transportation.* Procedia - Social and Behavioral Sciences, 20, pp. 703-713.

Nocera S., Cavallaro F., 2014. *A methodological framework for the economic evaluation of CO2 emissions from Transportation*. Journal of Advanced Transportation, 48 (2), pp. 138-164. DOI: 10.1002/atr.1249

Nocera S., Cavallaro F., 2016. *Economic Valuation of Well-to-Wheel CO2 emissions from Freight Transport along the main Transalpine Corridors*. Transportation Research Part D: Transport and Environment, 47, pp. 222–236. DOI: 10.1016/j.trd.2016.06.004

Novatrans, 2017, a. Le terminal d´Avignon. Online at: http://www.novatrans.eu/images/PDFterminaux/Terminal_Avignon.pdf [02.11.2017].

Novatrans, 2017, b. Le terminal d´Avignon. Online at: http://www.novatrans.eu/images/PDFterminaux/Terminal_Miramas.pdf [02.11.2017].

OFT, Confédération suisse Office fédéral des transports (OFT), 2016. Observation et analyse des flux de transport de merchandises transalpins – Rapport annuel 2015. Online at: https://ec.europa.eu/transport/sites/transport/files/2016-annual-report-covering-the-year-2015.pdf [18.09.2017].

ONtheMoSway, The Motorways Of the Sea Digital Multichannel Platform, 2017. Online at: http://www.onthemosway.eu/fresh-food-corridors-eu-project-fruit-logistica/ [18.09.2017].

Poly5, Alpine Space, 2017. Homepage. Online at: http://www.poly5.eu/ [18.09.2017].

Port of Trieste, 2017. Homepage: Online at: http://www.porto.trieste.it/eng [18.09.2017].

Rail4see, Rail Hub Cities for South East Europe, 2017. Homepage. Online at: http://rail4see.eu/ [18.09.2017].

Ravazzoli E., Streifeneder T., Cavallaro F., 2017. *The Effects of the Planned High-Speed Rail System on Travel Times and Spatial Development in the European Alps*. Mountain Research and Development, 37(1):131-140.

Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight. Online at: http://eur-lex.europa.eu/legal-content/EN/TXT/HTML/?uri=CELEX:32010R0913&from=EN [18.09.2017].

Ricardo-AEA, 2014. Homepage. Online at: https://ricardo.com/about-us [28.09.17]

RNE, RailNetEurope, 2016. Homepage. Online at: http://www.rne.eu/rneinhalt/uploads/2017/03/RNE_RFC_Overview_Map_print.pdf [18.09.2017].

Rochefordière, C. P. (2013). CO2-Emissionsreduzierung durch den EU-Gesetzesrahmen – Herausforderungen und Chancen für die Nutzfahrzeugindustrie. Commercial Vehicle Cluster Südwest.

SBB, Schweizerische Bundesbahnen, 2004. Sulla giusta via. Ferrovia 2000. Online at: http://www.bahn2000.ch/pdf/gutunterwegs_i.pdf [26.05.2011]

Scandria, 2017. Homepage. Online at: http://www.scandria-corridor.eu/index.php/en/projects/transitects [18.09.2017].

SGKV, intermodal competence, 2017. Forschungsprojekte, SYSLOG. Online at: http://www.sgkv.de/images/pdf/PS_SYSLOG_SGKV.pdf [18.09.2017].

Sinha K. C., Labi S., 2007. Transportation Decision Making - Principles of Project Evaluation and Programming. John Wiley and Sons, New York, USA.

S.I.TO, 2017. Homepage: Interporto di Torino. Online at: http://www.sitospa.it/ [18.09.2017].

South East Europe, Transnational Cooperation Programme, 2017. Online at: http://www.southeast-europe.net/en/projects/approved_projects/?id=68 [18.09.2017].

Suivi de Zurich, Working Group, 2014. Heavy Goods Traffic Management Systems in the Alpine Area. Review on Combined Transport in Alpine countries. Online at: http://www.zuerich-prozess.org/fileadmin/data/webcontent/Webcontent/Sonstige_Dateien/compined_transport_review.pdf [18.09.2017].

SusFreight, 2017. Homepage. Online at: http://www.susfreight.eu/ [18.09.2017].

Suter S., 1999. *Pricing European Transport Systems (PETS). D10 Transalpine Freight case Study – Summary report.* Online at: http://www.ecoplan.ch/download/pets_kf_en.pdf [18.09.2017].

SWIFTLY Green, 2017. Homepage. Online at: https://www.swiftlygreen.eu/en [18.09.2017].

Trail Nordest, Osservatorio Trasporti Infrastrutture e Logistica, 2017. Online at: https://trail.unioncamereveneto.it/progetti-per-il-porto-di-venezia-cofinanziati-con-piu-di-tre-milioni-di-euro-dallue/ [18.09.2017].

UIC, International Union of Railways, 2017. Report on Combined Transport in Europe 2016. Online at: http://uic.org/IMG/pdf/2016_report_on_combined_transport_in_europe_cles.pdf [18.09.2017].

UIRNet S.p.A., Sistema nazionale della logistica integrate e intermodalitá, 2017. Piattafomra logistica digitale. Online at: https://www.uirnet.it/ [18.09.2017].

UIRR, International Union for Road Rail Combined transport, 2013. Homepage. Online at: http://www.uirr.com/en/road-rail-ct.html [28.08.2017].

UIRR, International Union for Road Rail Combined transport, 2017a. Report on European Road-Rail Combined Transport. Online at: http://www.uirr.com/media-centre/annual-reports/annual-reports.html [14.10.2017].

UIRR, International Union for Road Rail Combined transport, 2017b. European CT terminals. Online at: http://www.uirr.com/en/our-members/european-ct-terminals.html [14.10.2017].

Umweltzonen, 2017. Low-emission zones in Germany. Online at: http://www.umweltbundesamt.de/en/topics/air/particulate-matter-pm10/low-emission-zones-in-germany [14.11.2017].

UNECE, Sustainable Transport Division, 2017. Homepage. Online at: http://apps.unece.org/NatPolWP24/ [18.09.2017].

Urban Access Regulations In Europe, 2017. Homepage. Online at: http://urbanaccessregulations.eu/countries-mainmenu-147/austria-mainmenu-78/a12-motorway-tirol [18.09.2017].

Unterschütz P., 2003. La Galleria di base del Ceneri. Bellinzona: Alptransit San Gottardo SA

Reis V., Meier J. F., Pace G., Palacin R., 2013. *Rail and multi-modal transport*. Research in Transportation Economics 41 (2013) 17-30.

VetraTerminal, 2017. Homepage. Online at: http://www.wifimesystem.com/sites/VETRATERMINAL/VETRATERMINAL.html [14.11.2017].

WHO, World Health Organization, 2011. Burden of disease from environmental noise. Quantification of healthy life years lost in Europe. Online at: http://www.euro.who.int/__data/assets/pdf_file/0008/136466/e94888.pdf [28.08.2017].

Wolfram M., 2005. Sustainable Urban Transport Plans (SUTP) and Urban Environment: Policies, Effects, and Simulations. Cologne: Rupprecht Consult — Forschung & Beratung GmbH.

List of AlpInnoCT project partners

LP	OBB	Oberste Baubehörde im Bayerischen Staatsministerium des Innern, für Bau und Verkehr	PP09	FVG	REGIONE AUTONOMA FRIULI VENEZIA GIULIA
PP02	BHG	bayernhafen Gruppe	PP10	ZAI	Consorzio ZAI Interporto Quadrante Europa
PP03	Eberl	EBERL WIR LEBEN LOGISTIK	PP11	UCV	Unioncamere Veneto
PP04	TX	TXLOGISTIK	PP12	EURAC	eurac research
PP05	AKL	LAND KÄRNTEN	PP13	UM	Univerza v Mariboru Faculty of Civil Engineering, Transportation Engineering and Architecture
PP06	Bmvit	bmvit	PP14	ITTL	Prometni institut Ljubljana d.o.o.
PP07	CIPRA Lab	CIPRA LIVING IN THE ALPS	PP15	AI	iniziativa da las alps
PP08	TPA	Port Network Authority of the Eastern Adriatic Sea Port of Trieste			

Appendix 1: Main corridors according to the EU classifications

Corridor	Origin - Destination	Length (km)	Countries involved	Characteristics
- Baltic Adriatic - RFC 5	Gdynia/Gdansk – Koper/Trieste/Ravenna	4,606	6 countries: PL, CZ, SK, AT, SI, IT	Connects Baltic ports in PL with ports of the Adriatic Sea. Core urban nodes: 14; Maritime ports: 8; IWW ports: 5; RRT: 20
- North Sea-Baltic - RFC 8 - ERTMS F	Helsinki/Tallinn-Hamburg/Antwerp	5,931	8 countries: FI, EE, LT, LV, PL, DE, BE, NL	Connects Baltic ports in FI/EE with North Sea ports. Core urban nodes: 17; Maritime ports: 12; IWW ports: 13; RRT: 15
- Mediterranean - RFC 6 - ERTMS D	Algericas - Budapest	9,765	6 countries: ES, FR, IT, SI, HR, HU,	Links ports in the South Western Mediterranean region to the Ukrainian border. Core urban nodes: 14; Maritime ports: 4; IWW ports: 9; RRT: 19
- Orient-East Med - RFC 7 - ERTMS E	Hamburg/Rostock-Burgas/Patra/Igoumenitsa	5,717	8 countries: DE, CZ, AT, SK, RO, BG, EL CY	Connects Central Europe with maritime ports of North, Baltic, Black and Mediterranean seas. Core urban nodes: 15; Maritime ports: 12; IWW ports: 10; RRT: 25
- Scandinavian-Mediterranean - RFC 3 - ERTMS B	RU border/ Helsinki-Berlin-Palermo/ Valetta	9,121	7 countries: FI, SE, DK, DE, AT, IT, MT	Links urban centres in Germany and Italy to Scandinavia and the Mediterranean Sea. Core urban nodes: 18; Maritime ports: 25; IWW ports: 6; RRT: 44
- Rhine-Alpine - RFC 1 - ERTMS A	Genova- Amsterdam/ Zeebrugge	2,882	7 countries: NL, BE, LU, DE, FR, CH, IT	Connects North Sea ports to the Mediterranean basin. Core urban nodes: 13; Maritime ports: 8; IWW ports: 22; RRT: 20
- Atlantic - RFC 4	Algeciras/ Sines/Lisbon - Bilbao-Paris- Mannheim/-Strasbourg	7,630	4 countries: DE, FR, ES, PT	Links Iberian Peninsula to Mannheim/Strasbourg via Paris. Core urban nodes: 8; Maritime ports: 8; IWW ports: 5; RRT: 21
- North-Sea-Mediterranean - RFC 2, 6 - ERTMS C	Belfast/Glasgow Rotterdam-Basel Antwerp-Paris	6,553	6 countries: IE, UK, NL, BE, LU, FR	Connects British Isles with continental EU via North Sea ports. Core urban nodes :17; Maritime ports: 17; IWW ports: 6; RRT: 11
- Rhine-Danube - RFC 9	Strasbourg-Stuttgart/ Regensburg-Vienna-Budapest/Costanta	5,775	9 countries: FR, DE, CZ, AT, SK, HU, HR, RO, BG	Links regions alongside the Main and Danube rivers to the Black Sea. Core urban nodes: 12; Maritime ports: 1; IWW ports: 19; RRT: 17
Note: length of corridors taken from https://ec.europa.eu/transport/modes/rail/ertms/corridors_en. Source: EP, 2016				

Appendix 2: Transalpine corridors, main UCT and ACT relations

Transalpine Corridor	Countries	Type of relation	Main Relations
Brenner	A-I	UCT	Hall in Tirol - Verona; Rostock - Verona; Karlsruhe - Verona; Hamburg - Verona; Leipzig- Verona; Nürnberg - Verona; München - Verona; Hannover - Verona; Bremen - Verona; Dörpen - Verona; Köln - Verona; Ludwigshafen - Verona; München - Milano; Köln - Trento; Kassel - Verona; Herne - Verona; Lübeck - Verona; München - Trieste; Giengen - Trieste; Rostock - Trieste; Duisburg - Bologna; Duisburg - Roma; Duisburg - Verona; Kiel - Verona; Wuppertal - Verona; Mannheim - Busto Arsizio; Verona - Taulov; Verona - Padborg; Verona - Rotterdam; Ulm-Triest; Triest-Burghausen
		ACT	Wörgl - Brenner; Wörgl - Trento
Tauern	A-I	UCT	Linz - Trieste; Salzburg - Trieste; Salzburg - Tarvisio; Linz - Koper; Salzburg - Koper; Salzburg - Jesenice; Worms - Trieste; München - Trieste; Giengen - Trieste; Rostock - Trieste; Trieste - Bettembourg; Wels - Triest
		ACT	Salzburg - Fernetti/Trieste
Pyhrn/ Schoberpass	A-I	UCT	Graz - Hamburg; Graz - Duisburg
		ACT	Wels - Maribor
Semmering	A-I	UCT	Wien - Trieste; Trieste - Paskov; Verona - Ostrava; Trieste - Paskov; Wien - Bologna
Wechsel	A-I	UCT	Albersdorf - Bratislava
Tarvisio	A-I	UCT	Verona - Ostrava; Trieste - Bettembourg
Simplon	CH-I	UCT	Lübeck - Novara; Krefeld - Mortara; Basel - Domodossola; Aarau - Busto Arsizio; Basel - Busto Arsizio; Köln - Domodossola; Kornwestheim - Domodossola; Karlsruhe - Domodossola; Herne - Melzo; Neuss - Karlsruhe - Gallarate; Karlsruhe - Gallarate; Karlsruhe - Melzo; Wuppertal - Piacenza; Ludwigshafen - Melzo; Duisburg - Domodossola/Novara; Domodossola - Zeebrugge; Karlsruhe - Domodossola; Duisburg - Busto Arsizio; Hamburg - Hannover - Busto Arsizio; Hamburg - Busto Arsizio; Köln - Busto Arsizio; Ludwigshafen - Novara; Ludwigshafen - Busto Arsizio; Sillery - Lugo; Novara - Antwerpen; Torino - Charleroi; Novara - Charleroi; Milano - Liege; Novara - Zeebrugge; Milano - Zeebrugge; Novara - Genk; Milano - Genk; Busto Arsizio - Muizen; Brindisi - Muizen; Mortara - Gent; Piacenza - Liege; Gallarate - Mechelen; Milano - Antwerpen; Gallarate - Muizen; Bologna - Rotterdam; Melzo - Antwerpen; Melzo - Zeebrugge; Piacenza - Zeebrugge; Busto Arsizio - Antwerpen; Busto Arsizio - Zeebrugge; Busto Arsizio - Genk; Desio - Zeebrugge; Busto Arsizio - Taulov; Bologna - Rotterdam; Lodi - Bettembourg; Verona - Genk; Verona - Antwerpen; Candiolo - Mechelen; Torino - Charleroi
		ACT	Freiburg im Breisgau - Novara
Gotthard	CH-I	UCT	Hüntwangen - Lugano; Basel - Stabio; Schafisheim - Stabio; Bodio - Weil; Singen - Brescia; Singen - Busto Arsizio; Singen - Milano; Basel - Busto Arsizio; Lübeck - Novara; Hannover - Busto Arsizio; Rostock - Novara SIM; Wuppertal - Piacenza; Ludwigshafen - Milano; Krefeld - Mortara; Köln - Domodossola; Kornwestheim - Domodossola; Herne - Melzo; Neuss - Karlsruhe - Gallarate; Karlsruhe - Gallarate; Karlsruhe - Melzo; Ludwigshafen - Melzo; Duisburg - Novara; Duisburg - Busto Arsizio; Hamburg - Hannover - Busto Arsizio; Hamburg - Busto Arsizio; Köln - Busto Arsizio; Ludwigshafen - Novara; Ludwigshafen - Busto Arsizio; Sillery - Lugo; Novara - Antwerpen; Torino - Charleroi; Novara - Charleroi; Milano - Liege; Novara - Zeebrugge; Milano - Zeebrugge; Novara - Genk; Milano - Genk; Busto Arsizio - Muizen; Brindisi - Muizen; Mortara - Gent; Piacenza - Liege; Gallarate - Mechelen; Milano - Antwerpen; Gallarate - Muizen; Bologna - Rotterdam; Melzo - Antwerpen; Melzo - Zeebrugge; Piacenza - Zeebrugge; Busto Arsizio - Antwerpen; Busto Arsizio - Zeebrugge; Busto Arsizio - Genk; Desio - Zeebrugge; Busto Arsizio - Taulov; Bologna - Rotterdam; Lodi - Bettembourg; Verona - Genk; Verona - Antwerpen
		ACT	Basel - Lugano; Singen - Milano
Mont Cenis/ Fréjus	F-I	UCT	Paris - Novara; Paris - Vercelli; Paris - Torino; Paris - Milano; Arcis sur Aube - Milano; Mougerre - Le Boulou - Candiolo
		ACT	Aiton - Orbassano/Torino
Ventimiglia	F-I	UCT	Busto Arsizio - Barcelona
Slovenia-Austria	SI - AT	UCT	Koper - Ljubljana – Jesenice – state border SL-AT – Salzburg Koper - Ljubljana – Maribor – state border SL-AT – Graz

Appendix 3: Intermodal terminals - Transport supply

Country	Name	Location and Relevance	Operation at terminal / infrastructures	Total area (m²)	Modes	Terminal Operators	Services	Main markets	Perimeter		
									EUSALP	AS	AC
Austria	**Bludenz CCT**	***Location:*** 1) Address: Unterbings 12, 6700 Bludenz 2) Geographic Coordinates LATITUDE= 47.160971 LONGITUDE= 9.803854 3) Position: - by the A14 Rheintal/Walgau motorway entrance/exit (Brandnertal) ***Relevance:*** Supernational/National	Opened in: 1981 Rails: 2 x 160 m total number of tracks: 2 total usable length: 320 m Reachstackers: 2 x 45 t / 15 handlings per hour	11,000 (Agora, 2017)	Road, Rail	Containerdienst Hämmerle GmbH_Bludenz	*Services:* - Container cleaning - Container maintenance - Tank Container cleaning - Unaccompanied combined traffic - Maintenance facilities - Unaccompanied combined traffic - Transhipment	Hub function a) Rail - Pre-carriage: Vorarlberg, Germany, Switzerland - Destination: National, Germany	YES	YES	YES
	Brennersee (RoLa)	***Location:*** 1) Address: Brennersee 6156 Gries am Brenner 2) Geographic Coordinates LATITUDE= 47.01084 LONGITUDE= 11.50704; 3) Position: - by the A13 Brenner motorway entrance/exit (Brennersee) ***Relevance:*** Supernational/National	Rails: 2 x 380 m total number of tracks: 2 total usable length: 760 m	5,000 (Agora, 2017)	Road, Rail, RoLa	TSA Terminal Service Austria (Brennersee)		RoLa-Relation: Wörgl - Brennersee	YES	YES	YES
	CCG Cargo Center Graz	***Location:*** 1) Address: Am Terminal 2 8402 Werndorf 2) Geographic Coordinates LATITUDE = 46.9342; LONGITUDE= 15.468019; 3) Position: - by the A9 Pyhrn motorway entrance/exit (Wundschuh) ***Relevance:*** Supernational/National	Opened in: 2003 Handling of Container, Swap Body, Semitrailer Rails: 4 x 700 m total number of tracks: 4 total usable length: 3,500 m Gantry Cranes: RMG (Rail Mounted Gantry Cranes) Rail: 2 x 45 t / 30 handlings per hour Interim Storage: Capacity: 3200 TEU / 27000 m² Depot: Capacity: 3200 TEU	500,000 Area available for the settlement of new enterprises: 150,000 m² Expansion area (developed & covered): 150,000 m² (PP06 bmvit)	Road, Rail	Steiermärkische Landesbahnen	*Services:* Container Maintenance Container Repair Reefer Trucking Bridge scales Container cleaning Container stuffing and stripping Cooling units service Customs office Dangerous goods handling Dangerous goods preparation facilities Heavy lift Parcel service Quality control Ro-Ro devices Ro-Ro service Tank container cleaning Unaccompanied combined traffic - Maintenance facilities Unaccompanied combined traffic - Transhipment Other Services	Hub function a) Rail - Pre-carriage: Trucking from / to Terminal Graz Süd - Destination: Economic region south of Styria, congested area of Graz, Slovenia, congested area of Maribor, parts of Carinthia Gateway function a) Rail - Origin: Terminal Graz Süd - Destination: ARA ports, ports North Germany, national terminals Germany, ports Slovenia/Croatia, national terminals in Austria Catchment area Graz (At) and Marburg (SI)	YES	YES	NO
	Enns Hafen CCT	***Location:*** 1) Address: Ennshafenstraße 45, 4470 Enns 2) Geographic Coordinates LATITUDE = 48.141121; LONGITUDE= 14.30004; 3) Position: - 4 km from A1 motorway entrance/exit (St. Valentin) - by the Danube River ***Relevance:***	Opened in: 1994 Handling of Container, Swap Body, Semitrailer Rails: 4 x 750 m total number of tracks: 4 total usable length: 3,000 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge, Rail: 1 x 50 t / 30 handlings per hour	3,500,000 (PP06 bmvit)	Road, Rail, Barge	Container Terminal Enns GmbH	*Services:* Security Reefer Other Services (CONTAINERTERMINAL) Bagging Machine Container cleaning Container maintenance Container repair shop Container rent and trade Container stuffing and stripping Cooling units service Customs office	Hub function: a) Rail: - Pre-carriage: Graz-Werndorf, Budapest, Vienna - Destination: Hamburg, Bremerhaven, Antwerpen, Rotterdam (RSC and Maasvlakte), Koper b) Road - Pre-carriage: Center of Upper Austria, west of Lower Austria - Destination: Center of Upper Austria, west of Lower Austria c) Hub function - Water - Pre-carriage: Hungary, Bavaria Gateway function a) Rail	YES	YES	NO

		Supernational/National	Reachstackers: 4 x 45 t / 15 handlings per hour 2 x 16 t / 15 handlings per hour Interim Storage: Capacity: 5,000 TEU				Dangerous goods handling Dangerous goods preparation facilities Heavy lift ISU Packaging Services Quality control Unaccompanied combined traffic - Transhipment Other Services	- Origin: Graz-Werndorf, Budapest, Vienna - Destination: Hamburg, Bremerhaven, Antwerpen, Rotterdam (RSC and Maasvlakte), Koper, Ceska Trebova b) Road - Origin: Center of Upper Austria, west of Lower Austria - Destination: Center of Upper Austria, west of Lower Austria c) Water - Origin: Hungary, Bavaria Catchment area: Biggest industrial zone in Austria – 40% of all Austrian exports are coming from this area. Description of catchment area (Cities, industrial areas - 70km): Located in the biggest industrial zone in the Upper Danube region (center of Upper Austria and west of Lower Austria). The central position of the harbour and the excellent transportation links offer various possibilites for freight transport and the settlement of companies.			
	Güterzentrum Wien Süd	***Location:*** 1) Address: Güterzentrum Süd I Wien 2) Geographic Coordinates LATITUDE= 48.137322 LONGITUDE= 16.370187 3) Position: - 2 km from S1 motorway entrance/exit (Laxenburger Straße) ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 4 x 700 m total number of tracks: 4 total usable length: 2,800 m Gantry Cranes: Rail: 2 units / 30 handlings per hour Interim Storage: Capacity: 3,260 TEU	250,000 (Agora, 2017)	Road, Rail	TSA Terminal Service Austria (Wien Inzersdorf)	*Services:* Container Maintenance Container RepairCustoms Cooling / heating service Container reapair Empty container depot CSC-Inspection SOLAS container weight verification Agency and other services on request	Hub-function: AT-IT-DE	YES	YES	NO
	Hall i. T. CCT	***Location:*** 1) Address: Löfflerweg 35 6060 Hall in Tirol 2) Geographic Coordinates LATITUDE= 47.274367 LONGITUDE= 11.474425 3) Position: - by the A12 Inntal motorway entrance/exit (Hall-West) ***Relevance:*** Supernational/National	Opened in: 1996 Handling of Container, Swap Body, Semitrailer Rails: 3 x 600 m total number of tracks: 3 total usable length: 1,200 m Reachstackers: 2 x 45 t / 15 handlings per hour Interim Storage: Capacity: 120 TEU	30,000 (Agora, 2017	Road, Rail	Tiroler-Straße-Schiene-Umschlagges.mbH (TSSU)	*Services*: Customs Container Repair Trucking Container cleaning Container maintenance Container rent and trade Container stuffing and stripping Dangerous goods handling Dangerous goods preparation facilities Heavy lift Veterinary inspection s Quality control Unaccompanied combined traffic - Maintenance facilities Unaccompanied combined traffic - Transhipment Other Services Chain hub	Hub function a) Rail - Pre-carriage: National/International - Destination: Austria/Germany/Italy b) Road - Pre-carriage: National/International - Destination: Austria/Germany/Italy Gateway function a) Rail - Origin: Germany - Destination: Italy b) Road - Origin: Austria - Destination: Austria Catchment area: Industrial Area	YES	YES	YES
	Kapfenberg CCT	***Location:*** 1) Address: Terminalstraße 1 8605 Kapfenberg 2) Geographic Coordinates LATITUDE= 47.46277 LONGITUDE= 15.345923 3) Position: - by the S6 motorway entrance/exit (Kapfenberg) ***Relevance:*** Supernational/National	Opened in: 2007 Handling of Container Rails: 1 x 320 m 1 x 327 m total number of tracks: 2 total usable length: 647 m Reachstackers: 2 x 45 t / 15 handlings per hour	Area available for the settlement of new enterprises: 60,000 m² Expansion area (developed & covered): 80,000 m² Expansion area (not yet developed & covered): 50,000 m²	Road, Rail	Montan Terminal Kapfenberg GmbH	*Services:* Bagging Machine Container cleaning Container maintenance Container repair shop Container stuffing and stripping Customs office Heavy lift Quality control Unaccompanied combined traffic - Maintenance facilities Unaccompanied combined traffic - Transhipment Other Services: Transhipment Swap containers ISO-containers Cranable semi-trailers	Hub function a) Rail - Pre-carriage: Germany, Eastern Europe, Austria, Benelux States, Turkey, Italy - Destination: Germany, Eastern Europe, Austria, Benelux States, Turkey, Italy b) Road - Pre-carriage: Germany, Eastern Europe, Austria, Benelux States, Turkey, Italy - Destination: Germany, Eastern Europe, Austria, Benelux States, Turkey, Italy Gateway function a) Rail - Origin: Germany, Eastern Europe, Austria, Benelux States, Turkey, Italy, Switzerland, Romania - Destination: Germany, Eastern Europe, Austria, Benelux States, Turkey, Italy, Switzerland, Romania b) Road - Origin: Styria, Eastern Austria - Destination: Styria, Eastern Austria	YES	YES	YES

				(PP06 bmvit)				Catchment area Industrial area of the municipalities of Bruck/Mur - Mürzzuschlag Furche Description of catchment area: Cities, industrial areas - 70km: Leoben, Kapfenberg, Kindberg, Mürzzuschlag, Mitterdorf- Veitsch, Graz. Located in the center of the Styrian steel, paper and wood industry.			
	Krems a.d. Donau CCT	***Location:*** 1) Address: Karl-Mierka-Strasse 7-9 3500 Krems 2) Geographic Coordinates LATITUDE= 48.405719 LONGITUDE= 15.642278; 3) Position: - by the S5 motorway entrance/exit (Krems-Ost) - by the Danube River ***Relevance:*** Supernational/National	Port Information Opened in: 1939 Container terminal Information: Opened in: October 2012 Handling of Container, Swap Body, Semitrailer Rails: 4 x 680 m 3 x 800 m 1 x 500 m total number of tracks: 8 total usable length: 5,620 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge, Rail: 1 x 45 t / 25 handlings per hour Barge: 1 x 45 t / 20 handlings per hour Reachstackers: 2 x 45 t / 25 handlings per hour 1 x 12 t / 25 handlings per hour Interim Storage: Capacity: 6,000 TEU Depot: Capacity: 4,000 TEU	Container terminal Information: 35,000 m² Port Information: 530,000 m² Expansion area (not yet developed & covered): 50,000 m² Container terminal Information: 35,000 m² (PP06 bmvit)	Road, Rail, Barge	Metrans (Krems)	Services: Customs Reefer Trucking Services Bridge scales Container cleaning Container maintenance Container repair shop Container stuffing and stripping Customs office Dangerous goods handling Dangerous goods preparation facilities Quality control Tank container cleaning Unaccompanied combined traffic - Maintenance facilities Unaccompanied combined traffic - Transhipment	Hub function a) Rail - Pre-carriage: Train connection 5 times per week – in each direction – to/from HAMBURG, BREMERHAVEN, KOPER, ROTTERDAM, DUISBURG and the whole METRANS NETWORK - Destination: Train connection 5 times per week – in each direction – to/from HAMBURG, BREMERHAVEN, KOPER, ROTTERDAM, DUISBURG and the whole METRANS NETWORK b) Road - Pre-carriage: 150 km radius - Destination: 150 km radius c) Water - Pre-carriage: Rhein-Main-Donau (Rhine-Main-Danube) waterway - Destination: Rhein-Main-Donau (Rhine-Main- Danube) waterway Gateway function a) Rail - Origin: Train connection 3 times per week – in each direction – to/from HAMBURG, BREMERHAVEN, KOPER, ROTTERDAM, DUISBURG and the whole METRANS NETWORK - Destination: Train connection 3 times per week – in each direction – to/from HAMBURG, BREMERHAVEN, KOPER, ROTTERDAM, DUISBURG and the whole METRANS NETWORK b) Road - Origin: 150 km radius - Destination: 150 km radius c) Water - Origin: Rhine-Main-Danube waterway - Destination: Rhine-Main-Danube waterway Catchment area: Vienna, St. Pölten	YES	YES	NO
	Lambach	***Location:*** 1) Address: Linzer Straße 40 4650 Lambach 2) Geographic Coordinates LATITUDE= 48.101675 LONGITUDE= 13.907328 3) Position: - by the Street 1 ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 5 x 325 m total number of tracks: 5 total usable length: 1,625 m Reachstackers: 3 x 45 t / 15 handlings per hour Interim Storage: Capacity: 1,000 TEU Depot: Capacity: 2,000 TEU	180,000 (Agora, 2017)	Road, Rail	Gartner KG_Lambach	*Services:* Customs Reefer Trucking	Other Services: direct block trains to GR/RO/BG/TR	YES	YES	NO
	Linz Stadthafen CCT	***Location:*** 1) Address: Saxingerstr. 1a 4020 Linz 2) Geographic Coordinates LATITUDE= 48.310767 LONGITUDE= 14.325397 3) Position: - by the A7 Mühlkreis motorway entrance/exit (Prinz-Eugen-Straße) - by the Danube River ***Relevance:*** Supernational/National	Opened in: 1979 Handling of Container, Swap Body, Semitrailer Rails: 1 x 450 m 2 x 480 m 1 x 650 m total number of tracks: 4 total usable length: 2,060 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) RTG Barge, Rail: 1 x 32 t / 25 handlings per hour Rail: 1 x 40 t / 30 handlings per hour Reachstackers:	120,000 Area available for the settlement of new enterprises: 30,000 m² Expansion area (developed & covered): 5,000 m²	Road, Rail, Barge	Linz Service GmbH	*Services:* Security Customs Container Maintenance Container Repair Container Cleaning Reefer Trucking Bridge scales Container stuffing and stripping Cooling units service Customs office Dangerous goods handling Dangerous goods preparation facilities Heavy lift Packaging Services	Hub function a) Rail - Pre-carriage: ... - Destination: Rotterdam Hamburg/Bremerhaven Ports of Southern Europe b) Water - Pre-carriage: 0.01% of total transhipment volume only Gateway function a) Rail - Origin: for several shuttle trains - Destination: Rotterdam Hamburg/Bremerhaven b) Water - Origin: ARA-Ports, Germany, Hungary - Destination: ARA-Ports	YES	YES	NO

			3 x 45 t / 25 handlings per hour 2 x 10 t / 25 handlings per hour Interim Storage: Capacity: 4,500 TEU Depot: Capacity: 3,500 TEU	(PP06 bmvit)			Veterinary inspection Unaccompanied combined traffic - Maintenance facilities Unaccompanied combined traffic - Transhipment <u>*Other Services:*</u> Reefer Points (cooling/heating) Containerstuffing or -stripping Customs Clearance Various other services	Catchment area Cities, industrial areas - 70 km NUTS 3 Regionen - 312, 313, 314, 121			
	Port of Vienna	***Location:*** 1) Address: Freudenauer Hafenstraße 12-14 1020 Wien 2) Geographic Coordinates LATITUDE= 48.181072 LONGITUDE= 16.468403 3) Position: - 1.5 km from A4 Ost motorway (Vienna- Nickelsdorf) - entrance/exit (Simmeringer Haide) - by the Danube River ***Relevance:*** Supernational/National	Opened in: 1901 (Container Terminal: 1979) Handling of Container, Swap Body, Semitrailer Rails: 8 x 650 m total number of tracks: 8 total usable length: 4,550 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 2 x 45 t / 25 handlings per hour Barge: 1 x 45 t / 20 handlings per hour Reachstackers: 6 x 45 t / 25 handlings per hour 8 x 12 t / 25 handlings per hour Interim Storage: Capacity: 2,000 TEU / 25,000 m2 Depot: Capacity: 5,000 TEU	3,500,000 Area available for the settlement of new enterprises: 91,000 m² Expansion area (developed & covered): 26,000 m² Expansion area (not yet developed & covered): 65,000 m² (PP06 bmvit)	Road, Rail, Barge	WienCont Container Terminal GesmbH	<u>*Services:*</u> Security Customs Container Maintenance Container Repair Container Cleaning Reefer Trucking Container rent and trade Container stuffing and stripping Cooling units service Veterinary inspection Quality control Dangerous goods preparation facilities Unaccompanied combined traffic - Maintenance facilities Unaccompanied combined traffic - Transhipment Customs office Heavy lift 45 t Packaging Services Ro-Ro devices <u>*Other Services:*</u> Stuffing and Stripping; containerchecking Dangerous good only handling - no Storage	Hub function a) Rail - Pre-carriage: From Rotterdam, Hamburg/ Bremerhaven to Turkey and Rumania, Greece, Hungary, Slovakia - Destination: Duisburg, Hamburg, Rotterdam, Bremerhaven, Triest, Koper, Antwerpen, Vienna region, Ruhr Area, Eastern Europe, Turkey b) Water - Pre-carriage: ... - Destination: Constantza, Rotterdam Gateway function a) Rail - Origin: From Rotterdam, Hamburg/Bremerhaven to Turkey and many more - Destination: From Rotterdam, Hamburg/Bremerhaven to Turkey b) Road - Destination: Europe and Asia upstream, downstream, charter, no regular service c) Water - Destination: Europe and Asia upstream, downstream, charter, no regular service Catchment area: Western Hungary, Western Slovakia	YES	YES	NO
	Salzburg CTS	***Location:*** 1) Address: Terminalstrasse 2 5071 Wals 2) Geographic Coordinates LATITUDE= 47.82127 LONGITUDE= 13.002308 3) Position: - by the A1 West motorway entrance/exit (Kleßheim) ***Relevance:*** Supernational/National	Opened in: 1980 Handling of Container, Swap Body, Semitrailer Rails: 5 x 530 m 1 x 350 m total number of tracks: 6 total usable length: 3,000 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 2 x 41 t / 30 handlings per hour Reachstackers: 15 x 10 t / 15 handlings per hour Interim Storage: Capacity: 3,600 TEU	95,000 (Agora, 2017) Expansion area (not yet developed & covered): 14,000 m² (PP06 bmvit)	Road, Rail	CTS Container Terminal Salzburg Ges.m.b.H.	<u>*Services:*</u> Customs Trucking Border police Bridge scales Container cleaning Container maintenance Container repair shop Container stuffing and stripping Cooling units service Customs office Dangerous goods handling Dangerous goods preparation facilities Heavy lift <u>*Other Services:*</u> Stuffing	Hub function a) Rail - Pre-carriage: Northern, southern and western ports as well as national traffic to all Austrian terminals over night - Destination: Hamburg, Bremerhaven, Rotterdam, Antwerpen, Triest, Koper, Prague b) Hub function - Road - Pre-carriage: Salzburg, Upper Austria, Styria, Carinthia, Tyrol, southern parts of Bavaria Catchment area CTS Salzburg is an important traffic node for CT in Western Austria. The catchment area covers Salzburg, the south of Bavaria, some areas of Upper Austria, Styria, Carinthia, Tyrol and Vorarlberg. As central hub for CT, this terminal is a connector between road and rail. The most important European ports and commercial centers are addressed by daily shuttle train services. Additional Information: the terminal Salzburg enables a cost-efficient access to the world market for the regional companies of Salzburg, those of neighbouring provinces and those of Bavaria.	YES	YES	YES
	Salzburg Hbf-ROLA	***Location:*** 1) Address: Lastenstrasse 9 5020 Salzburg 2) Geographic Coordinates LATITUDE= 47.811613 LONGITUDE= 13.046742 3) Position: - 3 km from A1 West motorway entrance/exit (Salzburg-Mitte)	Rails: 1 x 420 m 1 x 380 m total number of tracks: 2 total usable length: 800 m	5,000 (Agora, 2017)	Road, Rail, RoLa	TSA Terminal Service Austria (Salzburg Hbf RoLa)		RoLa-Relation: Salzburg - Fernetti/Triest	YES	YES	YES

		- 3 km from A1 West motorway entrance/exit (Salzburg-Nord) ***Relevance:*** Supernational/National									
	St. Michael CCT	***Location:*** 1) Address: Madstein 1 8770 St. Michael 2) Geographic Coordinates LATITUDE= 47.356078 LONGITUDE= 15.002786 3) Position: - by the A9 Pyhrn motorway entrance/exit (Terminal St. Michael) ***Relevance:*** Supernational/National	Opened in: 1992 Handling of Container Rails: 1 x 350 m 1 x 370 m total number of tracks: 2 total usable length: 720 m Reachstackers: 1 x 45 t / 15 handlings per hour	10,000 (Agora, 2017) Expansion area (developed & covered): 10,000 m² (PP06 bmvit)	Road, Rail	TSA Terminal Service Austria (St. Michael)	*Services:* Customs Container Maintenance Container Repair Container Cleaning Reefer Container stuffing and stripping Cooling units service Customs office Dangerous goods handling Dangerous goods preparation facilities Quality control Unaccompanied combined traffic - Maintenance facilities Unaccompanied combined traffic - Transhipment *Other Services:* Stuffing and Stripping	Hub function a) Rail - Pre-carriage: Regional - Destination: Austria, Germany, Italy a) Raoad - Pre-carriage: Regional - Destination: Austria, Germany Catchment area: Close to Leoben, Donawitz (steel industry), Bruck/Mur	YES	YES	YES
	Villach Süd CCT	***Location:*** 1) Address: Hart 100 9586 Fürnitz 2) Geographic Coordinates LATITUDE= 46.565475; LONGITUDE= 13.793394; 3) Position: - 1 km from A2 Süd motorway entrance/exit (Villach - Warmbad) ***Relevance:*** Supernational/National	Opened in: 1984 Handling of Container, Swap Body Rails: 4 x 350 m total number of tracks: 4 total usable length: 1,400 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 1 x 40 t / 30 handlings per hour Reachstackers: 1 x 45 t / 15 handlings per hour	70,000 (Agora, 2017)	Road, Rail, RoLa	TSA Terminal Service Austria (Villach)	*Services:* Customs Container Maintenance Container Repair Container Cleaning Reefer Container stuffing and stripping Customs office Dangerous goods handling Quality control Unaccompanied combined traffic - Maintenance facilities Unaccompanied combined traffic - Transhipment	Hub function a) Rail - Pre-carriage: Germany, Italy, Austria, Slovenia - Destination: Germany, Italy, Austria, Slovenia Gateway function a) Rail - Origin: treatment of traffic flows to Italy - Destination: treatment of traffic flows to Italy Catchment area: Situated in the central south of Carinthia; close to the Austrian-Slovenian and Austrian-Italian border.	YES	YES	YES
	Wels Vbf. CCT	***Location:*** 1) Address: Terminalstrasse 100 4600 Wels 2) Geographic Coordinates LATITUDE= 48.188764 LONGITUDE= 14.073469 3) Position: - by A25 Welser motorway (Ansfelden-Wels) entrance/exit (ÖBB Terminal) - 12 km from the Blue Danube Airport Linz ***Relevance:*** Supernational/National	Opened in: 1985 Handling of Container, Swap Body, Semitrailer Rails: 10 x 580 m total number of tracks: 10 total usable length: 3,480 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 1 x 40 t / 30 handlings per hour Reachstackers: 5 x 45 t / 15 handlings per hour 1 x 10 t / 15 handlings per hour	120,000 (PP06 bmvit)	Road, Rail, RoLa	TSA Terminal Service Austria (Wels)	*Services:* Customs Container Maintenance Container Repair Container Cleaning Reefer ISU Quality control Unaccompanied combined traffic - Maintenance facilities Unaccompanied combined traffic - Transhipment	Hub function a) Rail - Pre-carriage: Germany, Austria, Hungary, Netherlands, Slovenia for RoLa - Destination: Germany, Austria, Hungary for UCT Hungary, Slovenia for RoLa Gateway function a) Rail - Origin: Germany, Hungary, Netherlands - Destination: Germany, Hungary, Netherlands Catchment area: located in the center of Upper Austria; the terminal is situated directly at the highway connection to A25	YES	YES	NO
	Wolfurt CCT	***Location:*** 1) Address: Senderstrasse 6 6960 Wolfurt 2) Geographic Coordinates LATITUDE= 47.45915 LONGITUDE= 9.729686 3) Position: - 1 km from A 14 Rheintal/Walgau motorway entrance/exit (Wolfurt) ***Relevance:*** Supernational/National	Opened in: 1983 Handling of Container, Swap Body, Semitrailer Rails: 2 x 270 m 2 x 220 m 2 x 170 m total number of tracks: 6 total usable length: 1,320 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 1 x 40 t / 30 handlings per hour	54,000 (Agora, 2017)	Road, Rail	TSA Terminal Service Austria (Wolfurt)	*Services:* Customs Reefer Container cleaning Container maintenance Container repair shop Container stuffing and stripping Customs office Dangerous goods handling Parcel service Quality control Unaccompanied combined traffic - Maintenance facilities	Hub function a) Rail - Pre-carriage: Local (for the main part) - Destination: Germany, Austria b) Road - Pre-carriage: Local (for the main part), Vorarlberg, South-Germany, Eastern Switzerland Gateway function a) Rail - Origin: - Destination:	YES	YES	YES

			Reachstackers: 2 x 45 t / 15 handlings per hour 2 x 16 t / 15 handlings per hour 1 x 10 t / 15 handlings per hour				Unaccompanied combined traffic - Transhipment	Catchment area: next to Bregenz.			
	Wörgl CCT	***Location:*** 1) Address: Gewerbepark 2a 6300 Wörgl 2) Geographic Coordinates LATITUDE= 47.482766 LONGITUDE= 12.033722 3) Position: - by the A12 Inntal motorway entrance/exit (Wörgl-West) ***Relevance:*** Supernational/National	Rails: 2 x 500 m total number of tracks: 2 total usable length: 1,000 m	12,000 (Agora, 2017)	Road, Rail, Rola	TSA Terminal Service Austria (Wörgl RoLa)		ROLA-Relation: Wörgl-Brennersee, Wörgl-Trento	YES	YES	YES
France	**Avignon**	***Location:*** 1) Address: Gare marchandise Avignon Courtine 75, Chemin de Courtine 84000 Avignon 2) Geographic Coordinates LATITUDE= 43.562348 N LONGITUDE= 4.473137 E 3) Position: - near N100 highway, direct connection with A7 motorway (Marseille - Lyon) - by Rocade Charls de Gaulle highway, direct connection with A9 motorway (Spain - Orange) - by the Rodano River ***Relevance:*** Supernational/National	Railway terminal Handing services	85,296 (Novatrans, 2017, a)	Road, Rail	Novatrans, Froid Combi	*Services:* Transhipment UTI Management Safe custody of *UTI* Maintenance of wagons and of brake blocks	Railway lines: Avignon ↔ Dourges (main) Avignon ↔ Valenton Avignon ↔ Perpignan Avignon ↔ Miramas	YES	YES	NO
	Lyon Terminal SA	***Location:*** 1) Address: Port de Lyon Édouard Herriot 11 rue Jean Bouin 69007 Lyon 2) Geographic Coordinates LATITUDE= 45.43307 LONGITUDE= 4.493431 3) Position: - near D383 highway, direct connection with the motorways: A6 (Lyon-Paris), A7 (Marseille - Lyon), A43 (Lyon - Italy); A 46 (Anse - Givors - bypassing Lyon by east), A42-E611 (Lyon - Bourg-en-Bresse) - by the Rodano River ***Relevance:*** Supernational/National	Two terminals: *Terminal 1* 1,200 m of railway lines Capacity Roll on/Roll off: 47 TEU (800 tons) Current handling capacity: 15 TEU (250 tons) *Terminal 2* Length of docks: *200 m* Gantry Cranes 2,000 m of railway lines Mobile crane	Terminal 1 = 100,000 m² Terminal 2 = 100,000 m² (Lyon Terminal, 2017)	Road, Rail, Barge	MedLinkPorts	*Services:* Container maintenance Storage Heavy lift Customs office Network of surveillance cameras	Barge routes: Lyon ↔ Fos-su-Mer, Lyon ↔ Portes-lès-Valence Railway lines: Lyon ↔ Bettembourg, Lyon ↔ Marseille; Lyon ↔ Le Havre; Lyon ↔ Chalon-sur-Saône; Lyon ↔ Ludwigshafen; Lyon ↔ Fos; Lyon ↔ Buna-Werke; Lyon ↔ Hambourg; Lyon ↔ Lübeck; Lyon ↔ Munich; Lyon ↔ Rotterdam; Lyon ↔ Zebrugge	YES	YES	NO
	Lyon Terminal Venissieux	***Location:*** 1) Address: Chemin du charbonnier 69200 VENISSIEUX 2) Geographic Coordinates LATITUDE= 45.415061 N LONGITUDE= 4.541227 E 3) Position: - 2.5 km from D301 highway, direct connection with the motorways A7 (Marseille - Lyon), A43 (Lyon - Italy), A46 (Anse - Givors - bypassing Lyon by east), A47-E70 (Lyon - Saint-Étienne)	Handling services	-	Road, Rail	NAVILANDcargo	*Services:* Maintenance facilities Railway operations UTI Management Safe custody of *UTI* Container repair	Railway lines: Lyon ↔ Fos; Lyon ↔ Anvers; Lyon ↔ Zeebrugge; Lyon ↔ Le Havre; Lyon ↔ Strasbourg; Lyon ↔ Marseille; Lyon ↔ Paris Valenton; Lyon ↔ Dourges; Lyon ↔ Rotterdam; Lyon ↔ Bordeaux; Lyon ↔ Toulouse	YES	YES	NO

		Relevance: Supernational/National									
	Marseille	***Location:*** 1) Address: Gare du Canet 29 nld Ferdinand de Lesseps 13014 MARSEILLE 2) Geographic Coordinates LATITUDE= 43.191998 LONGITUDE= 5.222688 3) Position: - near the A7 motorway (Lyon - Marseille) and the A557 motorway ***Relevance:*** Supernational/National	Handling of Container, Semi-trailer, Swap-body Gantry crane: 2 Stock surface: 2,763 m² Number of tracks: 6 Total track size: 1,335 m	15,207 (UIRR, 2017b)	Road, Rail	NAVILANDcargo	*Services:* Maintenance facilities UTI Management Safe custody of UTI	Main Axes: - Belgium Antwerpen Main Hub, Zeebrugge - France Bordeaux; Dourges; Lyon; Paris Valenton; Paris Valenton; Strasbourg; Toulouse	YES	YES	NO
	Marseille Port and Marseille FOS	**Marseille Port** ***Location:*** 1) Address: 23 Place de la Joliette, 13226 Marseille 2) Geographic Coordinates LATITUDE= 43.184713 LONGITUDE= 5.215712 3) Position: - near the A55 and the A557 motorways ***Marseille FOS*** ***Location:*** 1) Address: Route du Mat de Ricca 13014 MARSEILLE 2) Geographic Coordinates LATITUDE= 43.252340 LONGITUDE= 4.485029 3) Position: - by Rhône River ***Relevance:*** Supernational/National	*Marseille - breakbulk terminals* 1)Chantier Naval de Marseille [CNM] Ship repair Docks 8-9 • Length: 320 m / 1,050 ft-250 m / 820 ft; Width: 53 m / 174 ft-37 m / 120 ft; Draft: 11.7 m / 38.4 ft-7.7 m / 25 ft Docks 10 • Length: 465 m / 1,525 ft; Width: 85 m / 279 ft; Draft: 11.5 m / 37.5 ft 2) Med Europe Terminal • Length: 1,000 m / 3,280 ft; Draft: 11.20 m / 36.75 ft; Lifting capacity: 70 t (more if needed); Rail connections 3) Socoma • Length: 1,150 m / 3,770 ft; Draft: 9 m / 29.52 ft; Lifting capacity: 100 t (more if needed); Rail connections 4) Marseille Manutention • Length: 280 m / 920 ft; Draft: 6.5-10 m / 19.68-32.8 ft; Lifting capacity: tractors, forklifts, stackers; Rail connections *FOS - breakbulk terminals* 1) Eurofos • Length: 1,600 m / 1 mile; Draft: 15-16 m / 49-52 ft; Lifting capacity : 100 t (more if needed); River & rail connections 2) Nicolas Frères • Length: 650 m / 2,130 ft; Draft: 10.1 m / 32.8 ft; Facilities: terminal tractors & forklifts (more if needed); River & rail connections; Car terminals: GEFCO & TEA 3) Sosersid Darse Sud • Length: 410 m / 1,345 ft; Draft: 11 m / 36 ft; Lifting capacity: 50 t (more if needed); River & rail connections Darse 3 • Length: 650 m / 2,130 ft; Draft: 10.1 m / 32.8 ft; Lifting capacity: 120 t + 250 t (more if needed); River & rail connections 4) Seayard • Length: 800 m / 2,625 ft; Draft: 15-16 m / 49-52 ft; Lifting capacity: 60 t (more if needed); River & rail connections	Port in the city of Marseille: 4,000,000 Industrial-port area in Fos: 100,000,000 (Marseille-port, 2017)	Road, Rail, Ferry, Ships, Ro-Ro/ferries, Vessel, Barge		*Services:* Ship repair facilities Warehouses	Port of Marseille Fos is the link between Europe and the Mediterranean countries. The flexibility between different types of transport modes, allows shippers to combine the right transport solution to reach breakbulk markets in the Med, Africa, Middle East, Asia and Americas Main Southern Markets with multipurpose vessels & direct connections: Algeria, Tunisia, Morroco, Derince, Gemlilk, Ashdod, Alexandrie, Aqaba, Jeddah, Abu Dhabi, Sohar, Jebel Ali, Dammam, Djibouti, Singapore. Strategic river network for breakbulk cargo with the main destinations long the Rhône and the Saône. Other links with the major cities in Europe: Nice, Grenoble, Lyon, Chalon-sur-Saône, Toulouse, Clermont-Ferrand, Bordeaux, Paris, Strasbourg, Genoa, Geneva, Barcelona, Milan, Bâle, Munchen	YES	YES	NO
	Miramas	***Location:*** 1) Address: Chantier Multitechnique Clésud 1 Bis, avenue Vasco de Gama BP 44 13142 MIRAMAS 2) Geographic Coordinates LATITUDE= 43.364715 N LONGITUDE= 4.594030 E 3) Position: - 3km from A54 motorway (Nîmes - Salon Sud), link with A7 - 30 km from the Port of Saint-Louis-du-Rhône ***Relevance:*** Supernational/National	Handling services Gantry Cranes	495,000 (Novatrans, 2017, b)	Road, Rail	Novatrans	*Services:* Maintenance facilities Organization of parkings of chassis, tractors vehicles and wagons UTI Management Safe custody of UTI Provision of a fuel station Provision of a meeting room	Railway lines: Miramas ↔ Dourges Miramas ↔ Valenton Miramas ↔ Avignon Miramas ↔ Lyon Miramas ↔ Rennes Miramas ↔ Le Mans Miramas ↔ Château-Gontier Miramas ↔ Vintimille Miramas ↔ Mondane	YES	YES	NO

	Ottmarsheim	***Location:*** 1) Address: Zone Portuaire 68490 Ottmarsheim 2) Geographic Coordinates LATITUDE= 47.789427 LONGITUDE= 7.521997 3) Position: - 1,5 km from A36 - La Comtoise motorway entrance/exit - by the Grand Canal d´Alsace ***Relevance:*** Supernational/National	Handling of Container Rails: 2 x 400 m total number of tracks: 2 total usable length: 800 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge: 3 units / 30 handlings per hour Reachstackers: 5 units / 15 handlings per hour Interim Storage: Capacity: 1,000 TEU	40,000 (Agora, 2017)	Road, Rail, Barge	Contargo Sàrl Ottmarsheim	*Services:* Container Maintenance Container Repair Dangerous Goods Reefer *Other Services:* Stuffing and Stripping		NO	YES	NO
	Strasbourg Terminal Conteneurs Nord	***Location:*** 1) Address: Rue du Bassin du Commerce 67000 Strasbourg 2) Geographic Coordinates LATITUDE= 48.585068 LONGITUDE= 7.790169 3) Position: - 1,5 km from E52 Strasbourg - Salzburg entrance/exit - by the Bassin du Commerce (Rhine River) ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 2 x 700 m 3 x 550 m total number of tracks: 5 total usable length: 3,050 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 1 units / 30 handlings per hour Barge: 2 units / 30 handlings per hour Reachstackers: 6 units / 15 handlings per hour Interim Storage: Capacity: 3,000 TEU	81,800 (Agora, 2017)	Road, Rail, Barge	Rhine Europe Terminals - RET (Nord)	*Services:* Container Maintenance Container Repair Container Cleaning Dangerous Goods Reefer		NO	YES	NO
	Strasbourg Terminal Conteneurs Sud	***Location:*** 1) Address: 20, Rue de St Nazaire 67100 Strasbourg 2) Geographic Coordinates LATITUDE= 48.538119 LONGITUDE= 7.793517 3) Position: - 4 km from E52 Strasbourg - Salzburg entrance/exit - 5 km from N353 entrance/exit - by the Bassin Gaston Haelling and the Bassin Adrien Weirich (Rhine River) ***Relevance:*** Supernational/National	Handling of Container Rails: 4 x 320 m total number of tracks: 4 total usable length: 1,280 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge: 2 units / 30 handlings per hour Reachstackers: 6 x 36 t / 15 handlings per hour Interim Storage: Capacity: 7,000 TEU	107,500 (Agora, 2017)	Road, Rail, Barge	Rhine Europe Terminals - RET (Sud)	*Services:* Container Maintenance Container Repair Container Cleaning Dangerous Goods Reefer		NO	YES	NO
Germany	**Aschaffenburg**	***Location:*** 1) Address: Hafenkopfstraße 3 63741 Aschaffenburg 2) Geographic Coordinates LATITUDE= 49.967409 LONGITUDE= 9.107596 3) Position: - 4 km from 469 highway, connection with BAB 3 motorway (Elten - Passavia) - by the Meno River ***Relevance:*** Supernational/National	Handling of Container Handling tracks: 2 x 211 m total number of tracks: 2 Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge, Rail: 1 x 51 t / 30 handlings per hour Reachstackers: 1 units / 15 handlings per hour Interim Storage: Capacity: 1,400 TEU Handling capacity: 50,000 TEU p.a. Oportunities for expansion up to 120,000 TEU p.a.	20,000 (PP02 BHG)	Road, Rail, Barge	Trimodales Containerterminal Aschaffenburg GmbH (TCA)	*Services:* Customs Container/SWAP Body Maintenance Container/SWAP Body Repair Dangerous Goods Reefer Trucking Depot Containers/Swap Bodies	Important transport relations: - Western seaports and big German seaports in the North Sea National direct connections via rail to: - Hamburg, Bremerhaven - Kornwestheim The terminal is located in the Bayernhafen Aschaffenburg. Inland navigation via "ContainerConnect": It links the terminals in Aschaffenburg and Mainz with the ZARA-seaports in Zeebrugge, Amsterdam, Rotterdam and Antwerp. http://www.tca-terminal.de/	YES	NO	NO

	Augsburg-Oberhausen	***Location:*** 1) Address: Kobelweg 10 86156 Augsburg 2) Geographic Coordinates LATITUDE= 48.382606 LONGITUDE= 10.870186 3) Position: - 1 km from Dayton Ring, connection with BAB 8 motorway (Perl - Salzburg) ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 1 x 240 m 1 x 130 m 2 x 100 m 1 x 65 m total number of tracks: 5 total usable length: 635 m Reachstackers: 1 x 41 t / 15 handlings per hour Interim Storage: Capacity: 60 TEU Depot: Capacity: 400 TEU		Road, Rail	DUSS_Augsburg-Oberhausen	*Services:* Customs Dangerous Goods Reefer	Important transport relations: - perfect access to main line Munich-Ulm-Stuttgart National direct connections via rail to: - Hamburg, Bremerhaven - Munich, Nuremberg Terminal mainly used by local industry (Chemicals, paper, MAN commercial vehicles and Osram). Due to its size and location, the terminal is more suitable for smaller logistics and conceptual single - solutions in intermodal transport.	YES	YES	NO
	Bamberg	***Location:*** 1) Address: Hafenstraße 30 96052 Bamberg 2) Geographic Coordinates LATITUDE= 49.543806 LONGITUDE= 10.52111 3) Position: -motorway junction 'Frankenschnellweg` A73 and 'Maintalautobahn' A 70; - directly located on the Main-Danube Canal ***Relevance:*** Supernational/National	Infrastructure: 2 reach stackers - max. 40 t load capacity 2 handling tracks: 360 m in length Current handling capacity: 80,000 TEU per year (source PP01 OBB) Depot capacity for cargo and empty containers: 1,000 TEU	Total area: 21,800 m² Storage area (containers): 5,800 m² Handling area: 10,700 m² Pre-parking area: 3,150 m² (PP02 BHG)	Road, Rail	Baymodal Bamberg GmbH	*Services:* Customs Container/SWAP Body Maintenance Container/SWAP Body Repair Reefer Depot Containers/Swap Bodies	Important transport relations: - German seaports in Hamburg and Bremerhaven National direct connections via rail to: - Hamburg, Bremerhaven - Nuremberg Located in the Bayernhafen Bamberg, the terminal links Upper Franconia with the German sea ports in Hamburg and Bremerhaven. Bamberg is one of 22 terminals that are embedded in the TFG Transfracht AlbatrosExpress-network.	YES	NO	NO
	Basel - Weil am Rhein (DUSS)	***Location:*** 1) Address: Am Umschlagbahnhof 1 79576 Weil am Rhein 2) Geographic Coordinates LATITUDE= 47.585019 LONGITUDE= 7.602747 3) Position: - 1,5 km from BAB 5 motorway (Bad Hersfeld – Basilea) entrance/exit (Weil am Rehin /Hüningen), connection with A3 Swiss motorway (Basel-Sargans) ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 4 x 640 m 2 x 550 m total number of tracks: 6 total usable length: 3,660 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 3 x 41 t / 30 handlings per hour Interim Storage: Capacity: 380 TEU Depot: Capacity: 420 TEU		Road, Rail	DUSS_Basel-Weil am Rhein	*Services:* Customs Dangerous Goods	Important transport relations: - important transshipment point for entire transport chain crossing the Alps National direct connections via rail to: - Hamburg, Bremerhaven, Rostock - Cologne, Wuppertal International direct connections via rail to: - Italy: Busto-Arsizio, Beura-Cardezza Located at the triangle border Germany-Switzerland-France, it is an important transhipment point for entire transport chain crossing the Alps. Hence, it has a particular importance for transports from and to Switzerland, Italy and France. The terminal has access to the North-South-axis Frankfurt-Karlsruhe-Basel.	YES	YES	NO
	Basel - Weil am Rhein (Rheinhafen)	***Location:*** 1) Address: Alte Straße 111 79576 Weil am Rhein 2) Geographic Coordinates LATITUDE= 47.60729 LONGITUDE= 7.59238 3) Position: - 1 km from BAB 5 motorway (Bad Hersfeld – Basilea) entrance/exit (Weil am Rehin /Hüningen), connection with A3 Swiss motorway (Basel-Sargans) - by the Rhein River ***Relevance:*** Supernational/National	Handling of Container Rails: 1 x 300 m total number of tracks: 1 total usable length: 300 m Reachstackers: 1 x 45 t / 25 handlings per hour Interim Storage: Capacity: 2,200 TEU / 10,000 m2 Depot: Capacity: 1,600 TEU	15,000 (Agora, 2017)	Road, Rail, Barge	Rheinhafengesellschaft Weil am Rhein mbH	*Services:* Customs Container Maintenance Container Repair Container Cleaning Dangerous Goods Reefer Trucking *Other Services:* Weighing (also according to SOLAS regulation), Stuffing / Stripping , Container repairs via partner company, 64 reefer connections, Examination, ventilation and approval of fumigated containers by qualified personel, Load securing	Important transport relations: - important transshipment point for entire transport chain crossing the Alps National direct connections via rail to: - Hamburg, Bremerhaven, Rostock - Cologne, Wuppertal International direct connections via rail to: - Italy: Busto-Arsizio, Beura-Cardezza Rhine port of Weil am Rhein (Rheinhafengesellschaft) is a southern german trimodal inland port located at the triangle border Germany-Switzerland	YES	YES	NO
	Burghausen	***Location:*** 1) Address:	Handling of Container, Swap Body, Semitrailer	62,000 (Agora, 2017)	Road, Rail	KombiTerminal	*Services:* Container Maintenance	National direct connections via rail to: - Hamburg, Bremerhaven	YES	YES	NO

		Terminalstrasse 1 84489 Burghausen 2) Geographic Coordinates LATITUDE= 48.192793 LONGITUDE= 12.826112 3) Position: - 6 km from BAB 94 motorway (Munich - Burghausen) entrance/exit (Burghausen) ***Relevance:*** Supernational/National	Rails: 1 x 555 m 3 x 610 m total number of tracks: 4 total usable length: 2,385 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 1 x 42 t / 30 handlings per hour Interim Storage: Capacity: 1,200 TEU Depot: Capacity: 700 TEU			Burghausen GmbH	Container Repair Container Cleaning Reefer Trucking	- Duisburg International direct connections via rail to: - Italy: Trieste The public KombiTerminal Burghausen is an important location factor for the industry of Burghausen, in the ChemDelta Bavaria and the nearby surroundings.			
	Cargo Center Bayern (Wiesau)	***Location:*** 1) Address: Industriestraße 15 95676 Wiesau 2) Geographic Coordinates LATITUDE= 49.911698 LONGITUDE= 12.191843 3) Position: - 2,5 km from BAB 93 motorway (Hof - Kiefersfelden), entrance/exit (Wiesau) ***Relevance:*** Supernational/National	Handling of Container		Road, Rail	Ziegler Logistik GmbH	*Services:* Container Repair Empty depots Stuffing/Stripping Dangerous goods Storage dangerous goods *Other services:* Timber handling	Important transport relations; - German Seaports Transshipment to rail for about 30 companies in the region.	YES	NO	NO
	Container-Terminal Hafen Heilbronn	***Location:*** 1) Address: Thomaswert 7 74076 Heilbronn 2) Geographic Coordinates LATITUDE= 49.160041 LONGITUDE= 9.210736 3) Position: - 3 km from BAB 6 motorway (Saarbrücken - Waidhaus) entrance/exit (Heilbronn/Neckarsulm) - by the Nekar River ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 1 x 160 m 1 x 180 m 1 x 200 m total number of tracks: 3 total usable length: 540 m Gantry Cranes: RTG Barge, Rail: 1 units / 30 handlings per hour Reachstackers: 1 x 45 t / 15 handlings per hour Interim Storage: Capacity: 500 TEU	22,700 (Agora, 2017)	Road, Rail, Barge	DuSS_Heilbronn	*Services:* Container Maintenance Container Repair	Transshipment of containers, swap bodies and semi-trailers between truck, train and container ships.	YES	NO	NO
	Euro Terminal Kehl	***Location:*** 1) Address: Hafenstraße 35 77694 Kehl 2) Geographic Coordinates LATITUDE= 48.59477 LONGITUDE= 7.815486 3) Position: - 2 km from E52 (Straßburger Str), connection with BAB 5 motorway (Bad Hersfeld – Basilea) - by the Rhein River ***Relevance:*** Supernational/National	Handling of Container Rails: total number of tracks: 2 total usable length: 680 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge, Rail: 1 x 35 t / 30 handlings per hour Barge, Rail: 1 x 30 t / 30 handlings per hour Reachstackers: 1 x 42 t / 15 handlings per hour 1 x 40 t / 15 handlings per hour Interim Storage: Capacity: 3,000 TEU	30,000 (Agora, 2017)	Road, Rail, Barge	Euro Terminal Kehl GmbH	*Services:* Container Maintenance Container Repair Reefer Trucking	Important transport relations: - Belgium: Antwerp - Netherlands: Rotterdam	YES	YES	NO
	Freiburg	***Location:*** 1) Address: c/o SVG Freiburg Hermann-Mitsch-Strasse 79108 Freiburg 2) Geographic Coordinates	Number of tracks: 3 Number of tracks >500m: 3 Total track size: 2100 m	3,000 (UIRR, 2017b)	Road, Rail, RoLa	RAlpin AG	*Services:* Customs Drivers' lounge Sell of highway card	Important transport relations: - Italy: Novara	YES	YES	NO

		LATITUDE= 48.04993 LONGITUDE= 7.503268 3) Position: - 5.5 km from BAB 5 motorway (Bad Hersfeld - Basel) ***Relevance:*** Supernational/National									
	Gendorf	***Location:*** 1) Address: Industrieparkstraße 1 84508 Burgkirchen a. d. Alz 2) Geographic Coordinates LATITUDE= 48.179698 LONGITUDE= 12.720563 3) Position: - 15 km from BAB 94 motorway (München - Burghausen), entrance/exit (Burghausen ***Relevance:*** Supernational/National	Handling of Container		Road, Rail	InfraServ Gendorf	*Services:* Container Repair Reefer Dangerous goods Storage dangerous goods		YES	YES	NO
	Hafen Deggendorf	***Location:*** 1) Address: Wallberlände 9 94469 Deggendorf 2) Geographic Coordinates LATITUDE= 48.815322 LONGITUDE= 12.970899 3) Position: - 3.5 km from BAB 92 motorway (Munich - Deggendorf), entrance/exit (Deggendorf Mitte), direct connection with BAB 3 motorway (Northwest end: Netherlands near Wesel; Southeast end: Austrian border near Passau) - by the Danube river ***Relevance:*** Supernational/National	Handling of Container Portal crane Reach stacker: 1 Mobile crane: 2		Road, Rail, RoRo	Zweckverband Donau-Hafen Deggendorf	*Services:* Reefer Dangerous goods Storage dangerous goods	Important transport relations: - Cologne, Nuremberg, Passau, Munich - Amsterdam, Vienna - Black Sea, North Sea	YES	NO	NO
	Hof	***Location:*** 1) Address: Am Güterbahnhof 10 95032 Hof 2) Geographic Coordinates LATITUDE= 50.308329 LONGITUDE= 11.916754 3) Position: - near Ernst Reuter Straße 15, possible connections: a) 8,5 km from BAB 9 motorway (Berlin – Munich), entrance/exit (Hof-West) b) 7,5 km from BAB 72 motorway (Hof - Niederfrohna), entrance/exit (Hof-Nord) c) 7 km from BAB 93 motorway (Holf - Kiefersfelden) entrance/exit (Hof-Ost) ***Relevance:*** Supernational/National	Handling of Container Rails: 1 x 550 m total number of tracks: 1 total usable length: 550 m Reachstackers: 4 units / 15 handlings per hour Interim Storage: Capacity: 1,000 TEU	12,260 (Agora, 2017)	Road, Rail	CTH GmbH	*Services:* Trucking *Other Services:* Stuffing, Stripping	Important transport relations: - South and Central Germany - Ports of Hamburg, Bremen/Bremerhaven - Czech Republic, Poland National direct connections via rail to: - Hamburg - Glauchau	YES	NO	NO
	Ingolstadt	***Location:*** 1) Address: Furtwänglerstraße 2 85057 Ingolstadt 2) Geographic Coordinates (from Google Earth) LATITUDE= 48.784728; LONGITUDE= 11.406936.	Handling of Container, Swap Body, Semitrailer Rails: 1 x 350 m 1 x 300 m total number of tracks: 2 total usable length: 650 m		Road, Rail	DUSS_Ingolstadt-Nord	*Services:* Dangerous Goods	National Direct Connections via Rail to: - Hamburg, Bremerhaven The terminal is especially important for the nearby Audi factory.	YES	YES	NO

		3) Position: - 5 km from BAB 9 motorway (Berlin – Munich), entrance/exit (Ingolstadt Noth) ***Relevance:*** Supernational/National	Reachstackers: 2 x 41 t / 15 handlings per hour Interim Storage: Capacity: 200 TEU								
	Karlsruhe (Contargo)	***Location:*** 1) Address: Nordbeckenstrasse 17 a 76189 Karlsruhe 2) Geographic Coordinates LATITUDE= 49.017073 LONGITUDE= 8.320351 3) Position: - 2 km from K9657 highway, direct connection with BAB 5 motorway (Bad Hersfeld – Basilea) and BAB 8 motorway (Austrian West Autobahn - Salzburg) - by the Rheinhafer, direct connection with the Rhein River ***Relevance:*** Supernational/National	Handling of Container Rails: 2 x 370 m total number of tracks: 2 total usable length: 740 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge: 2 x 30 t / 30 handlings per hour Reachstackers: 2 units / 15 handlings per hour Interim Storage: Capacity: 11,000 TEU		Road, Rail, Barge	Contargo Wörth-Karlsruhe GmbH (Karlsruhe)	*Services:* Container Maintenance Container Repair Dangerous Goods Reefer *Other Services:* Stuffing and Stripping	Important transport relations: - South Palatinate, Baden and Alsace (Pamina) - western seaports National direct connections via rail to: - Hamburg, Rostock - Neuss International direct connections via rail to: - Austria: Lambach - Italy: Beura-Cardezza, Gallarate.	YES	NO	NO
	Karlsruhe (DUSS)	***Location:*** 1) Address: Wolfartsweiererstr. 38 76137 Karlsruhe 2) Geographic Coordinates LATITUDE= 48.999072 LONGITUDE= 8.424486 3) Position: - 1 km from BAB 5 motorway (Bad Hersfeld – Basilea), entrance/exit (Karlsruhe-Mitte) ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 4 x 500 m total number of tracks: 4 total usable length: 2,000 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 2 x 41 t / 30 handlings per hour Reachstackers: 2 x 41 t / 15 handlings per hour Interim Storage: Capacity: 480 TEU Depot: Capacity: 480 TEU		Road, Rail	DUSS_Karlsruhe Ubf	*Services:* Dangerous Goods	Important transport relations: - Regional, national and international traffic into all directions National direct connections via rail to: - Hamburg, Rostock - Neuss International direct connections via rail to: - Austria: Lambach - Italy: Beura-Cardezza, Gallarate	YES	NO	NO
	Kelheim Hafen	***Location:*** 1) Address: Industriestr. 11 93342 Saal a. d. Donau 2) Geographic Coordinates LATITUDE= 48.90833 LONGITUDE= 11.916182 3) Position: - 11,5 km from BAB 93 motorway (Hof - Kiefersfelden), entrance/exit (Abensberg) ***Relevance:*** Supernational/National	Handling of Container Rails: 1x200m Reach stacker: 2 Handling capacity: 10,000 TEU per year		Road, Rail	Manfred Fichtl GmbH	*Services:* Container Repair Reefer Stuffing/Stripping Customs Brake test Package	Important transport relations: - bavarian industrial centers Located close to the Donau and Main-Donau-waterway.	YES	NO	NO
	Kornwestheim	***Location:*** 1) Address: Am Containerbahnhof 1 70806 Kornwestheim 2) Geographic Coordinates LATITUDE= 48.853683 LONGITUDE= 9.161297 3) Position: - 2 km from highway 27, possible connection with the BAB 81 motorway (Würzburg - Gottmadingen)	Handling of Container, Swap Body Rails: 8 x 650 m total number of tracks: 8 total usable length: 5,200 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 4 x 41 t / 30 handlings per hour Interim Storage: Capacity: 860 TEU		Road, Rail	DUSS_Kornwestheim	*Services:* Dangerous Goods	National direct connections via rail to: - Hamburg, Bremerhaven - Cologne, Aschaffenburg	YES	NO	NO

		Relevance: Supernational/National									
	Landshut	***Location:*** 1) Address: Hofmark-Aich-Str. 4 84030 Landshut 2) Geographic Coordinates LATITUDE= 48.547706 LONGITUDE= 12.142331 3) Position: - 4,5 km from BAB 92 motorway (Munich - Deggendorf) entrance/exit (Landshut-North) ***Relevance:*** Supernational/National	Handling of Container, Swap Body Rails: 2 x 442 m 2 x 395 m 1 x 96 m total number of tracks: 5 total usable length: 1,770 m Reachstackers: 2 x 40 t / 15 handlings per hour Interim Storage: Capacity: 40 TEU		Road, Rail	DUSS_Landshut	*Services:* Dangerous Goods Reefer	National direct connections via rail to: - Osnabrück, Hannover, Wuppertal, Regensburg A high share of the goods which is transhipped at the terminal in Landshut is based on the automotive industry (BMW Landshut, Industrial District of Dingolfing).	YES	NO	NO
	Ludwigshafen (Contargo)	***Location:*** 1) Address: Shellstraße 5 67065 Ludwigshafen 2) Geographic Coordinates LATITUDE= 49.457436 LONGITUDE= 8.436102 3) Position: - by the B 44 highway, possible connection with the B 9 highway, BAB 61 motorway (Kaldenkirchen - Hockenheim), BAB 650 motorway (Friedelsheim - Ludwigshafen) - by the Rhein river basin ***Relevance:*** Supernational/National	Handling of Container Rails: 2 x 475 m total number of tracks: 2 total usable length: 950 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge: 2 units / 30 handlings per hour Rail: 1 units / 30 handlings per hour Reachstackers: 1 x 45 t / 15 handlings per hour 3 x 12 t / 15 handlings per hour Interim Storage: Capacity: 6,500 TEU		Road, Rail, Barge	Contargo Rhein-Neckar GmbH (Ludwigshafen)	*Services:* Container Maintenance Container Repair Dangerous Goods Reefer	Important transport relations: - Western seaports - Metropolitan region Rhein-Neckar - European hinterland National direct connections via rail to: - Hamburg, Lübeck, Wilhelmshaven - Dörpen, Duisburg, Schkopau, Schwarzheide, Munich International direct connections via rail to: - Netherlands: Rotterdam , Moerdijk - Belgium: Zeebrugge, Antwerp - France: Le Havre, Marseille, Lyon, Mouguerre - Austria: Wels, Sopron - Croatia: Rijeka - Italy: Trieste, Verona, Busto Arsizio, Milano, Novara - Spain: Barcelona, Tarraguna, Madrid Two terminals of Contargo Rhein-Neckar pretty close to each other: The trimodal terminals in the Mannheim Handelshafen and the Ludwigshafen Kaiserwörthhafen.	NO (Next to the EUSALP perimeter)	NO	NO
	Ludwigshafen KTL	***Location:*** 1) Address: Am Hansenbusch 11 67069 Ludwigshafen 2) Geographic Coordinates LATITUDE= 49.538014 LONGITUDE= 8.412053 3) Position: - by the B9 highway, direct connection with the BAB 6 motorway (Saarbrücken - Waidhaus), entrance/exit (Landshut-North) - by the Rhein river basin ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 9 x 620 m 4 x 564 m total number of tracks: 13 total usable length: 7836 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 7 x 42 t / 30 handlings per hour Reachstackers: 2 x 10 t / 15 handlings per hour Interim Storage: Capacity: 2300 TEU	130,000 (Agora, 2017)	Road, Rail	KTL Kombi-Terminal Ludwigshafen GmbH	*Services:* Customs Container Repair Dangerous Goods Reefer Trucking	National direct connections via rail to: - Hamburg, Lübeck, Wilhelmshaven - Dörpen, Duisburg, Schkopau, Schwarzheide, München International direct connections via rail to: - Netherlands: Rotterdam , Moerdijk - Belgium: Zeebrugge, Antwerp - France: Le Havre, Marseille, Lyon, Mouguerre - Austria: Wels, Sopron - Croatia: Rijeka - Italy: Trieste, Verona, Busto Arsizio, Milano, Novara - Spain: Barcelona, Tarraguna, Madrid	NO (Next to the EUSALP perimeter)	NO	NO
	Mannheim Container-Terminal Contargo	***Location:*** 1) Address: Werfthallenstraße 15 68159 Mannheim 2) Geographic Coordinates LATITUDE= 49.492046 LONGITUDE= 8.451747 3) Position: - 500 m from highway 44 or 37, direct connection with BAB 650 motorway (Friedelsheim- Ludwigshafen), BAB 61 motorway (Kaldenkirchen-Hockenheim), BAB 656 motorway (Mannheim- Heidelberg), BAB 5 motorway (Bad Hersfeld – Basilea),	Handling of Container Rails: 1 x 630 m 1 x 340 m 1 x 160 m total number of tracks: 3 total usable length: 1,130 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge, Rail: 3 x 30 t / 30 handlings per hour Interim Storage: Capacity: 2,700 TEU / 26,000 m2		Road, Rail, Barge	Contargo Rhein-Neckar GmbH (Mannheim)	*Services:* Container Repair Container Cleaning Dangerous Goods Reefer *Other Services:* Stuffing, Stripping	Important transport relations: - Western seaports - Metropolitan region Rhein-Neckar - European hinterland National direct connections via rail to: - Hamburg, Bremerhaven - Frankfurt a.M. International direct connections via rail to: - Netherlands: Rotterdam	YES	NO	NO

		BAB 6 motorway (Saarbrücken - Waidhaus) - by the Mühlauhafen, direct connection with the Rhein River ***Relevance:*** Supernational/National									
	Mannheim-Handelshafen	***Location:*** 1) Address: Werfthallenstrasse 40 68159 Mannheim 2) Geographic Coordinates LATITUDE= 49.505986 LONGITUDE= 8.442311 3) Position: - 1,5 km from highway 44 or 37, direct connection with BAB 650 motorway (Friedelsheim- Ludwigshafen), BAB 61 motorway (Kaldenkirchen-Hockenheim), BAB 656 motorway (Mannheim- Heidelberg), BAB 5 motorway (Bad Hersfeld – Basilea), BAB 6 motorway (Saarbrücken - Waidhaus) - by the Mühlauhafen, direct connection with the Rhein River ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 4 x 650 m 1 x 550 m total number of tracks: 5 total usable length: 3,150 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 2 x 38 t / 30 handlings per hour Interim Storage: Capacity: 250 TEU		Road, Rail	DUSS_Mannheim Handelshafen	*Services:* Dangerous Goods	Important transport relations: - Daily connection to German seaports - Connections to several economic centres within Europe National direct connections via rail to: - Hamburg, Bremerhaven - Frankfurt a.M. International direct connections via rail to: - Netherlands: Rotterdam Approximately half of the transport volume is based on tank transports due to the nearby chemical industry.	YES	NO	NO
	München CDM	***Location:*** 1) Address: Wilhelm-Kemmelmeyer-Bogen 26 85774 Unterföhring 2) Geographic Coordinates LATITUDE= 48.184297 LONGITUDE= 11.639167 3) Position: - 2.5 km from BAB 9 motorway (Berlin - Munich), entrance/exit (Munich - Frankfurter Ring), direct connection with BAB 99 ***Relevance:*** Supernational/National	Handling of Container Rails: 1x400m Reach stacker: 2 Handling capacity: 150,000 TEU per year		Road, Rail	CDM Container Depot München GmbH & Co. Service KG	*Services:* Container Repair Container Depot Reefer Brake test *Other services:* Container sale	National direct connections via rail to: - Hamburg, Bremerhaven, Emden, Lübeck - Dörpen, Aurich, Magdeburg, Schkopau, Leipzig, Bönen, Dortmund, Duisburg, Cologne, Ludwigshafen, Augsburg, Nuremberg International direct connections via rail to: - Netherlands: Rotterdam - Italy: Milano, Verona, Trieste - Slovenia: Koper, Ljubljana - Croatia: Rijeka - Hungary: Budapest	YES	YES	NO
	München-Riem	***Location:*** 1) Address: Hofbräuallee 11 81829 München 2) Geographic Coordinates LATITUDE= 48.145061 LONGITUDE= 11.706292 3) Position: - direct connection with the BAB 94 motorway (Munich - Burghausen), entrance/exit (Feldkirchen-West); possible connection with the BAB 99 motorway (Munich outer ring road) ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 5 x 700 m 5 x 700 m 4 x 700 m total number of tracks: 14 total usable length: 9,800 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 8 x 41 t / 30 handlings per hour Reachstackers 2 x 41 t / 15 handlings per hour Interim Storage: Capacity: 1,000 TEU		Road, Rail	DUSS_München-Riem	*Services:* Dangerous Goods Reefer	Important transport relations: - Important gateway on the north-south axis in Germany - Gateway for transport of goods from/to Italy National direct connections via rail to: - Hamburg, Bremerhaven, Emden, Lübeck - Dörpen, Aurich, Magdeburg, Schkopau, Leipzig, Bönen, Dortmund, Duisburg, Cologne, Ludwigshafen, Augsburg, Nuremberg International direct connections via rail to: - Netherlands: Rotterdam - Italy: Milano, Verona, Trieste - Slovenia: Koper, Ljubljana - Croatia: Rijeka - Hungary: Budapest	YES	YES	NO
	MCT Mannheimer Container Terminal	***Location:*** 1) Address: Am Salzkai 5 68159 Mannheim 2) Geographic Coordinates LATITUDE= 49.496741 LONGITUDE= 8.461613 3) Position:	Handling of Container Rails: 2 x 125 m total number of tracks: 2 total usable length: 250 m Gantry Cranes: RMG (Rail mounted Gantry Cranes)	9,000 (Agora, 2017)	Road, Barge	DP World Logistics Europe GmbH	*Services:* Container Repair Container Cleaning Dangerous Goods Reefer Trucking	Important transport relations: - Seaports of Antwerp and Rotterdam - Transhipment of cargo from and to Stuttgart National direct connections via rail to: - Hamburg, Bremerhaven - Frankfurt a.M. International direct connections via rail to:	YES	NO	NO

		- 500 m from highway 44 or 37, direct connection with BAB 650 motorway (Friedelsheim- Ludwigshafen), BAB 61 motorway (Kaldenkirchen-Hockenheim), BAB 656 motorway (Mannheim- Heidelberg), BAB 5 motorway (Bad Hersfeld – Basilea), BAB 6 motorway (Saarbrücken - Waidhaus) - by the Neckar, direct connection with the Rhein River ***Relevance:*** Supernational/National	Barge, Rail: 1 x 50 t / 30 handlings per hour Reachstackers: 1 x 42 t / 15 handlings per hour Interim Storage: Capacity: 880 TEU					Netherlands: Rotterdam			
	Nürnberg	***Location:*** 1) Address: Hamburger Straße 59 90451 Nürnberg 2) Geographic Coordinates LATITUDE= 49.399919 LONGITUDE= 11.054346 3) Position: - 500 m from N4 highway, direct connection with BAB 73 motorway (Suhl - Nuremberg) - by the Main–Danube Canal ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 10 x 700 m total number of tracks: 10 total usable length: 7,000 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 4 x 41 t / 30 handlings per hour Reachstackers: 2 x 40 t / 15 handlings per hour (1 of these Reachstackers incl. Bargehandler) Interim Storage under crane: Capacity: 2,088 TEU Interim Storage external Storage area: 8,000 m² Current handling capacity: 533,000 TEU per year (PP01 OBB)	170,000 (PP02 BHG)	Road, Rail, Barge	TriCon Container-Terminal Nürnberg GmbH	*Services:* Customs Reefer Trucking Dangerous goods	National direct connections via rail to: - Hamburg, Bremerhaven - Hannover, Osnabrück, Duisburg, Bamberg, Regensburg, Augsburg, Munich International direct connections via rail to: - Netherlands: Rotterdam - Italy: Verona Located in the Bayernhafen Nuremberg,	YES	NO	NO
	Passau	***Location:*** 1) Address: Industriestraße 12 94036 Passau 2) Geographic Coordinates LATITUDE= 48.353363 LONGITUDE= 13.23697 3) Position: - direct connection with BAB 3 motorway (Nuremberg-Vienna) - by the the river Danube ***Relevance:*** Supernational/National	Trimodal handling with mobile harbor crane Capacity quayside to rail: 2 x 160 m tracks Capacity rail to road: 2 x 125 m Interim Storage area: 1,200 m² 200 TEU Total handling capacity: 17,000 TEU p.a.		Road, Rail, Barge	Bayernhafen GmbH & Co. KG		Important transport relations: - Southeast Europe	YES	NO	NO
	Regensburg Hafen	***Location:*** 1) Address: Wiener Straße 15-21 93055 Regensburg 2) Geographic Coordinates LATITUDE= 49.01809 LONGITUDE= 12.13229 3) Position: - 1 km from Odessa Ring highway, direct connection with the BAB 3 motorway (Elten - Passavia) ***Relevance:*** Supernational/National	Handling of Container Rails: 2 x 350 m total number of tracks: 2 total usable length: 700 m Reachstackers: 2 units / 15 handlings per hour Current handling capacity: 128,000 TEU per year	30,000 (Agora, 2017)	Road, Rail	CTR Container Terminal Regensburg GmbH	*Services:* Container Maintenance Container Repair Trucking	National direct connections via rail to: - Hamburg, Bremerhaven - Osnabrück, Hannover, Wuppertal, Nuremberg, Landshut	YES	NO	NO
	Regensburg Ost	***Location:*** 1) Address: Robert-Bosch-Strasse 12 93055 Regensburg 2) Geographic Coordinates LATITUDE= 48.998606 LONGITUDE= 12.145342	Handling of Container, Swap Body, Semitrailer Rails: 4 x 490 m 1 x 435 m total number of tracks: 5 total usable length: 2,395 m		Road, Rail	DUSS_Regensburg Ost	*Services:* Dangerous Goods	Important transport relations: - High shares of volume are based on automotive industry and and sea port hinterland traffic National direct connections via rail to: - Hamburg, Bremerhaven	YES	NO	NO

		3) Position: - by the BAB 3 motorway (Elten - Passavia), entrance/exit (Regensburg Ost) ***Relevance:*** Supernational/National	Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 2 x 41 t / 30 handlings per hour Interim Storage: Capacity: 108 TEU					- Osnabrück, Hannover, Wuppertal, Nuremberg, Landshut High shares of volume are based on automotive industry (BMW factury Regensburg) and sea port hinterland traffic. DHL freight center is located in the neighbourhood.			
	Schweinfurt	***Location:*** 1) Address: Ernst-Sachs-Straße 48 97424 Schweinfurt 2) Geographic Coordinates LATITUDE= 50.034254 LONGITUDE= 10.213803 3) Position: - 2 km from the BAB 70 motorway (Schweinfurt - Bayreuth), entrance/exit (Schweinfurt - Zentrum) ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 3 x 350 m 2 x 150 m total number of tracks: 5 total usable length: 1,250 m Reachstackers: 1 x 44 t / 15 handlings per hour 1 x 25 t / 15 handlings per hour Interim Storage: Capacity: 1,500 TEU Handling capacity: 40,000 TEU per year	25,000 (Agora, 2017)	Road, Rail	TRANSLOG Transport + Logistik GmbH	*Services:* Empty depots Refeer Stuffing/Stripping Customs Brake test Package Dangerous goods	Important transport relations: - Mainly regional importance - but they also deal with sea containers	YES	NO	NO
	Singen	***Location:*** 1) Address: Zum Umschlagbahnhof 2 78224 Singen 2) Geographic Coordinates LATITUDE= 47.758858 LONGITUDE= 8.865457 3) Position: - 6 km from BAB 81 motorway (Würzburg - Gottmadingen), entrance/exit (Hilzingen) - 5.5 km from B33 highway ***Relevance:*** Supernational/National	Handling of Container Rails: 4 x 650 m total number of tracks: 4 total usable length: 2,600 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 2 x 41 t / 30 handlings per hour Reachstackers: 1 units / 15 handlings per hour	47,500 (Agora, 2017) 50,000 (UIRR, 2017b)	Road, Rail	Terminal Singen TSG GmbH		National direct connections via rail to: - Duisburg International direct connections via rail to: - Italy: Busto Arsizio, Segrate, Brescia	YES	YES	NO
	Stuttgart Container Terminal SCT	***Location:*** 1) Address: Am Ostkai 12 70327 Stuttgart 2) Geographic Coordinates LATITUDE= 48.770049 LONGITUDE= 9.258084 3) Position: - 500 m from the Uferstraße B10 highway - by the Neckar River ***Relevance:*** Supernational/National	Rails: 2 x 260 m total number of tracks: 2 total usable length: 520 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge, Rail: 2 x 50 t / 30 handlings per hour Reachstackers: 1 x 42 t / 15 handlings per hour Interim Storage: Capacity: 4,500 TEU	30,000 (Agora, 2017)	Road, Rail, Barge	SCT Stuttgarter Container Terminal GmbH	*Services:* Container Repair Container Cleaning Dangerous Goods Reefer Trucking	Important transport relations: - Stuttgart region - Extended hinterland of South Germany - North German and Western European deep sea ports National direct connections via rail to: - Bremerhaven, Bremen	YES	NO	NO
	Stuttgart Hafen	***Location:*** 1) Address: Hafenbahnstrasse 2a 70329 Stuttgart 2) Geographic Coordinates LATITUDE= 48.768025 LONGITUDE= 9.261772 3) Position: - 500 m from the Uferstraße B10 highway - by the Neckar River ***Relevance:*** Supernational/National	Handling of Container, Swap Body,Semitrailer Rails: 3 x 650 m total number of tracks: 3 total usable length: 1,950 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 2 x 41 t / 30 handlings per hour Reachstackers: 1 x 20 t / 15 handlings per hour Interim Storage: Capacity: 200 TEU		Road, Rail	DUSS_Stuttgart-Hafen	*Services:* Dangerous Goods Reefer	National direct connections via rail to: - Bremerhaven, Bremen Located in Stuttgart-Untertürkheim close to the facturies of Daimler, the terminal serves as important basis for transports of the automobile industry. Via the classification yard in Untertürkheim and its access to a main line, there are good connections to all economic centers in Germany.	YES	NO	NO

	Ulm	***Location:*** 1) Address: Albrecht-Berlinger-Str. 2 89160 Dornstadt (Ulm) 2) Geographic Coordinates LATITUDE= 48.395669 LONGITUDE= 10.010114 3) Position: - 2 km from the B 28 highway; - 1.5 km from the b 10 highway, connection with BAB 7 motorway (Flensburg - Füssen) ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 4 x 700 m total number of tracks: 4 total usable length: 2,800 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 2 x 41 t / 30 handlings per hour Interim Storage: Capacity: 800 TEU		Road, Rail	DUSS_Ulm-Dornstadt	*Services:* Dangerous Goods	National direct connections via rail to: - Hamburg, Bremerhaven - Dortmund, Cologne International direct connections via rail to: - Italy: Verona, Trieste	YES	YES	NO
	Wackersdorf	***Location:*** 1) Address: Oskar-von-Miller-Str. 21 92442 Wackersdorf 2) Geographic Coordinates LATITUDE= 49.321398 LONGITUDE= 12.236402 3) Position: - 7 km from BAB 93 motorway (Hof - Kiefersfelden), entrance/exit (Schwandorf Mitte ***Relevance:*** Supernational/National	Handling of Container		Road, Rail	BLG Automotive Logistics GmbH & Co. KG			YES	NO	NO
	Wörth	***Location:*** 1) Address: Hafenstraße 76744 Wörth 2) Geographic Coordinates LATITUDE= 49.059375 LONGITUDE= 8.298314 3) Position: - 1.7 km from the B9 higway, connection with the BAB 65 motorway (Ludwigshafen - Wörth am Rhein) - by the Rhine river basin ***Relevance:*** Supernational/National	Handling of Container Rails: 2 x 320 m 2 x 226 m total number of tracks: 4 total usable length: 1,092 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge, Rail: 2 x 65 t / 30 handlings per hour Barge, Rail: 1 x 45 t / 30 handlings per hour Reachstackers: 5 x 40 t / 15 handlings per hour Interim Storage: Capacity: 11,000 TEU		Road, Rail, Barge	Contargo Wörth GmbH	*Services:* Container Maintenance Container Repair Dangerous Goods Reefer *Other Services:* Stuffing / Stripping	Important transport relations: - South Palatinate, Baden and Alsace (Pamina) - western seaports	NO	NO	NO
Italy	**Arluno**	***Location:*** 1) Address: Via Don Luigi Sturzo 13, 20010 Arluno (MI) 2) Geographic Coordinates LATITUDE= 45.491744 LONGITUDE= 8.939318 3) Position: - 4 Km from A4 Turin – Trieste motorway, entrance/exit (Arluno) - 150 Km from Genoa Port ***Relevance:*** Supernational/National	Handling of Container Rails: 2 x 440 m total number of tracks: 2 total usable length: 880 m Reachstackers: 3 x 45 t / 15 handlings per hour Depot: Capacity: 1,000 TEU	65,000 (Agora, 2017)	Road, Rail	Gruppo Spinelli (Arluno)	*Services:* Security Customs Container Maintenance Container Repair Container Cleaning Trucking	The Spinelli Group has more Intermodal Terminals. The Intermodal Terminals of Reggio Emilia, Padua and Milan travel around 3500 trains/year to transport goods to the most important Italian Ports: Genoa, Livorno and La Spezia, where other intermodal property structures are located. The Spinelli Group offers daily departures of railway convoys to major ports in Northern Europe.	YES	YES	NO

	Busto Arsizio-Gallarate	***Location:*** 1) Address: Via Dogana 8 21052 Busto Arsizio (VA) 2) Geographic Coordinates LATITUDE= 45.637323 LONGITUDE= 8.840056 3) Position: - 1 Km from A8 Autostrada dei Laghi motorway, entrance/exit (Busto Arsizio) - by SS336, connection with Malpensa Airport ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 3 x 760 m 3 x 710 m 2 x 630 m 3 x 540 m total number of tracks: 11 total usable length: 7,290 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 12 x 40 t / 30 handlings per hour Reachstackers: 2 x 42 t / 15 handlings per hour	242,800 (Agora, 2017)	Road, Rail	Termi SpA	*Services:* Customs	Busto Arsizio-Gallarate is the central hub of the Shuttle Net. Dozens of trains connect the terminal to a wide range of destinations in Switzerland, Netherlands, Germany, Belgium, Denmark and Sweden. The facility also serves as a gateway platform for continued travel within the Italian network.	YES	YES	NO
	Cervignano	***Location:*** 1) Address: Viale Venezia, 22 33052 Cervignano Del Friuli (UD) 2) Geographic Coordinates LATITUDE= 45.494286 LONGITUDE= 13.193398 3) Position: - 9 km from A 4 (Turin-Trieste) motorway ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Mobile crane / max. lift: 1/40 Number of tracks: 6 Total track size: 1800 m	100,000 (UIRR, 2017b)	Road, Rail, RoLa	Interporto Cervignano del Friuli S.p.a.		Main connections with the following multimodal corridors: Prealpino Padano (Torino Milano Venezia Udine Travisio/Trieste and alpine afferents) and Trasversale Orientale (Roma Cesena Venezia Udine Tarvisio).	YES	YES	NO
	Desio	***Location:*** 1) Address: Via Nuova Valassina 27/31 20033 Desio 2) Geographic Coordinates LATITUDE= 45.364030 LONGITUDE= 9.131971 3) Position: - by SS 36 highway ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Mobile crane / max. lift: 3/40 Stock surface: 2500 m² Number of tracks: 5 Total track size: 986 m	18,000 (UIRR, 2017b)	Road, Rail	Hupac	*Services:* Dangerous goods	Main destination: Belgium, Zeebrugge	YES	YES	NO
	Genova VTE (Port of Geoa)	***Location:*** 1) Address: Nuovo Porto di Voltri 16158 Genova 2) Geographic Coordinates LATITUDE= 44.253429 LONGITUDE= 8.461719 3) Position: - by A26 (Genoa- Gravellona Toce) motorway and by A10 (Genoa-Ventimiglia) motorway ***Relevance:*** Supernational/National	Handling of Container Gantry crane / max. ton: 3/ Mobile crane / max. lift: 19/ Number of tracks: 12 Number of tracks >500m: 12 Total track size: 7600 m	900,000 (UIRR, 2017b)	Road, Rail, Ferry, Ship	Voltri Terminal Europa S.p.A	*Services:* CFS Warehouse Customs Refreer conteiners	Maritime connections: Far East, Med/Mid East/India, Nord America, South and central America, Africa Railway connections: - Belgium, France, Switzerland, United Kingdom (Via Novara) - Germany, Benelux, Switzerland (Via Busto) - Germany, Northern Europe (Via Verona) Interlard road connections: Milano, Torino, Nice, Verona, Bologna, Padova, Venezia, Zürich, Basel, Lyon, München, Barcelona, Wien	YES	YES	NO

	Intermodal terminal of Mortara	***Location:*** 1) Address: Via XI Settembre 27036 Mortara (PV) 2) Geographic Coordinates LATITUDE= 45.246325 LONGITUDE=8.713487 3) Position: - 20 Km from A26 Genova – Gravellona motorway entrance/exit (Casale – M. Nord), connection with A21 motorway - 30 km from A7 Milano - Genova motorway entrance/exit (Gropello C. – Pavia Sud), connection with A21 motorway The terminal is also nearby the main connection routes: - the port system of Liguria; - trans-Alpine crossings (Modane-Frejus, Sempione-Loetschberg, Luino and Gotthard); - the metropolitan Milan area, located 50km from Mortara: in fact the terminal is the main intermodal distribution point just south of Milan ***Relevance:*** Supernational/National	Handling of Container Rails: 3 x 700 m total number of tracks: 3 total usable length: 2,100 m Reachstackers: 2 units / 15 handlings per hour	110,000 (Agora, 2017)	Road Rail	T.I.Mo. Srl - Terminal Intermodale di Mortara	*Services:* Security Container Repair *Other Services:* Maintenance of road vehicles	The Intermodal Terminal of Mortara is inside the Mortara Intermodal Logistic Park, in a facility with a wealth of infrastructures, to provide capillary and efficient transport of the goods transiting the terminal to Italy and abroad. The terminal currently handles 3 pairs of trains a day with destination the Netherlands, Germany and Belgium. Further connections to France, the Ligurian ports and the South of Italy are under development. The project maximum capacity, including the gantry cranes and the railway tracks expansion, is estimated at 9 pairs of trains a day with an estimated traffic of 150,000 UTI for year. The Intermodal Terminal of Mortara is situated at the junction of Corridor 5 Lisbon-Kiev and the Corridor of the two seas Genova-Rotterdam, within a complex layout of coded European railway lines for combined road-rail transport.	YES	YES	NO
	Intermodal terminal of Rovigo s.p.a.	***Location:*** 1) Address: Viale delle Industrie 53 45100 Rovigo (RO) 2) Geographic Coordinates LATITUDE= 45.035053 LONGITUDE= 11.808764 3) Position: - 9 km from A13 motorway entrance/exit (Villamarzana/Rovigo sud or Boara/ Rovigo nord) - Connection with the Adriatic Sea (40 km), through the Canal Bianco -SS 434 Verona Transpolesana ***Relevance:*** National	Handling of Container Rails: 1 x 500 m stock area: 20,000 m²	1,900,000 (Interporto di Rovigo, 2017)	Road, Rail, Inland waterway		*Services:* Customs Weighing Warehouses Offices	Connections with the Adriatic Corridor and Northern Europe	YES	YES	NO
	Intermodal terminal of Trento	***Location:*** 1) Address: Via San Sebastian 38121 Trento (TN) 2) Geographic Coordinates LATITUDE= 46.112465 LONGITUDE= 11.091683 3) Position: - near Trento Nord A22 - Brenner motorway, entrance/exit (Trento nord- Interporto) - a few hundred meters from Valsugana State Road 47 and from Lavis provincial road 235 Bypass ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 3 x 500 m total number of tracks: 3 total usable length: 1,500 m Reachstackers: 2 units / 15 handlings per hour The intermodal platform is a facility created to cater for the needs of goods warehousing and handling operators. By increasing the potential and speed of the network and creating new infrastructure, the Trentino intermodal platform offers its clients an innovative service.	160,000 (Agora, 2017)	Road, Rail, RoLa	Interbrenner o Spa	*Services:* Security Customs Container Maintenance Container Repair Container Cleaning Dangerous Goods Reefer Trucking *Other Services:* - HGV arrivals and departures; - Floodlit parking area with 24 hour video surveillance and with infrared barrier beams; - VAT depot/warehouse; - Warehouses for shipping companies, couriers and for goods warehousing; - Multi-brand service centre; - Hotel, bar and restaurant; - Bank and insurance service; - administration center and congress center	It is a logistics node of primary importance for access to central and northern European markets, constituting part of the European network known as the Berlin-Palermo corridor	YES	YES	YES

	La Spezia Container Terminal	***Location:*** 1) Address: Molo Fornelli - Porto Mercantile 19126 La Spezia 2) Geographic Coordinates LATITUDE= 44.63483 LONGITUDE= 9.503384 3) Position: - by A15 (Parma – La Spezia) motorway ***Relevance:*** Supernational/National	Length of Quay: 986 m (full container) and 1,390 m (multipurpose and containers) Water Depth: 14.5 m Actual Yard: 291k sqm + 52k sqm off-dock (Full Container) 162k sqm (General Cargo and Containers) Stacking Capacity: 28,000 TEUs - 7,500 Ground Slot Handling Capacity: 1.4 million TEUs Tatal rail tracks: 2,820 m (9 Tracks) Quay Cranes: 11 Gantry Cranes (up to 23 rows), 7 Mobile Cranes (up to150 Tons) Yard Equipment: 12 RTG, 8 RMG, 22 Reach Stackers	270,000 (LSCT, 2017)	Road, Rail, Vassel	Contship italia group	*Services:* Customs Container Maintenance Container Repair Refeer	Main maritime connections with 43 Asian ports Delivering Asia – Italy / Southern Europe cargo during the weekend by truck and rail La Spezia providing the extended " direct" door to Milan twice daily rail departure to the Milan corridor La Spezia System offering an extended reach for the SWISS market further enhancing end to end supply chain reliability and total unit cost	YES	YES	NO
	Melzo	***Location:*** 1) Address: Via I Maggio, 1 20066 Melzo (MI) 2) Geographic Coordinates LATITUDE= 45.496496 LONGITUDE= 9.40671 3) Position: - 4 Km from A 35 TEM motorway entrance/exit ***Relevance:*** Supernational/National	Handling of Container, Swap Body Rails: 3 x 300 m 2 x 200 m total number of tracks: 5 total usable length: 1,300 m Reachstackers: 10 units / 15 handlings per hour	160,000 (Agora, 2017)	Road, Rail	Sogemar S.p.A. (Melzo)	*Services:* Customs Container Maintenance Container Repair Dangerous Goods Trucking	High frequency rail connections towards: - the Ports of Genova, La Spezia and Ravenna (Mediterranean Sea); - the Ports of Rotterdam and Anversa, Hamburg and Bremerhave (North Sea). Others connections with continental destinations both to the north of the Alps and to the Center and South Italy. A shuttle connects Melzo with the Interporto of Padova, the base for the development of traffic to the East. There are services - open access: a) Italy: Genova, La Spezia, Ravenna, Frosinone, Nola, Bari, Padova, Trieste b) Switzerland: Frenkendorf c) Netherlands: Rotterdam (con ERSR, GTS, Samskip), Venlo (con TXL) d) Germany: Duisburg Hohenbudberg e) Belgium: Zeebrugge (treno non-open) f) Hungary: Budapest (throught Trieste, with Alpe-Adria) From Bari there are connections with ferry RoRo to Albania, Serbia / Montenegro, Croatia, Greece, with prosecutions to Turkey and Bulgaria. From Duisburg there are connesctions with daily trains to Lubeck (D), Katrineholm (S), Goteborg (S), Almhult (S), Nassjo (S), Hoje Taasturp (DK).	YES	YES	NO
	MGDV (Magazzini generali Doganali Vercell s.r.l) Intermodal terminal	***Location:*** 1) Address: Corso Pavia 13/17 13100 Vercelli (VC) 2) Geographic Coordinates LATITUDE= 45.194653 LONGITUDE= 8.245847 3) Position: - 8.5 Km from A26 (Genoa-Gravellona Toce) motorway and 5 km from E25 ***Relevance:*** Supernational/National	Handling of Container, Semi-trailer Swap Body Internal rails 5 Km. 3 Reach Stackers with spreader and piggy back that can haul 42 to 60 tons. 1 internal truck for semi-remorques 2 locomotives for internal manoeuvring Scales for weighing trucks and wagons Informatic system for information in real time	120,000 (MGDV, 2017)	Road, Rail	Novatrans Italia	*Services:* Offices	Main destination: France, Paris Noisy	YES	YES	NO

	Milan - CT-terminals	**Lodi** ***Location:*** 1) Address: Via San Fereolo, 1 26900 Lodi (LO) 2) Geographic Coordinates LATITUDE= 45.183095 LONGITUDE= 9.285983 3) Position: - 5 Km from A1 (Milan-Naples) motorway ***Relevance:*** Supernational/National	Handling of Container, Swap Body Rail 2 x 600 m Storage Area	10,000 (Vetraterminal, 2017)	Road, Rail	Vetra Terminal	*Services:* Manteinance Video surveillance.	Main destination: -Italy: Milan, Piacenza, Cremona, Mantua, Pavia, Bergamo and Brescia. - Luxemburg: Bettembourg	YES	YES	NO
		Milano Certosa ***Location:*** 1) Address: Via G. Stephenson 25/A Scalo Merci FS Certosa 20157 Milano (MI) 2) Geographic Coordinates LATITUDE= 45.303502 LONGITUDE= 9.73023 3) Position: - by A4 (Turin-Trieste) and A8 (Autostrada dei Laghi) motorways ***Relevance:*** Supernational/National	Handling of Container, Semi-trailer, Swap Body Gantry crane / max. ton: 2/ Mobile crane / max. lift: 4/ Number of tracks: 4 Total track size: 1,200 m	15,000 (UIRR, 2017b)	Road, Rail	Terminali Italia	*Services:* Dangerous Goods	Main destination: - Germany: Singen			
		Milano Greco Pirelli ***Location:*** 1) Address: Via Torcello 2 20126 Milano (MI) 2) Geographic Coordinates LATITUDE= 45.304067 LONGITUDE= 9.125313 3) Position: - 5 Km from A4 (Turin - Trieste) and A 52 Milan bypass motorways ***Relevance:*** Supernational/National	Number of tracks: 3 Total track size: 1,000 m	2,500 (UIRR, 2017b)	Road, Rail, RoLa			Rolling Highway: international connection between Milano Greco Pirelli and Freiburg i. B.			
		Milano Rogoredo ***Location:*** 1) Address: Via V. Toffetti 20 Scalo Merci FS Rogoredo 20139 Milano (MI) 2) Geographic Coordinates LATITUDE= 45.261476 LONGITUDE= 9.14604 3) Position: - 1 Km from A1 (Milan-Naples) motorway ***Relevance:*** Supernational/National	Handling of Container, Semi-trailer, Swap Body Gantry crane / max. ton: 2/40 Mobile crane / max. lift: 4/40 Number of tracks: 12 Total track size: 3,150 m	46,000 (UIRR, 2017b)	Road, Rail	Terminali Italia	*Services:* Customs	Connection: Cologne - Milan Rogoredo			
		Milano Segrate ***Location:*** 1) Address: Via Cima Scalo Merci FS 20090 Segrate (MI) 2) Geographic Coordinates LATITUDE= 45.283566	Handling of Container, Semi-trailer, Swap Body Gantry crane / max. ton: 3/ Mobile crane / max. lift: 9/ Number of tracks: 6 Number of tracks >500m: 6 Total track size: 3,300 m	75,000 (UIRR, 2017b)	Road, Rail	Terminali Italia	*Services:* Dangerous goods Power supply (reefer)	Main destinations: - Belgium: All Belgian Terminals via RON, Zeebrugge, Zeebrugge - France: Dourges			

		LONGITUDE= 9.172785 3) Position: - by 51 Milan bypass, connections with A1 (Milan-Naples) and A4 (Turin-Trieste) motorways - 1 km from linate Airport ***Relevance:*** Supernational/National									
		Milano Smistamento ***Location:*** 1) Address: Via Rivoltana 50a Scalo Merci FS 20090 Milano (Segrate) 2) Geographic Coordinates LATITUDE= 45.283566 LONGITUDE= 9.172785 3) Position: - by 51 Milan bypass, connections with A1 (Milan-Naples) and A4 (Turin-Trieste) motorways - 1 km from linate Airport ***Relevance:*** Supernational/National	Handling of Container, Semi-trailer, Swap Body Gantry crane / max. ton 3/ Mobile crane / max. lift 7/ Number of tracks 4 Total track size 2000 m	46,000 (UIRR, 2017b)	Road, Rail	Terminali Italia	*Services:* Dangerous goods	Main destination: - Belgium: Antwerpen Combinant via MUC - Denmark: Høje Taastrup via MUC, Rønland (Cheminova) via MUC, Taulov via MUC - Germany: Buna via MUC, Duisburg DUSS via MUC, Hamburg-Billwerder via MUC, Köln-Eifeltor via MUC, Leipzig via MUC, Ludwigshafen KTL via MUC, München-Riem - Italy: Bari, Bicocca, Busto/Gallarate, Maddaloni-Marcianise - Netherland: Rotterdam via MUC			
	Nord-Est Terminal S.P.A.	***Location:*** 1) Address: Via Dalmazia 50 20125 Brescia (BS) 2) Geographic Coordinates LATITUDE= 45.315344 LONGITUDE= 10.115971 3) Position: - 1.5 Km from A4 (Torino-Trieste) motorway ***Relevance:*** Supernational/National	Handling of Container, Semi-trailer, Swap Body Mobile crane / max. lift: 3/ Number of tracks: 2 Total track size: 920 m	25,000 (UIRR, 2017b)	Road, Rail	Nord Est Terminal	*Services:* Maintenance of container Storage (non dangerous goods)	Main destioantions: - Germany: Singen - Netherland: Ede-Wageningen, Rotterdam	YES	YES	NO
	Novara CIM	***Location:*** 1) Address: V. Carlo Panseri 100 28100 Novara (NO) 2) Geographic Coordinates LATITUDE= 45.465435 LONGITUDE= 8.653121 3) Position: - 1.5 Km from A 4 Torino-Trieste motorway entrance/exit (Novara est) - near State road 703 - Tangenziale Est ***Relevance:*** Supernational/National	Handling of Container, Swap Body Rails: 3 x 650 m 4 x 600 m total number of tracks: 7 total usable length: 4,350 m Reachstackers: 7 x 40 t / 15 handlings per hour Interim Storage Capacity: 800 TEU	60,000 (Agora, 2017)	Road, Rail	Eurogateway S.r.l. (Novara CIM)	*Services:* Customs	Intermodal connections from/to North Europe. The Intermodal Terminal is located in the exact point of connection of the traffic corridor Rotterdam-Genoa and Novara-Kiev.	YES	YES	NO
	Oleggio Terminal	***Location:*** 1) Address: Viale Rimembranza, 10/12 28047 Oleggio (NO) 2) Geographic Coordinates LATITUDE= 45.355949 LONGITUDE= 8.374743 3) Position: - 20 Km from A 26 (Genoa-Gravellona Toce)and A4 (Torino-Trieste) motorways, 10 km from SP 52. - 10 km from Malpensa airport ***Relevance:*** Supernational/National	Handling of Container, Swap Body Rails: 3 x 320 m (*loading/unloading* UTI) Storage area: 26,500 mq		Road, Rail			Main Axes: - Belgium: Zeebrugge - Italy: Piacenza	YES	YES	NO

	Padua Interport Terminal	***Location:*** 1) Address: Corso Stati Uniti 18 Padua Industrial Zone 35127 Padova (PD) 2) Geographic Coordinates LATITUDE= 45.384515 LONGITUDE= 11.925767 3) Position: - 2 Km from A 13 Bologna-Padova motorway entrance/exit (Padova – Zona Industriale) - near Padova Bypass ***Relevance:*** Supernational/National	Handling of Container *Padua Interport Tarminal* Rails: 3 x 750 m 3 x 750 m 2 x 750 m total number of tracks: 8 total usable length: 6,000 m Reachstackers: 7 units / 15 handlings per hour *Container Service Terminal*: Rails: 2 x 450 m total number of tracks: 2 total usable length: 900 m Reachstackers: 2 units / 15 handlings per hour	*Padua Interport Tarminal:* 220,000 (Agora, 2017)	Road, Rail	Nord Est Terminal_ Padova Interporto	*Services:* Container Maintenance Container Cleaning	There are regular rail links to the following destinations: Rotterdam, Genova M.ma, Genova Voltri, La Spezia, Cervignano, Trieste, Melzo, Incoronata (Foggia) and Bari. Padova Interporto manage Cityporto, a urban goods distribution service using methane and electric vehicles.	YES	YES	NO
	Port of Mantua - Valdaro **(river port)**	***Location:*** 1) Address: Via Principe Amedeo 90 Mantova (MN) 2) Geographic Coordinates LATITUDE= 45.132028 LONGITUDE= 10.857248 3) Position: - 5.5 km from A22 del Brennero motorway entrance/exit (Mantova Nord); - Connection with the Adriatic Sea, through the Po River and the Fissero-Tartaro Waterway ***Relevance:*** National	Handling of Container Rails: 2 x 350 m total number of tracks: 2 total usable length: 700 m Crane: Maximum capacity of 15 tons Length of the quay: 1,465 m	Port area: 199,300 m² (313,000 m² of future expansion) Industrial area: 2,850,000 m² (PP10 ZAI)	Road, Rail, Inland waterway	-	-	-	YES	YES	NO
	Port of Trieste	***Location:*** 1) Address: Via K.L. Von Bruck 3, 34144 Trieste 2) Geographic Coordinates LATITUDE= 45.637253 LONGITUDE= 13.753908; 3) Position: - near State road202 Triestina (connection between the port and the major Italian and Slovenian road networks) - by the Port of Trieste ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Length of docks: 12 km Number of berths: 58 (for conventional ships, multi-purpose vessels, container ships, Ro-Ro/ferries, oil tankers, chemical tankers, passenger ships etc.) Maximum depth: 18 m. Length of rail track: 70 km. Modern technology for handling, transportation and storage at the service of all types of traffic	Port areas: about 2.3 million m² of which about 1.8 million m² of free zones. Storage areas: about 925,000 m² of which about 500,000 m² under cover. (PP08 PTA)	Road, Rail, Ferry, Ships, Ro-Ro/ferries	Europa Multipurpose Terminals S.p.A / Trieste Marine Terminal S.p.A. / other terminal operators related to specifc goods (see Excel file Intermodal Terminals)	*Services:* Bunkering Customs Dangerous Goods Reefer Ship waste disposal Ship Repair	*Shipping Routes:* several Turkish shipping companies have started Ro-Ro ferry services between Trieste and ports such as Istanbul, Mersin, Cesme and Ambarli. *Rail Intermodal Network*: rail services are available with different frequencies to Austria, Germany, Hungary, Czech Republic, Slovakia and Switzerland; the destinations for domestic connections are Milan Certosa and Padua/ Bologna. Intermodal services are provided by Adriafer S.r.l., which organises intermodal, combined transport for the various goods in the so-called last mile of the port area, and by Alpe Adria S.p.a., a multimodal transport operator which manages various forms of conventional transport in a single logistical cycle.	YES	YES	NO
	Port of Venice	***Location:*** 1) North Adriatic Sea Port Authority Fabbr 13 Santa Marta Venezia (VE) 2) Geographic Coordinates LATITUDINE= 45.431744, LONGITUDINE= 12.312768 3) Position: - 6 km from A4 Motorway - 8 km form Venice Airport ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer, Bulks total rail trucks 8 X 550m RMG Cranes, Reach Stakers Container handling up to 600.00 Teus/year, traile and semi trails form ferry in motorways of the sea terminal	320,000 (PP12 EURAC)	Road, Rail, Ferry, Ship	Multi Terminal (RoPortMos, Vecon, TRV, TIV, et a.)	*Services:* Customs Container Maintenance Container Repair Dangerous Goods Trucking		YES	YES	NO

	S.I.TO Interport of Torino Orbassano	***Location:*** 1) Address: Prima Strada, 2, 10043 Orbassano TO 2) Geographic Coordinates LATITUDE= 45.15545 LONGITUDE= 7.34590 3) Position: - by E70 highway and A55 Motorway (Santena-Settimo torinese) ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Gantry crane / max. ton: 1/ Mobile crane / max. lift: 4/40 Number of tracks: 5 Total track size: 2000 m	3,000,000 (S.I.TO, 2017)	Road, Rail	Company interport Torino SpA	*Services:* Bank Dangerous goods Petrol station Power supply (reefer) Restaurant	Main Axes: - Belgium: All other BE terminals via RON - France: Le Havre, Paris Noisy	YES	YES	NO
	Verona Quadrante Europa	***Location:*** 1) Address: Via Sommacampagna 32 37137 Verona (VR) 2) Geographic Coordinates LATITUDE= 45.4171 LONGITUDE= 10.916305 3) Position: - by A22 Brennero-Modena motorway and A4 Torino-Trieste motorway entrance/exit (Verona Sud or Verona Nord) - near V. Catullo Airport ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer - Area properties: Terminal 1: 1 e 2 module RFI, Terminal 2: 3 module Quadrante Europa Terminal Gate, Terminal 3 (Interterminal): Consorzio Zai - Managing terminal: Terminal 1 e 2 Terminali Italia, Terminal 3 Quadrante Servizi - Tracks number at the station : 18 - Shunting tracks: 6 + 2 - Handling tracks : Terminal 1 --> 12 tracks under 4 granes long 650 mt Terminal 2 --> 5 tracks under 2 granes long 700 mt for both terminal 1 e 2 there are 6 reachsteaker and 9 mafi Terminal 3 --> 3 tracks long 550 metri with 3 reachsteaker and 2 mafi	360,000 (Terminal 1 + 2 +3) (PP10 ZAI)	Road, Rail	Terminali Italia S.r.l. (Verona Quadrante Europa)	*Services:* Security Customs Dangerous Goods Trucking	It is an ideal meeting point for national and international road, rail and air transport. It especially deals with international goods transport traffic to and from central and north Europe via the Brenner Pass, traffic to and from France, Spain and the Eastern European countries. Railway destinations: Germany, Danmark, Netherdlands, Belgium, Poland, France, Czech republic, Italy.	YES	YES	NO
Slovenia	**Celje**	***Location:*** 1) Address: Kidričeva Ulica 34 3000 Celje 2) Geographic Coordinates LATITUDE= 46.234511 LONGITUDE= 15.287115 3) Position: - 4 km from A1 Šentilj-Koper motorway entrance/exit (Celje) ***Relevance:*** Supernational/National	Handling of Container, Swap Body Rails: 2 x 250 m total number of tracks: 2 total usable length: 500 m Reachstackers: 1 x 40 t / 15 handlings per hour Capacity: 200 TEU	1,500 (PP14 ITTL)	Road, Rail	Slovenske železnice - Tovorni promet, d.o.o. (Celje)	*Services:* Security Customs Dangerous Goods Trucking	The terminal currently handles 1 pair of trains a day with destination to/from Port of Koper	YES	YES	NO
	Koper Luka KT	***Location:*** 1) Address: Vojkovo nabrežje 38 6501 Koper 2) Geographic Coordinates LATITUDE= 45.549017 LONGITUDE= 13.73969 3) Position: - 1 km from A1 Šentilj-Koper motorway - by the Port of Koper ***Relevance:*** Supernational/National	Handling of Container, Swap Body, Semitrailer Rails: 5 x 700 m 2 x 270 m 2 x 300 m total number of tracks: 7 total usable length: 4,640 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) 22 RTG Barge, Rail: 2 x 45 t / 30 handlings per hour Reachstackers: 12 x 40 t / 15 handlings per hour Interim Storage: Capacity: 19,130 TEU	270,000 (PP14 ITTL)	Road, Rail, Barge, Ferry, Short Sea	LUKA KOPER D.D - PORT OF KOPER PLC.	*Services:* Security Customs Container Maintenance Container Repair Container Cleaning Dangerous Goods Reefer *Other Services:* providing added value services, EMAS certifcate for environmental management	Main Axes: - Austria: Enns via VIL, Graz, Linz via VIL, Salzburg via VIL, Villach, Wien, Wolfurt via VIL - Belgium: Antwerpen Combinant via LJU - Croatia: Zagreb via LJU - Czech Republic: Prague - Denmark via LJU - Finland via LJU - Germany: Buna (Schkopau) via LJU, Duisburg DUSS via LJU, Hamburg Port via LJU, Hamburg-Billwerder via LJU, Kiel via LJU, Köln-Eifeltor via LJU, Leipzig via LJU, Ludwigshafen KTL, Lübeck via LJU, München-Riem via LJU, Rostock via LJU - Hungary: Budapest and Tiszaujvaros - Netherland: Rotterdam via LJU - Norway via LJU - Slovakia: Bratislava - Slovenia: Ljubljana - Sweden via LJU	YES	YES	NO
	Ljubljana KT	***Location:*** 1) Address: Letališka cesta 14 1000 Ljubljana 2) Geographic Coordinates LATITUDE= 46.061834 LONGITUDE= 14.551047 3) Position:	Handling of Container, Swap Body, Semitrailer Rails: 4 x 500 m total number of tracks: 4 total usable length: 2,000 m Gantry Cranes:	99,250 (Agora, 2017)	Road, Rail	Slovenske železnice - Tovorni promet, d.o.o. (Ljubljana)	*Services:* Security Customs Dangerous Goods Reefer Trucking	Hub function a) Rail - Pre-carriage: Trucking from / to Terminal Ljubljana - Destination: Economic region Ljubljana and surroundings Gateway function a) Rail	YES	YES	NO

		- by the A1 Šentilj-Koper motorway entrance/exit (Razcep Zadobrova) - by the H3 expressway ***Relevance:*** Supernational/National	Rail: 1 x 37 t / 30 handlings per hour Reachstackers: 1 x 40 t / 15 handlings per hour Interim Storage: Capacity: 1670 TEU / 21500 m²					Destination: Austria, Germany, Hungary, Slovakia, Checz Republic, Croatia, Serbia. ports Slovenia/Croatia, national terminals in Slovenia Main Axes: - Belgium: Antwerpen Combinant via MÜN - Croatia: Zagreb - Denmark via MÜN - Finland via MÜN - France: Bayonne via MÜN - Germany: Bremerhaven, Buna (Schkopau) via MÜN, Duisburg DUSS via MÜN, Hamburg Port via MÜN, Hamburg-Billwerder via MÜN, Kiel via MÜN, Köln-Eifeltor via MÜN, Leipzig via MÜN, Ludwigshafen KTL via MÜN, Lübeck via MÜN, München-Riem, Rostock via MÜN - Hungary: Budapest - Italy: Verona - Macedonia: Skopje - Netherland: Rotterdam via MÜN - Norway via MÜN - Serbia: Beograd, Novi Sad - Slovenia: Koper - Sweden via MÜN			
	Maribor Tezno KT	***Location:*** 1) Address: Vodovodna ulica 34 2000 Maribor 2) Geographic Coordinates LATITUDE= 46.535905 LONGITUDE= 15.651241 3) Position: - 3 km from A1 Šentilj-Koper motorway entrance/exit (Maribor centre) - by the H2 expressway ***Relevance:*** Supernational/National	Handling of Container, Swap Body, RO-LA Rails: 2 x 285 m total number of tracks: 2 total usable length: 570 m Reachstackers: 2 x 40 t / 15 handlings per hour Storage: Capacity: 600 TEU	6,800 (PP14 ITTL)	Road, Rail, RoLa	Slovenske železnice - Tovorni promet, d.o.o. (Maribor)	*Services:* Security Customs Dangerous Goods Trucking	The terminal currently handles 1 pair of container trains a day with destination to/from Port of Koper Other main axes: - Slovenia: Ljubljana - Austria: Wels	YES	YES	YES
Switzerland	**Aarau**	***Location:*** 1) Address: Steinachermattweg 12 5033 Aarau 2) Geographic Coordinates LATITUDE= 47.234531 LONGITUDE= 8.4846 3) Position: - West of Bahnhof Aarau SBB ***Relevance:*** Supernational/National	Handling of Container, Semi-trailer, Swap-body Mobile crane / max. lift: 3/40 Stock surface: 1200 m² Number of tracks: 5 Total track size: 1370 m	20,000 (UIRR, 2017b)	Road, Rail	Hupac	*Services:* Customs Dangerous goods	Main Axes: - Belgium: Antwerp HTA - Germany: Köln Eifeltor - Italy: Busto/Gallarate + Reex - Switzerland: Stabio, Visp	YES	YES	NO
	Basel - Kleinhüningen	***Location:*** 1) Address: Grenzstrasse 149 4019 Basel 2) Geographic Coordinates LATITUDE= 47.587132 LONGITUDE= 7.598961 3) Position: - next A2 Chiasso-Basel motorway entrance/exit (Basel Kleinhuningen) and next A5 Darmstadt - Basel motorway entrance/exit (Weil am Rhein / Hüningen) - by the Rhine River ***Relevance:*** National	Handling of Container Rails: 7 x 350 m total number of tracks: 7 total usable length: 2,450 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge, Rail: 2 units / 30 handlings per hour Reachstackers: 1 units / 15 handlings per hour Interim Storage: Capacity: 3,800 TEU	27,000 (Agora, 2017)	Road, Rail, Barge	Contargo AG (Basel)	*Services:* Container Maintenance Container Repair Dangerous Goods Reefer	Main Axes: - Switzerland: Lugano	YES	YES	NO

	Basel - Swissterminal	***Location:*** 1) Address: Westquaistrasse 12 4019 Basel 2) Geographic Coordinates LATITUDE= 47.58291 LONGITUDE= 7.587451 3) Position: - next A2 Chiasso-Basel motorway entrance/exit (Basel Kleinhuningen) and next A5 Darmstadt - Basilea motorway entrance/exit (Weil am rhein / Hüningen) - by the Rhine River	Handling of Container Rails: 3 x 150 m total number of tracks: 3 total usable length: 450 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge, Rail: 1 x 34 t / 30 handlings per hour Interim Storage: Capacity: 1,700 TEU	12,000 (Agora, 2017)	Road, Rail, Barge	Swissterminal AG (Basel)	*Services:* Reefer		YES	YES	NO
	Basel Wolf	***Location:*** 1) Address: St. Jakobstrasse 200 4002 Basel 2) Geographic Coordinates LATITUDE= 47.323675 LONGITUDE= 7.362942 3) Position: - East of Bahnhof Basel SBB ***Relevance:*** Supernational/National	Handling of Container, Semi-trailer, Swap-body Gantry crane / max. ton: 3/40 Mobile crane / max. lift: 3/40 Stock surface: 900 m² Number of tracks: 2 Total track size: 800 m Capacity: 70,000 TEU yearly handling capacity	17,000 (UIRR, 2017b)	Road, Rail	SBB Cargo	*Services:* Customs Dangerous goods	Main Axes: - Belgium: Antwerp HTA - Netherland: Rotterdam RSC & ECT - Switzerland: Chiasso	YES	YES	NO
	Birsfelden	***Location:*** 1) Address: Hafenstrasse 14 4127 Birsfelden 2) Geographic Coordinates LATITUDE= 47.551561 LONGITUDE= 7.642154 3) Position: - 1 km from A3 Basel-Sargans motorway - by the Rhine River	Handling of Container Rails: 2 x 100 m total number of tracks: 2 total usable length: 200 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Barge, Rail: 1 x 34 t / 30 handlings per hour Interim Storage: Capacity: 2,000 TEU	15,600 (Agora, 2017)	Road, Rail, Barge	Swissterminal AG (Birsfelden)	*Services:* Reefer		YES	YES	NO
	Chiasso	***Location:*** 1) Address: Via Passeggiata 6828 Balerna 2) Geographic Coordinates LATITUDE= 45.50956 LONGITUDE= 9.04815 3) Position: - 1 km from A2 Basel-Chiasso motorway ***Relevance:*** National	Handling of Container, Semi-trailer, Swap-body Mobile crane / max. lift: 1/ Stock surface: 400 m² Number of tracks: 2 Total track size: 300 m	7,000 (UIRR, 2017b)	Road, Rail	Hupac	*Services:* Dangerous goods	Main destination: Basel	YES	YES	YES
	Frenkendorf	***Location:*** 1) Address: Flachsackerstrasse 7 4402 Frenkendorf 2) Geographic Coordinates LATITUDE= 47.514815 LONGITUDE= 7.717892 3) Position: - 1 km from A3 Basel-Sargans motorway entrance/exit (Liestal) ***Relevance:*** Supernational/National	Handling of Container Rails: 2 x 230 m total number of tracks: 2 total usable length: 460 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 1 x 34 t / 30 handlings per hour Interim Storage: Capacity: 5,000 TEU	45,000 (Agora, 2017)	Road, Rail	Swissterminal AG (Frenkendorf)	*Services:* Reefer	Railway destinations (to and from): Hamburg, Bremerhaven, Rotterdam and Antwerp. Since 2013 also trains from Genova and La Spezia.	YES	YES	NO

	Lugano Vedeggio	***Location:*** 1) Address: Via Industria 6934 Bioggio 2) Geographic Coordinates LATITUDE= 46.11804 LONGITUDE= 8.55181 3) Position: - 1 km from A2 Basel-Chiasso motorway entrance/exit (Lugano nord) ***Relevance:*** National	Number of tracks: 2 Number of tracks >500m: 2 Total track size: 1,200 m	2,000 (UIRR, 2017b)	Raod, Rail, RoLa		*Services:* customs	Main destination: Basel Kleinüningen	YES	YES	YES
	Niederglatt	***Location:*** 1) Address: Industriestrasse 139 8155 Niederhasli 2) Geographic Coordinates LATITUDE= 47.284002 LONGITUDE= 8.294819 3) Position: - 6.5 km from A51 Bülach - Zürich-North motorway ***Relevance:*** Supernational/National	Handling of Container	34,000 (UIRR, 2017b)	Raod, Rail	Swissterminal AG (Niederglatt)		International connections to Rotterdam and Hamburg, Bremen (via Basel Wolf)	YES	YES	NO
	Rekingen	***Location:*** 1) Address: Ostzelg 212 5332 Rekingen 2) Geographic Coordinates LATITUDE= 47.568401 LONGITUDE= 8.336793 3) Position: - next Hauptstrasse 7 - Basel- Sankt Margrethen - by the Rhine River ***Relevance:*** Supernational/National	Handling of Container Rails: 5 x 280 m total number of tracks: 5 total usable length: 1,400 m Gantry Cranes: RMG (Rail mounted Gantry Cranes) Rail: 1 x 34 t / 30 handlings per hour Interim Storage: Capacity: 2,240 TEU	20,000 (Agora, 2017)	Road, Rail	Swissterminal AG (Rekingen)	*Services:* Reefer	Railway destinations (to and from): Hamburg, Bremerhaven, Rotterdam and Antwerp	YES	YES	NO
	Stabio	***Location:*** 1) Address: Via Croce Campagna 2 6855 Stabio 2) Geographic Coordinates LATITUDE= 45.51821 LONGITUDE= 8.564802 3) Position: - 2 km from A2 Basel-Chiasso motorway ***Relevance:*** National	Multimodal/Intermodal traffic implementation in transhipment yards with 7 sidings (2600m) privately owned, connected to the European railway network Reach-stacker + piggy back: max 45 t		Road, Rail	Punto Franco SA	*Services:* Customs Reefer Offices to customizable areas and standards	Main Axes: - Switzerland: Aarau	YES	YES	YES

Appendix 4: Main transalpine transport corridors - Volumes on the national level

Country	Year	ROAD		RAIL				
		TOTAL (KHGV)	TOTAL (Kt)	TOTAL (Kt)	CONVENTIONAL TRANSPORT (Kt)	UCT (Kt)	ACT (Kt)	ACT (KHGV)
Austria	1999	6,202.0	74,700.0	32,300.0	24,200.0	5,000.0	3,100.0	161.5
	2000	6,538.0	79,261.0	36,501.0	27,399.0	4,901.0	4,201.0	216.6
	2001	6,387.0	77,000.0	38,403.2	27,392.4	5,902.0	5,069.8	263.4
	2002	6,568.0	79,400.0	38,517.0	27,314.0	5,766.0	5,437.0	296.7
	2003	7,158.0	90,422.0	38,454.0	27,079.0	6,102.0	5,273.0	284.1
	2004	7,342.3	94,621.2	39,117.4	28,682.4	7,340.9	3,094.0	184.3
	2005	7,364.8	96,343.9	40,096.4	29,700.0	7,719.0	2,677.4	136.4
	2006	7,656.5	100,379.7	41,001.0	27,983.4	8,826.9	4,190.8	215.7
	2007	7,919.6	104,301.9	43,980.6	29,019.9	9,940.7	5,020.1	255.4
	2008	7,650.1	101,251.6	44,007.9	27,293.9	10,868.4	5,845.6	293.4
	2009	6,502.3	85,433.2	38,460.6	22,982.0	9,290.7	6,187.8	287.1
	2010	6,908.8	91,428.6	44,503.1	26,765.2	10,918.0	6,819.9	314.8
	2011	6,997.6	92,897.3	45,289.3	27,005.1	11,940.3	6,343.9	293.6
	2012	6,920.2	92,002.7	42,513.9	25,102.3	13,056.7	4,354.9	202.5
	2013	6,938.7	92,429.1	43,348.7	26,211.3	12,684.4	4,453.0	210.9
	2014	7,255.5	97,163.5	44,697.3	26,195.4	14,178.5	4,323.4	206.0
	2015*	6,337.8	82,876.2	37,311.0	21,394.1	11,743.5	4,173.4	204.3
France	1999	2,646.5	37,797.5	9,402.0	6,000.0	3,402.0	-	-
	2000	2,707.1	40,288.3	9,364.0	5,800.0	3,564.0	-	-
	2001	2,752.2	40,781.7	8,740.0	5,500.0	3,240.0	-	-
	2002	2,735.2	40,594.5	8,721.0	5,400.0	3,321.0	-	-
	2003	2,758.5	40,645.7	7,710.1	4,624.8	3,080.3	5.0	0.3
	2004	2,859.6	40,249.2	6,904.5	4,179.8	2,607.5	117.2	6.5
	2005	2,809.3	39,334.2	5,955.2	3,451.6	2,190.8	312.8	17.4
	2006	2,927.1	41,076.5	5,782.1	3,638.7	1,791.1	355.3	19.7
	2007	2,986.1	41,943.4	6,254.1	3,673.0	2,203.6	377.5	20.4
	2008	2,864.8	40,302.6	5,139.1	3,210.4	1,486.0	442.7	23.4
	2009	2,523.6	35,508.5	2,727.9	1,485.6	836.9	405.5	22.6
	2010	2,693.2	38,060.6	3,180.6	1,968.7	730.9	481.0	25.4
	2011	2,731.0	38,651.2	3,559.9	2,355.8	1,056.1	148.0	6.5
	2012	2,589.2	36,611.8	3,728.8	2,542.1	1,041.4	145.3	6.4
	2013	2,559.1	36,113.8	3,707.4	2,468.3	1,103.2	135.9	5.8
	2014	2,594.9	36,593.8	3,675.0	2,413.9	1,170.5	90.7	3.7
	2015	2,662.7	37,561.1	3,639.5	2,431.9	1,114.3	93.4	3.8

Switzerland	1999	1,317.7	8,373.0	18,386.3	9,525.5	7,733.9	1,126.9	51.7
	2000	1,404.0	8,900.0	20,620.0	10,550.0	9,040.0	1,030.0	53.6
	2001	1,371.0	10,391.3	20,620.0	11,050.0	8,670.0	900.0	54.1
	2002	1,249.0	10,576.0	19,054.0	8,833.0	9,048.0	1,173.0	69.3
	2003	1,291.8	11,573.0	19,924.0	8,689.0	9,692.0	1,543.0	77.0
	2004	1,256.2	12,492.7	22,955.5	8,890.7	12,236.5	1,828.3	89.9
	2005	1,204.0	12,829.3	23,639.0	8,479.3	13,290.4	1,869.2	102.5
	2006	1,180.4	12,781.3	25,186.1	8,503.3	14,804.3	1,878.4	102.2
	2007	1,262.5	14,038.1	25,252.1	8,264.2	15,132.0	1,855.9	101.1
	2008	1,274.8	14,389.3	25,366.5	8,796.0	14,771.0	1,799.6	101.7
	2009	1,180.0	13,364.2	20,835.5	6,388.3	12,692.9	1,754.3	102.5
	2010	1,236.2	14,305.7	24,054.2	7,391.4	14,872.9	1,789.9	102.7
	2011	1,219.5	14,417.0	25,626.8	7,862.4	15,963.5	1,801.0	104.2
	2012	1,150.8	13,619.3	23,712.7	6,851.3	15,264.5	1,596.9	95.8
	2013	1,048.8	12,788.4	25,174.6	6,951.6	16,332.7	1,890.4	108.6
	2014	1,032.6	12,446.7	26,069.5	7,375.5	16,805.9	1,888.0	108.6
	2015	1,009.7	12,023.0	26,938.8	7,900.4	17,152.8	1,885.6	110.3

Data Source: CE DG MOVE, Confédération Suisse OFT, 2016; BAV, 2016.

* In 2015 the sum does not include data for Tarvisio (data is not available).

Appendix 5: Main transalpine transport corridors - Volumes at each crossing point

Country	Crossing Point	Year	ROAD				RAIL									
			KHGV		Kt		TOTAL (Kt)		Conventional Transport (Kt)		UCT (Kt)		ACT (Kt)		ACT (KHGV)	
			Absolute Value	% of National Total	Absolute Value	% of National Total	Absolute Value	% of National Total	Absolute Value	% of National Total	Absolute Value	% of National Total	Absolute Value	% of National Total	Absolute Value	% of National Total
AUSTRIA	Brenner	1999	1,550.0	25.0%	25,200.0	33.7%	8,300.0	25.7%	2,800.0	11.6%	3,300.0	66.0%	2,200.0	71.0%	107.8	66.7%
		2000	1,560.0	23.9%	25,400.0	32.0%	8,700.0	23.8%	2,750.0	10.0%	3,250.0	66.3%	2,700.0	64.3%	134.7	62.2%
		2001	1,550.0	24.3%	25,000.0	32.5%	10,772.2	28.1%	3,186.4	11.6%	4,166.0	70.6%	3,419.8	67.5%	169.0	64.2%
		2002	1,600.0	24.4%	25,800.0	32.5%	10,543.0	27.4%	3,237.0	11.9%	4,019.0	69.7%	3,287.0	60.5%	176.6	59.5%
		2003	1,650.0	23.1%	27,000.0	29.9%	10,777.0	28.0%	3,300.0	12.2%	4,342.0	71.2%	3,135.0	59.5%	163.7	57.6%
		2004	1,983.0	27.0%	31,138.5	32.9%	10,119.0	25.9%	3,869.0	13.5%	4,650.0	63.3%	1,600.0	51.7%	83.4	45.3%
		2005	1,988.2	27.0%	31,689.3	32.9%	10,026.1	25.0%	3,743.0	12.6%	5,232.0	67.8%	1,051.1	39.3%	53.1	38.9%
		2006	2,084.5	27.2%	33,330.4	33.2%	11,636.3	28.4%	3,554.9	12.7%	5,763.1	65.3%	2,318.3	55.3%	117.1	54.3%
		2007	2,177.4	27.5%	34,953.7	33.5%	13,255.5	30.1%	3,759.1	13.0%	6,375.7	64.1%	3,120.8	62.2%	157.6	61.7%
		2008	2,101.8	27.5%	33,814.9	33.4%	14,012.3	31.8%	2,946.8	10.8%	6,997.2	64.4%	4,068.4	69.6%	205.5	70.0%
		2009	1,745.2	26.8%	25,842.4	30.2%	13,117.1	34.1%	2,416.4	10.5%	5,759.9	62.0%	4,940.9	79.8%	225.7	78.6%
		2010	1,849.8	26.8%	27,509.2	30.1%	14,373.5	32.3%	2,766.2	10.3%	6,241.0	57.2%	5,366.3	78.7%	245.1	77.9%
		2011	1,885.3	26.9%	28,168.6	30.3%	14,067.3	31.1%	2,833.3	10.5%	6,367.1	53.3%	4,866.9	76.7%	222.5	75.8%
		2012	1,966.3	28.4%	29,454.0	32.0%	11,163.7	26.3%	2,356.1	9.4%	5,816.2	44.5%	2,991.5	68.7%	136.7	67.5%
		2013	1,935.6	27.9%	29,022.3	31.4%	11,701.6	27.0%	2,200.7	8.4%	6,360.3	50.1%	3,140.6	70.5%	143.4	68.0%
		2014	2,014.4	27.8%	30,249.6	31.1%	11,926.1	26.7%	2,107.7	8.0%	6,452.2	45.5%	3,366.2	77.9%	153.9	74.7%
		2015	2,068.3	32.6%	31,156.5	37.6%	12,560.7	33.7%	2,084.9	9.7%	6,885.0	58.6%	3,590.8	86.0%	164.1	80.3%
	Tauern	1999	664.0	10.7%	8,200.0	11.0%	5,600.0	17.3%	4,100.0	16.9%	600.0	12.0%	900.0	29.0%	51.9	32.1%
		2000	940.0	14.4%	11,600.0	14.6%	7,700.0	21.1%	5,700.0	20.8%	500.0	10.2%	1,500.0	35.7%	81.9	37.8%
		2001	875.0	13.7%	10,800.0	14.0%	7,300.0	19.0%	5,200.0	19.0%	500.0	8.5%	1,600.0	31.6%	91.4	34.7%
		2002	900.0	13.7%	11,100.0	14.0%	7,984.0	20.7%	5,655.0	20.7%	567.0	9.8%	1,762.0	32.4%	97.1	32.7%
		2003	953.0	13.3%	12,000.0	13.3%	7,995.0	20.8%	5,823.0	21.5%	575.0	9.4%	1,597.0	30.3%	88.4	31.1%
		2004	940.8	12.8%	12,238.0	12.9%	8,027.3	20.5%	6,262.1	21.8%	795.1	10.8%	970.0	31.4%	63.1	34.2%
		2005	992.6	13.5%	12,982.8	13.5%	7,934.7	19.8%	6,715.0	22.6%	708.0	9.2%	511.7	19.1%	32.9	24.1%
		2006	852.2	11.1%	11,064.9	11.0%	8,038.5	19.6%	6,760.3	24.2%	754.1	8.5%	524.1	12.5%	34.0	15.8%
		2007	1,000.8	12.6%	13,163.8	12.6%	8,977.5	20.4%	7,327.1	25.2%	1,052.3	10.6%	598.2	11.9%	38.8	15.2%
		2008	1,044.7	13.7%	13,799.8	13.6%	9,165.2	20.8%	7,345.7	26.9%	1,258.5	11.6%	561.0	9.6%	36.4	12.4%
		2009	928.8	14.3%	12,668.7	14.8%	5,933.3	15.4%	4,791.0	20.8%	670.0	7.2%	472.3	7.6%	31.4	10.9%
		2010	981.8	14.2%	13,483.6	14.7%	7,345.5	16.5%	5,817.4	21.7%	965.0	8.8%	563.1	8.3%	37.4	11.9%
		2011	1,006.0	14.4%	13,845.9	14.9%	6,563.4	14.5%	4,832.8	17.9%	1,218.0	10.2%	512.6	8.1%	34.0	11.6%
		2012	967.1	14.0%	13,258.3	14.4%	8,347.4	19.6%	5,756.5	22.9%	2,181.2	16.7%	409.7	9.4%	27.2	13.4%
		2013	985.0	14.2%	13,507.6	14.6%	7,906.1	18.2%	5,900.1	22.5%	1,666.3	13.1%	339.7	7.6%	22.6	10.7%
		2014	1,004.8	13.8%	13,823.9	14.2%	9,106.7	20.4%	6,485.4	24.8%	2,416.0	17.0%	205.3	4.7%	13.6	6.6%
		2015	1,040.7	16.4%	14,338.1	17.3%	9,296.4	24.9%	6,488.8	30.3%	2,661.5	22.7%	146.1	3.5%	9.8	4.8%
	Schoberpass	1999	1,162.0	18.7%	11,200.0	15.0%	4,600.0	14.2%	4,200.0	17.4%	400.0	8.0%	0.0	0.0%	1.8	1.1%
		2000	1,030.0	15.8%	9,900.0	12.5%	5,301.0	14.5%	4,950.0	18.1%	350.0	7.1%	1.0	0.0%	0.0	0.0%
		2001	1,030.0	16.1%	10,000.0	13.0%	5,192.0	13.5%	4,806.0	17.5%	336.0	5.7%	50.0	1.0%	3.0	1.1%
		2002	1,000.0	15.2%	9,700.0	12.2%	5,505.0	14.3%	4,814.0	17.6%	303.0	5.3%	388.0	7.1%	23.0	7.8%
		2003	1,100.0	15.4%	11,990.0	13.3%	4,636.0	12.1%	3,824.0	14.1%	271.0	4.4%	541.0	10.3%	32.1	11.3%
		2004	1,281.0	17.4%	14,636.0	15.5%	5,357.3	13.7%	4,244.5	14.8%	588.7	8.0%	524.0	16.9%	37.8	20.5%
		2005	1,235.5	16.8%	14,180.9	14.7%	5,525.7	13.8%	3,884.0	13.1%	927.0	12.0%	714.7	26.7%	50.5	37.0%
		2006	1,424.5	18.6%	16,501.2	16.4%	6,000.3	14.6%	4,042.1	14.4%	1041.3	11.8%	916.9	21.9%	64.6	29.9%

		2007	1,428.4	18.0%	16,536.5	15.9%	5,922.2	13.5%	3,997.6	13.8%	1087.9	10.9%	836.7	16.7%	58.9	23.1%
		2008	1,422.3	18.6%	16,549.1	16.3%	4,863.8	11.1%	3,396.0	12.4%	736.9	6.8%	730.9	12.5%	51.5	17.6%
		2009	1,232.7	19.0%	14,260.1	16.7%	4,250.4	11.1%	3,414.5	14.9%	406.5	4.4%	429.4	6.9%	30.0	10.4%
		2010	1,300.6	18.8%	15,138.3	16.6%	4,417.0	9.9%	3,492.3	13.0%	461.7	4.2%	463.1	6.8%	32.3	10.3%
		2011	1,322.5	18.9%	15,468.4	16.7%	5,660.4	12.5%	4,683.2	17.3%	444.9	3.7%	532.3	8.4%	37.1	12.6%
		2012	1,341.0	19.4%	15,766.2	17.1%	4,601.9	10.8%	3,488.1	13.9%	560.1	4.3%	553.6	12.7%	38.6	19.1%
		2013	1,353.2	19.5%	15,939.9	17.2%	4,554.7	10.5%	3,461.2	13.2%	450.9	3.6%	642.7	14.4%	44.9	21.3%
		2014	1,383.5	19.1%	16,378.2	16.9%	4,485.2	10.0%	3,440.8	13.1%	492.5	3.5%	551.9	12.8%	38.5	18.7%
		2015	1,389.2	21.9%	16,509.6	19.9%	4,530.6	12.1%	3,520.5	16.5%	573.6	4.9%	436.5	10.5%	30.4	14.9%
	Semmering	1999	486.0	7.8%	4,000.0	5.4%	9,300.0	28.8%	9,000.0	37.2%	300.0	6.0%	0.0	0.0%	0.0	0.0%
		2000	480.0	7.3%	3,900.0	4.9%	9,900.0	27.1%	9,500.0	34.7%	400.0	8.2%	0.0	0.0%	0.0	0.0%
		2001	490.0	7.7%	4,100.0	5.3%	10,100.0	26.3%	9,600.0	35.0%	500.0	8.5%	0.0	0.0%	0.0	0.0%
		2002	490.0	7.5%	4,100.0	5.2%	9,530.0	24.7%	9,076.0	33.2%	454.0	7.9%	0.0	0.0%	0.0	0.0%
		2003	500.0	7.0%	4,800.0	5.3%	9,938.0	25.8%	9,499.0	35.1%	439.0	7.2%	0.0	0.0%	0.0	0.0%
		2004	528.0	7.2%	5,639.7	6.0%	9,561.8	24.4%	8,903.8	31.0%	658.1	9.0%	0.0	0.0%	0.0	0.0%
		2005	589.9	8.0%	6,511.5	6.8%	10,275.0	25.6%	9,952.0	33.5%	323.0	4.2%	0.0	0.0%	0.0	0.0%
		2006	596.3	7.8%	6,626.6	6.6%	8,530.8	20.8%	7,966.3	28.5%	564.5	6.4%	0.0	0.0%	0.0	0.0%
		2007	510.9	6.5%	5,488.9	5.3%	8,589.4	19.5%	8,011.0	27.6%	578.4	5.8%	0.0	0.0%	0.0	0.0%
		2008	487.2	6.4%	5,293.1	5.2%	8,820.5	20.0%	8,225.6	30.1%	594.9	5.5%	0.0	0.0%	0.0	0.0%
		2009	429.6	6.6%	4,747.2	5.6%	9,287.3	24.1%	8,184.3	35.6%	1,103.0	11.9%	0.0	0.0%	0.0	0.0%
		2010	441.7	6.4%	4,922.7	5.4%	11,753.4	26.4%	10,060.2	37.6%	1,693.2	15.5%	0.0	0.0%	0.0	0.0%
		2011	442.6	6.3%	4,976.7	5.4%	11,868.4	26.2%	9,800.7	36.3%	2,067.7	17.3%	0.0	0.0%	0.0	0.0%
		2012	425.7	6.2%	4,811.1	5.2%	11,024.9	25.9%	9,207.3	36.7%	1,817.7	13.9%	0.0	0.0%	0.0	0.0%
		2013	438.3	6.3%	4,975.2	5.4%	11,870.6	27.4%	10,084.5	38.5%	1,786.1	14.1%	0.0	0.0%	0.0	0.0%
		2014	457.3	6.3%	5,226.5	5.4%	11,050.1	24.7%	9,390.5	35.8%	1,659.6	11.7%	0.0	0.0%	0.0	0.0%
		2015	447.9	7.1%	5,133.3	6.2%	10,600.2	28.4%	9,130.4	42.7%	1,469.8	12.5%	0.0	0.0%	0.0	0.0%
	Wechsel	1999	1,051.0	16.9%	8,200.0	11.0%	100.0	0.3%	100.0	0.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2000	1,100.0	16.8%	8,600.0	10.9%	100.0	0.3%	99.0	0.4%	1.0	0.0%	0.0	0.0%	0.0	0.0%
		2001	1,150.0	18.0%	9,000.0	11.7%	100.0	0.3%	100.0	0.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2002	1,200.0	18.3%	9,400.0	11.8%	100.0	0.3%	100.0	0.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2003	1,240.0	17.3%	10,800.0	11.9%	100.0	0.3%	100.0	0.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2004	988.0	13.5%	8,832.0	9.3%	240.0	0.6%	126.0	0.4%	114.0	1.6%	0.0	0.0%	0.0	0.0%
		2005	955.7	13.0%	8,816.4	9.2%	277.0	0.7%	277.0	0.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2006	1,038.0	13.6%	10,002.9	10.0%	289.5	0.7%	152.0	0.5%	137.5	1.6%	0.0	0.0%	0.0	0.0%
		2007	1,195.9	15.1%	11,961.2	11.5%	262.2	0.6%	137.4	0.5%	124.8	1.3%	0.0	0.0%	0.0	0.0%
		2008	1,185.0	15.5%	11,985.8	11.8%	265.4	0.6%	139.1	0.5%	126.3	1.2%	0.0	0.0%	0.0	0.0%
		2009	1,010.4	15.5%	10,425.9	12.2%	199.6	0.5%	104.7	0.5%	94.9	1.0%	0.0	0.0%	0.0	0.0%
		2010	1,086.5	15.7%	11,452.0	12.5%	225.5	0.5%	118.4	0.4%	107.1	1.0%	0.0	0.0%	0.0	0.0%
		2011	1,118.6	16.0%	11,970.3	12.9%	290.5	0.6%	152.6	0.6%	137.9	1.2%	0.0	0.0%	0.0	0.0%
		2012	1,098.0	15.9%	11,795.5	12.8%	255.9	0.6%	134.4	0.5%	121.6	0.9%	0.0	0.0%	0.0	0.0%
		2013	1,133.2	16.3%	12,414.0	13.4%	275.7	0.6%	144.8	0.6%	130.9	1.0%	0.0	0.0%	0.0	0.0%
		2014	1,205.0	16.6%	13,465.8	13.9%	249.2	0.6%	131.0	0.5%	118.2	0.8%	0.0	0.0%	0.0	0.0%
		2015	1,247.6	19.7%	14,155.2	17.1%	323.1	0.9%	169.5	0.8%	153.6	1.3%	0.0	0.0%	0.0	0.0%
	Tarvisio	1999	1,120.0	18.1%	16,000.0	21.4%	4,400.0	13.6%	4,000.0	16.5%	400.0	8.0%	0.0	0.0%	0.0	0.0%
		2000	1,270.0	19.4%	18,161.0	22.9%	4,800.0	13.2%	4,400.0	16.1%	400.0	8.2%	0.0	0.0%	0.0	0.0%
		2001	1,125.0	17.6%	16,200.0	21.0%	4,939.0	12.9%	4,500.0	16.4%	400.0	6.8%	0.0	0.0%	0.0	0.0%
		2002	1,200.0	18.3%	17,300.0	21.8%	4,855.0	12.6%	4,432.0	16.2%	423.0	7.3%	0.0	0.0%	0.0	0.0%
		2003	1,520.0	21.2%	21,432.0	23.7%	5,008.0	13.0%	4,533.0	16.7%	475.0	7.8%	0.0	0.0%	0.0	0.0%
		2004	1,404.0	19.1%	19,266.0	20.4%	5,812.0	14.9%	5,277.0	18.4%	535.0	7.3%	0.0	0.0%	0.0	0.0%
		2005	1,388.8	18.9%	19,337.9	20.1%	6,058.0	15.1%	5,129.0	17.3%	529.0	6.9%	400.0	14.9%	0.0	0.0%
		2006	1,433.4	18.7%	19,936.5	19.9%	6,505.6	15.9%	5,507.9	19.7%	566.4	6.4%	431.4	10.3%	0.0	0.0%
		2007	1,426.0	18.0%	19,917.0	19.1%	6,973.9	15.9%	5,787.8	19.9%	721.7	7.3%	464.4	9.3%	0.0	0.0%

		2008	1,240.9	16.2%	17,676.8	17.5%	6,880.7	15.6%	5,240.7	19.2%	1,154.7	10.6%	485.3	8.3%	0.0	0.0%
		2009	997.0	15.3%	15,642.4	18.3%	5,672.9	14.7%	4,071.1	17.7%	1,256.4	13.5%	345.3	5.6%	0.0	0.0%
		2010	1,083.0	15.7%	17,011.9	18.6%	6,388.2	14.4%	4,510.8	16.9%	1,450.0	13.3%	427.4	6.3%	0.0	0.0%
		2011	1,060.5	15.2%	16,626.5	17.9%	6,839.3	15.1%	4,702.5	17.4%	1,704.7	14.3%	432.1	6.8%	0.0	0.0%
		2012	962.0	13.9%	15,120.0	16.4%	7,120.0	16.7%	4,160.0	16.6%	2,560.0	19.6%	400.0	9.2%	0.0	0.0%
		2013	969.0	14.0%	15,210.0	16.5%	7,040.0	16.2%	4,420.0	16.9%	2,290.0	18.1%	330.0	7.4%	0.0	0.0%
		2014	1,047.0	14.4%	16,600.0	17.1%	7,880.0	17.6%	4,640.0	17.7%	3,040.0	21.4%	200.0	4.6%	0.0	0.0%
		2015	n.a.		n.a.		n.a.		n.a.		n.a.		n.a.		n.a.	
	Reschen	1999	89.0	1.4%	1,200.0	1.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2000	93.0	1.4%	1,200.0	1.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2001	97.0	1.5%	1,300.0	1.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2002	108.0	1.6%	1,400.0	1.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2003	125.0	1.7%	1,700.0	1.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2004	135.0	1.8%	1,971.0	2.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2005	132.7	1.8%	1,927.1	2.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2006	125.3	1.6%	1,779.3	1.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2007	100.5	1.3%	1,392.2	1.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2008	97.8	1.3%	1,347.2	1.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2009	97.2	1.5%	1,162.5	1.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2010	97.4	1.4%	1,152.3	1.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2011	94.6	1.4%	1,088.0	1.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2012	91.8	1.3%	1,036.8	1.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2013	92.5	1.3%	1,047.1	1.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2014	97.1	1.3%	1,096.3	1.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2015	91.8	1.4%	1,033.2	1.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
	Felbertauern	1999	80.0	1.3%	700.0	0.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2000	65.0	1.0%	500.0	0.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2001	70.0	1.1%	600.0	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2002	70.0	1.1%	600.0	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2003	70.0	1.0%	700.0	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2004	82.5	1.1%	900.0	1.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2005	81.4	1.1%	897.8	0.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2006	102.2	1.3%	1,138.0	1.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2007	79.7	1.0%	888.7	0.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2008	70.5	0.9%	785.0	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2009	61.4	0.9%	684.0	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2010	68.1	1.0%	758.7	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2011	67.6	1.0%	753.0	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2012	68.3	1.0%	760.8	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2013	32.0	0.5%	313.1	0.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2014	46.4	0.6%	323.2	0.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2015	52.2	0.8%	550.3	0.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
FRANCE	Ventimiglia	1999	1,010.7	38.2%	13,016.6	34.4%	1,000.0	10.6%	1,000.0	16.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2000	1,061.0	39.2%	13,686.9	34.0%	800.0	8.5%	800.0	13.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2001	1,102.0	40.0%	14,326.0	35.1%	900.0	10.3%	900.0	16.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2002	1,142.0	41.8%	14,960.2	36.9%	900.0	10.3%	900.0	16.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2003	1,209.0	43.8%	15,958.8	39.3%	663.4	8.6%	652.1	14.1%	11.3	0.4%	0.0	0.0%	0.0	0.0%
		2004	1,344.5	47.0%	18,000.9	44.7%	535.7	7.8%	527.8	12.6%	7.9	0.3%	0.0	0.0%	0.0	0.0%
		2005	1,375.0	48.9%	18,425.0	46.8%	491.8	8.3%	491.6	14.2%	0.2	0.0%	0.0	0.0%	0.0	0.0%
		2006	1,411.0	48.2%	18,907.4	46.0%	602.3	10.4%	602.3	16.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2007	1,454.6	48.7%	19,491.4	46.5%	559.7	8.9%	559.6	15.2%	0.1	0.0%	0.0	0.0%	0.0	0.0%
		2008	1,390.5	48.5%	18,632.7	46.2%	568.5	11.1%	565.2	17.6%	3.3	0.2%	0.0	0.0%	0.0	0.0%

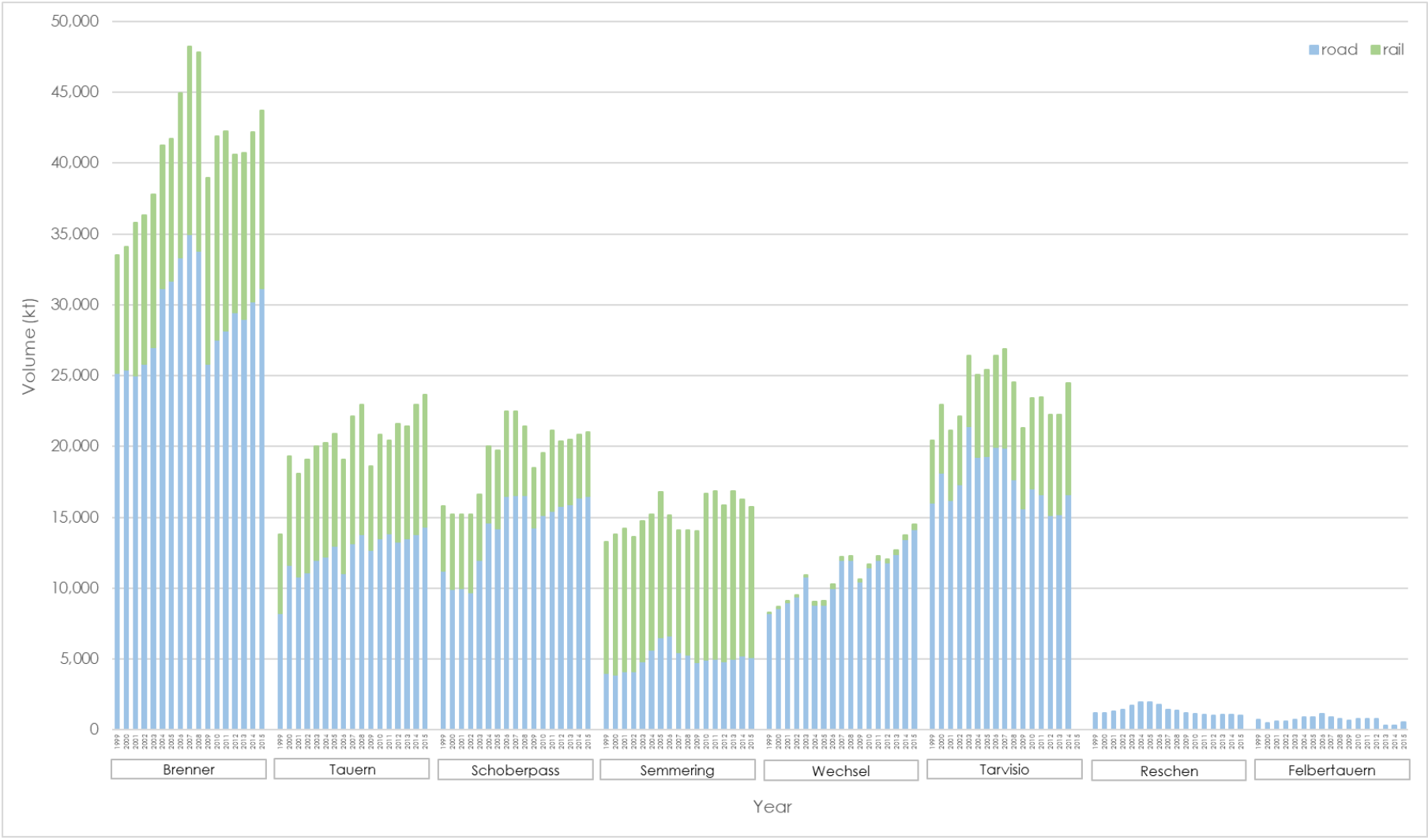
		2009	1,273.2	50.5%	17,061.0	48.0%	359.1	13.2%	358.2	24.1%	0.9	0.1%	0.0	0.0%	0.0	0.0%
		2010	1,338.4	49.7%	17,846.9	46.9%	162.0	5.1%	162.0	8.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2011	1,344.1	49.2%	17,922.6	46.4%	148.1	4.2%	148.1	6.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2012	1,282.4	49.5%	17,100.6	46.7%	350.3	9.4%	350.3	13.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2013	1,294.9	50.6%	17,266.9	47.8%	462.6	12.5%	456.8	18.5%	5.9	0.5%	0.0	0.0%	0.0	0.0%
		2014	1,318.7	50.8%	17,584.7	48.1%	376.1	10.2%	298.9	12.4%	77.2	6.6%	0.0	0.0%	0.0	0.0%
		2015	1,356.0	50.9%	18,080.9	48.1%	474.0	13.0%	474.0	19.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%
	Montgenèvre	1999	129.4	4.9%	1,541.6	4.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2000	119.0	4.4%	1,404.2	3.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2001	124.0	4.5%	1,426.0	3.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2002	66.0	2.4%	745.8	1.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2003	51.0	1.8%	561.0	1.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2004	31.0	1.1%	333.4	0.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2005	65.0	2.3%	702.0	1.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2006	65.8	2.2%	703.5	1.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2007	65.1	2.2%	690.2	1.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2008	62.3	2.2%	654.0	1.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2009	48.7	1.9%	506.3	1.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2010	51.6	1.9%	532.1	1.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2011	46.3	1.7%	477.1	1.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2012	47.9	1.8%	493.2	1.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2013	52.0	2.0%	536.0	1.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2014	56.0	2.2%	576.6	1.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2015	54.2	2.0%	558.3	1.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
	Mont-Blanc	1999	171.4	6.5%	2,664.8	7.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2000	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2001	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2002	79.0	2.9%	1,282.8	3.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2003	274.3	9.9%	4,416.2	10.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2004	353.1	12.3%	5,158.4	12.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2005	584.8	20.8%	8,596.6	21.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2006	606.2	20.7%	8,971.4	21.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2007	590.0	19.8%	8,791.7	21.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2008	588.4	20.5%	8,826.6	21.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2009	518.2	20.5%	7,825.4	22.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2010	571.5	21.2%	8,685.9	22.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2011	606.0	22.2%	9,209.5	23.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2012	581.0	22.4%	8,829.9	24.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2013	549.2	21.5%	8,346.6	23.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2014	553.7	21.3%	8,415.0	23.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2015	575.6	21.6%	8,747.7	23.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
	Mont Cenis / Fréjus	1999	1,335.0	50.4%	20,574.6	54.4%	8,402.0	89.4%	5,000.0	83.3%	3,402.0	100.0%	0.0	0.0%	0.0	0.0%
		2000	1,527.1	56.4%	25,197.2	62.5%	8,564.0	91.5%	5,000.0	86.2%	3,564.0	100.0%	0.0	0.0%	0.0	0.0%
		2001	1,526.2	55.5%	25,029.7	61.4%	7,840.0	89.7%	4,600.0	83.6%	3,240.0	100.0%	0.0	0.0%	0.0	0.0%
		2002	1,448.2	52.9%	23,605.7	58.1%	7,821.0	89.7%	4,500.0	83.3%	3,321.0	100.0%	0.0	0.0%	0.0	0.0%
		2003	1,224.2	44.4%	19,709.6	48.5%	7,046.7	91.4%	3,972.7	85.9%	3,069.0	99.6%	5.0	100.0%	0.3	100.0%
		2004	1,131.0	39.6%	16,756.5	41.6%	6,368.8	92.2%	3,652.0	87.4%	2,599.6	99.7%	117.2	100.0%	6.5	100.0%
		2005	784.5	27.9%	11,610.6	29.5%	5,463.4	91.7%	2,960.0	85.8%	2,190.6	100.0%	312.8	100.0%	17.4	100.0%
		2006	844.2	28.8%	12,494.2	30.4%	5,179.8	89.6%	3,035.4	83.4%	1,789.1	99.9%	355.3	100.0%	19.7	100.0%
		2007	876.4	29.3%	12,970.1	30.9%	5,694.4	91.1%	3,113.4	84.8%	2,203.5	100.0%	377.5	100.0%	20.4	100.0%
		2008	823.6	28.7%	12,189.4	30.2%	4,570.6	88.9%	2,645.2	82.4%	1,482.7	99.8%	442.7	100.0%	23.4	100.0%
		2009	683.5	27.1%	10,115.8	28.5%	2,368.8	86.8%	1,127.3	75.9%	836.0	99.9%	405.5	100.0%	22.6	100.0%

		2010	731.6	27.2%	10,995.7	28.9%	3,018.7	94.9%	1,806.8	91.8%	730.9	100.0%	481.0	100.0%	25.4	100.0%
		2011	734.7	26.9%	11,042.0	28.6%	3,411.8	95.8%	2,207.6	93.7%	1,056.1	100.0%	148.0	100.0%	6.5	100.0%
		2012	677.9	26.2%	10,188.1	27.8%	3,378.6	90.6%	2,191.9	86.2%	1,041.4	100.0%	145.3	100.0%	6.4	100.0%
		2013	663.0	25.9%	9,964.4	27.6%	3,244.8	87.5%	2,011.5	81.5%	1,097.4	99.5%	135.9	100.0%	5.8	100.0%
		2014	666.5	25.7%	10,017.4	27.4%	3,298.9	89.8%	2,115.0	87.6%	1,093.2	93.4%	90.7	100.0%	3.7	100.0%
		2015	677.0	25.4%	10,174.2	27.1%	3,165.5	87.0%	1,957.9	80.5%	1,114.3	100.0%	93.4	100.0%	3.8	100.0%
Switzerland	Simplon	1999	30.1	2.3%	160.6	1.9%	3,517.9	19.1%	3,336.0	35.0%	181.9	2.4%	0.0	0.0%	0.0	0.0%
		2000	27.0	1.9%	100.0	1.1%	3,790.0	18.4%	3,660.0	34.7%	130.0	1.4%	0.0	0.0%	0.0	0.0%
		2001	67.0	4.9%	391.0	3.8%	4,800.0	23.3%	4,350.0	39.4%	300.0	3.5%	150.0	16.7%	18.8	34.8%
		2002	98.0	7.8%	642.0	6.1%	4,812.0	25.3%	2,868.0	32.5%	1,260.0	13.9%	684.0	58.3%	44.5	64.2%
		2003	72.4	5.6%	501.0	4.3%	5,586.0	28.0%	2,962.0	34.1%	1,484.0	15.3%	1,140.0	73.9%	56.2	73.0%
		2004	67.7	5.4%	644.6	5.2%	6,954.0	30.3%	3,044.4	34.2%	2,556.0	20.9%	1,353.5	74.0%	64.7	72.0%
		2005	73.3	6.1%	756.4	5.9%	8,043.1	34.0%	3,047.8	35.9%	3,560.9	26.8%	1,434.4	76.7%	79.0	77.1%
		2006	82.0	6.9%	874.5	6.8%	8,985.3	35.7%	3,298.0	38.8%	4,198.3	28.4%	1,489.0	79.3%	80.9	79.2%
		2007	82.1	6.5%	888.4	6.3%	9,666.6	38.3%	3,259.4	39.4%	4,921.3	32.5%	1,485.9	80.1%	80.3	79.4%
		2008	81.9	6.4%	906.7	6.3%	9,881.8	39.0%	3,259.4	37.1%	5,115.9	34.6%	1,506.6	83.7%	85.2	83.8%
		2009	68.5	5.8%	750.8	5.6%	9,234.3	44.3%	2,581.9	40.4%	5,064.6	39.9%	1,587.8	90.5%	92.5	90.2%
		2010	77.9	6.3%	826.2	5.8%	9,613.8	40.0%	2,649.4	35.8%	5,365.0	36.1%	1,599.3	89.4%	91.5	89.1%
		2011	78.9	6.5%	947.9	6.6%	11,268.4	44.0%	2,862.7	36.4%	6,786.7	42.5%	1,619.0	89.9%	93.5	89.7%
		2012	83.7	7.3%	1,005.6	7.4%	9,841.1	41.5%	2,546.2	37.2%	5,848.9	38.3%	1,446.1	90.6%	86.2	90.0%
		2013	78.2	7.5%	964.0	7.5%	10,130.1	40.2%	2,308.2	33.2%	6,096.1	37.3%	1,725.9	91.3%	98.6	90.8%
		2014	77.3	7.5%	936.0	7.5%	10,467.8	40.2%	1,847.9	25.1%	6,911.3	41.1%	1,708.7	90.5%	98.6	90.8%
		2015	83.0	8.2%	995.1	8.3%	11,688.2	43.4%	2,278.5	28.8%	7,677.9	44.8%	1,731.9	91.8%	100.3	90.9%
	Gotthard	1999	1,101.2	83.6%	7,011.7	83.7%	14,868.4	80.9%	6,189.4	65.0%	7,552.0	97.6%	1,126.9	100.0%	51.7	100.0%
		2000	1,187.0	84.5%	7,600.0	85.4%	16,830.0	81.6%	6,890.0	65.3%	8,910.0	98.6%	1,030.0	100.0%	53.6	100.0%
		2001	966.0	70.5%	7,397.7	71.2%	15,820.0	76.7%	6,700.0	60.6%	8,370.0	96.5%	750.0	83.3%	35.3	65.2%
		2002	858.0	68.7%	7,474.0	70.7%	14,242.0	74.7%	5,965.0	67.5%	7,788.0	86.1%	489.0	41.7%	24.8	35.8%
		2003	1,004.0	77.7%	9,185.0	79.4%	14,338.0	72.0%	5,727.0	65.9%	8,208.0	84.7%	403.0	26.1%	20.9	27.1%
		2004	967.9	77.0%	9,726.3	77.9%	16,001.5	69.7%	5,846.2	65.8%	9,680.5	79.1%	474.8	26.0%	25.2	28.0%
		2005	924.9	76.8%	9,947.1	77.5%	15,595.9	66.0%	5,431.5	64.1%	9,729.6	73.2%	434.8	23.3%	23.5	22.9%
		2006	855.6	72.5%	9,321.9	72.9%	16,200.7	64.3%	5,205.4	61.2%	10,606.0	71.6%	389.4	20.7%	21.3	20.8%
		2007	963.4	76.3%	10,753.9	76.6%	15,585.4	61.7%	5,004.8	60.6%	10,210.7	67.5%	370.0	19.9%	20.7	20.5%
		2008	972.7	76.3%	10,989.8	76.4%	15,484.7	61.0%	5,536.6	62.9%	9,655.1	65.4%	293.0	16.3%	16.5	16.2%
		2009	900.2	76.3%	10,212.2	76.4%	11,601.1	55.7%	3,806.3	59.6%	7,628.3	60.1%	166.5	9.5%	10.0	9.8%
		2010	928.4	75.1%	10,791.2	75.4%	14,440.5	60.0%	4,742.0	64.2%	9,507.9	63.9%	190.5	10.6%	11.2	10.9%
		2011	898.0	73.6%	10,592.8	73.5%	14,358.5	56.0%	4,999.8	63.6%	9,176.7	57.5%	182.0	10.1%	10.7	10.3%
		2012	843.4	73.3%	9,983.3	73.3%	13,871.6	58.5%	4,305.2	62.8%	9,415.6	61.7%	150.8	9.4%	9.5	9.9%
		2013	766.4	73.1%	9,336.4	73.0%	15,044.5	59.8%	4,643.4	66.8%	10,236.6	62.7%	164.5	8.7%	10.0	9.2%
		2014	758.3	73.4%	9,144.4	73.5%	15,601.6	59.8%	5,527.7	74.9%	9,894.7	58.9%	179.3	9.5%	10.0	9.2%
		2015	729.6	72.3%	8,690.7	72.3%	15,250.6	56.6%	5,622.0	71.2%	9,474.9	55.2%	153.7	8.2%	10.0	9.1%
	Gr. St. Bernard	1999	48.2	3.7%	411.4	4.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2000	52.0	3.7%	400.0	4.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2001	61.0	4.4%	556.7	5.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2002	88.0	7.0%	823.0	7.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2003	72.4	5.6%	684.0	5.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2004	65.5	5.2%	649.1	5.2%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2005	55.9	4.6%	593.7	4.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2006	57.7	4.9%	625.5	4.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2007	55.1	4.4%	617.9	4.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2008	56.8	4.5%	664.4	4.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2009	45.6	3.9%	538.1	4.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2010	47.8	3.9%	572.2	4.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%

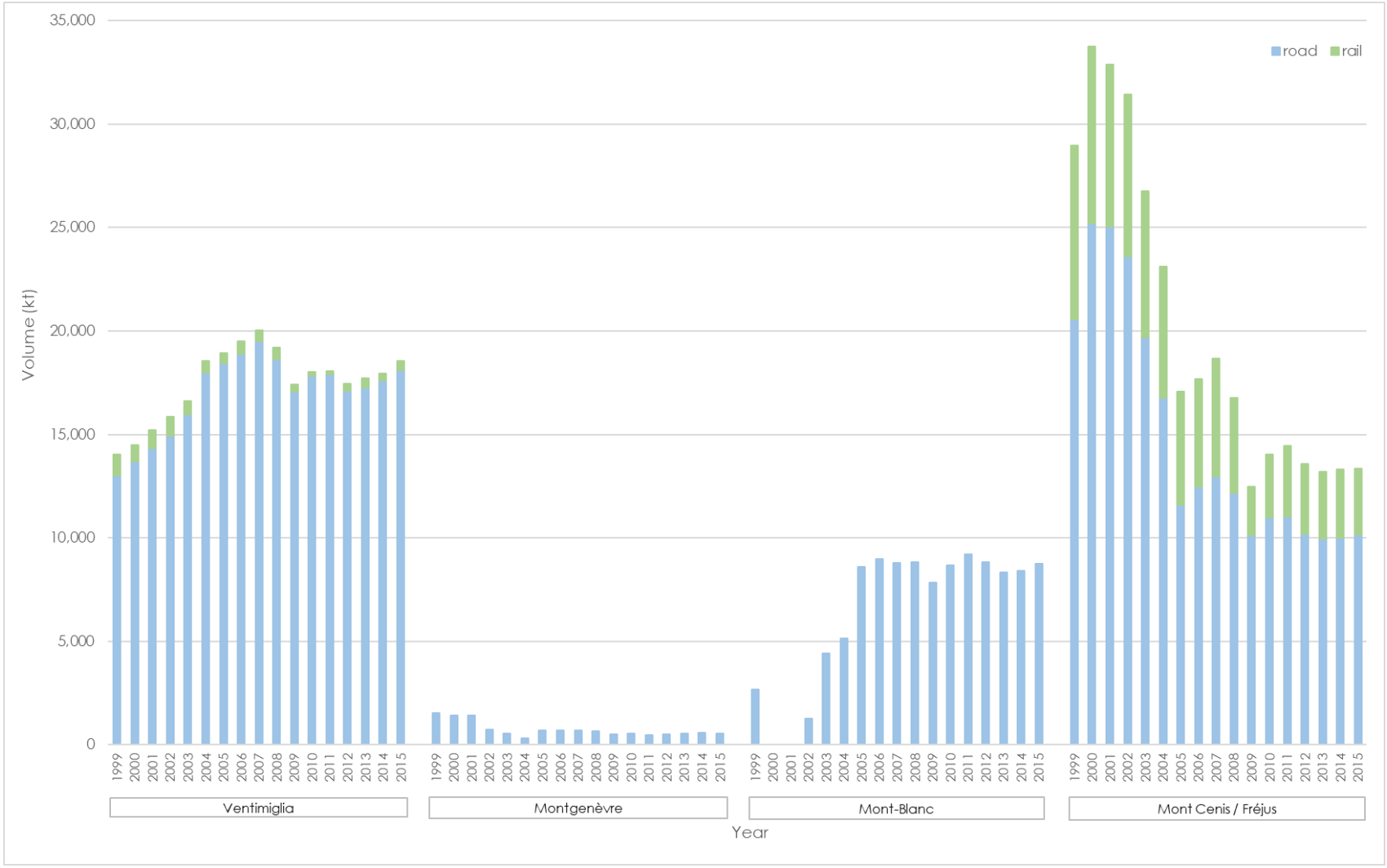
		2011	57.5	4.7%	693.9	4.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2012	54.4	4.7%	646.9	4.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2013	47.9	4.6%	588.5	4.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2014	45.5	4.4%	549.2	4.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2015	39.6	3.9%	466.8	3.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
	San Bernardino	1999	138.2	10.5%	789.4	9.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2000	138.0	9.8%	800.0	9.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2001	277.0	20.2%	2,046.0	19.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2002	205.0	16.4%	1,637.0	15.5%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2003	143.0	11.1%	1,203.0	10.4%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2004	155.0	12.3%	1,472.7	11.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2005	149.9	12.5%	1,532.1	11.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2006	185.1	15.7%	1,959.4	15.3%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2007	161.9	12.8%	1,778.0	12.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2008	163.4	12.8%	1,828.4	12.7%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2009	165.7	14.0%	1,863.2	13.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2010	182.1	14.7%	2,116.0	14.8%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2011	185.1	15.2%	2,182.4	15.1%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2012	169.3	14.7%	1,983.5	14.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2013	156.3	14.9%	1,899.5	14.9%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2014	151.5	14.7%	1,817.0	14.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%
		2015	157.4	15.6%	1,870.5	15.6%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%	0.0	0.0%

Appendix 6: Evolution of transalpine road and rail freight transport, years 1999-2015

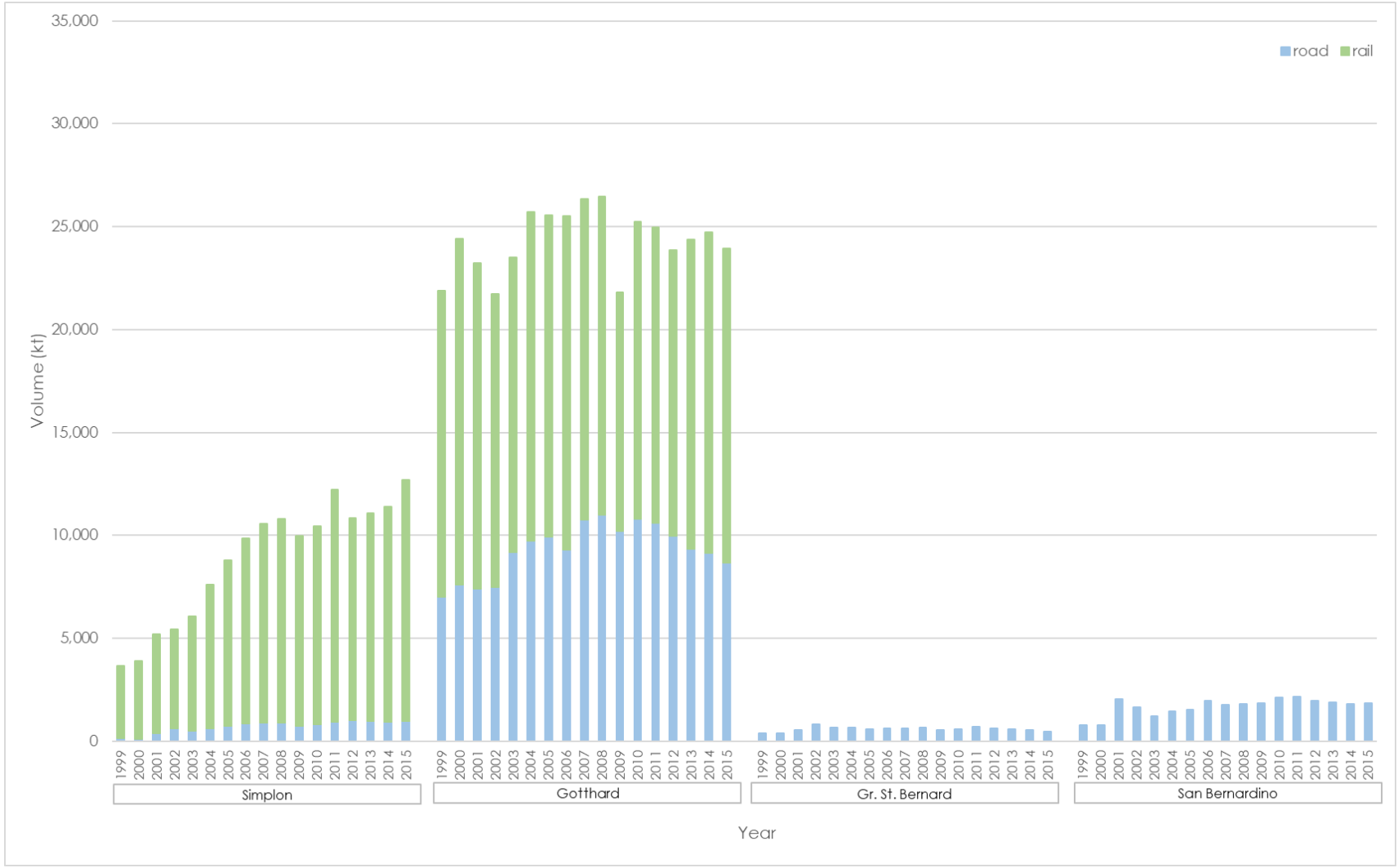
Austrian modal split (road+rail)



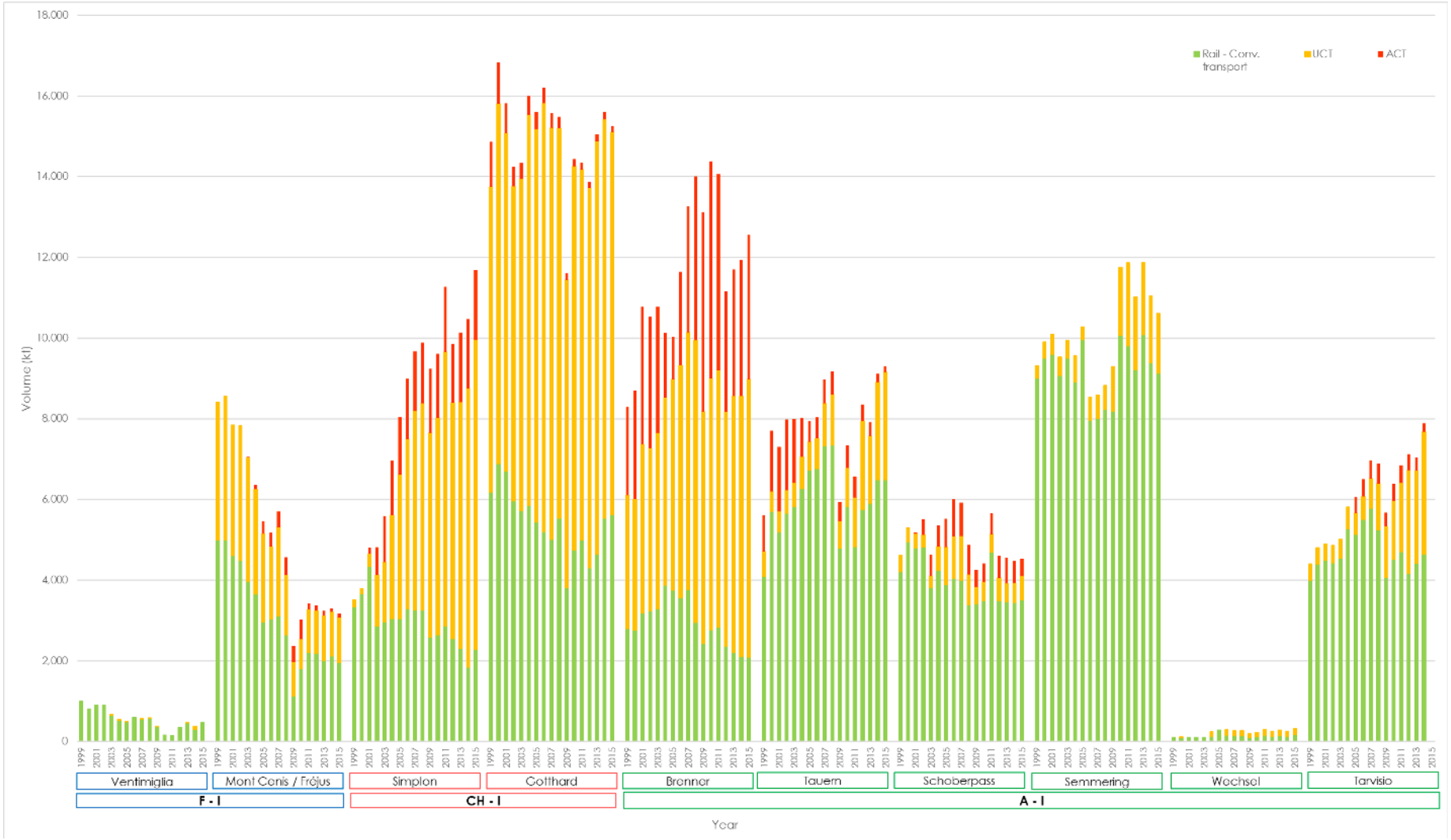
French modal split (road+rail)



Swiss modal split (road+rail)



Crossing Points - rail modal split



Appendix 7: Intermodal terminals - Transport demand

Country	Name	CT Volume			Source
		Years	TEU	Diff. year on year (%)	
DE	Aschaffenburg	2012	6,500		PP02 BHG
		2013	7,500	15.4%	
		2014	18,300	144.0%	
		2015	22,500	23.0%	
		2016	26,600	18.2%	
	Bamberg	2012	18,300		
		2013	17,300	-5.5%	
		2014	19,500	12.7%	
		2015	20,800	6.7%	
		2016	24,400	17.3%	
	Kelheim Hafen	2012	1,829		PP01 OBB
		2013	1,797	-1.7%	
	München CDM	2013	110,000		
	Nürnberg	2012	295,200		PP02 BHG
		2013	248,500	-15.8%	
		2014	257,400	3.6%	
		2015	253,800	-1.4%	
		2016	261,500	3.0%	
	Regensburg Hafen	2012	83,200		
		2013	104,300	25.4%	
		2014	102,800	-1.4%	
		2015	126,100	22.7%	
		2016	130,200	3.3%	
	Regensburg Ost	2014	150,000		PP01 OBB
	Schweinfurt	2012	15,000		
IT	Trieste Marine Terminal (TS)	2012	408,023		PP08 PTA
		2013	458,597	12.4%	
		2014	506,019	10.3%	
		2015	501,276	-0.9%	
		2016	486,499	-2.9%	
	Verona Quadrante Europa (VR)	2012	667,578		PP10 ZAI
		2013	637,372	-4.5%	
		2014	700,599	9.9%	
		2015	713,778	1.9%	
		2016	719,964	0.9%	
SL	Celje	2012	10,939		PP14 ITTL
		2013	12,429	13.6%	
		2014	14,280	14.9%	
		2015	13,370	-6.4%	
		2016	12,065	-9.8%	
	Koper Luka KT	2012	570,744		
		2013	600,441	5.2%	
		2014	674,033	12.3%	
		2015	790,736	17.3%	
		2016	844,776	6.8%	
	Ljubljana KT	2012	77,946		
		2013	69,817	-10.4%	
		2014	79,679	14.1%	
		2015	74,851	-6.1%	
		2016	75,129	0.4%	
	Maribor Tezno KT	2012	22,013		
		2013	20,053	-8.9%	
		2014	21,664	8.0%	
		2015	18,893	-12.8%	
		2016	16,125	-14.7%	

Appendix 8: CT Policies

Political level	Document title	Document type	Geographical level	Beneficiaries / Stakeholders affected	Short summary
Europe	**Amendment of the Combined Transport Directive** **Status: ongoing**	Directive	EU	Public authorities, CT service providers, CT users	The Combined Transport Directive (92/106/EEC) is an EU instrument that aims to reduce the negative side-effects of goods transport on environment (such as CO_2 and other emissions) and on society (such as congestion, accidents, noise) by supporting the shift from long distance road transport to long distance rail, inland waterways and maritime transport. A recent REFIT evaluation of the Directive concluded that the Directive continues to be relevant for achieving EU transport policy's objective as regards the reduction of these negative externalities; however, the effectiveness and the efficiency of the Directive could be further improved. Consequently, a revision of the Combined Transport Directive was introduced to the 2017 Commission work programme under REFIT in order to increase regulatory efficiency and reduce costs and burdens. The Commission has thus launched an impact assessment on the amendment of the Combined Transport Directive and has approved a consultation strategy under which it is carrying out several consultation exercises. A public consultation was already carried out in 2014. The current consultation, build on its results, is addressing the issues that were not addressed in 2014, mostly regarding the available policy options and their impacts.
	Communication from the Commission Community guidelines on State aid for railway undertakings (2008/C 184/07)	Guidelines	EU	Infrastructure managers, CT service providers, Public authorities	The guidelines underline that the rail transport has great potential for contributing to the development of sustainable transport in Europe. The Community is conducting a three-pronged policy to revitalise the rail industry by: (a) gradually introducing conditions fostering competition on the rail transport services markets; (b) encouraging standardisation and technical harmonisation on the European rail networks, aiming at full interoperability; (c) granting financial support at Community level (in the TEN-T programme and the Structural Funds framework). The guidelines describe the importance of: - public financing of railway undertakings by means of railway infrastructure funding - aid for the purchase and renewal of rolling stock - debt cancellation - aid for restructuring railway undertakings - restructuring a "freight" division. For this goal the Commission considers that for the European rail freight sector it is necessary to envisage that aid granted to a railway undertaking, thus allowing it to overcome difficulties in the freight operations. - aid for coordination of transport. As regards the railway industry more specifically, aid for the needs of transport coordination can take several forms: (a) aid for infrastructure use, that is to say, aid granted to railway undertakings which have to pay charges for the infrastructure they use, while other undertakings providing transport services based on other modes of transport do not have to pay such charges; (b) aid for reducing external costs, designed to encourage a modal shift to rail because it generates lower external costs than other modes such as road transport; (c) aid for promoting interoperability, and, to the extent to which it meets the needs of transport coordination, aid for promoting greater safety, the removal of technical barriers and the reduction of noise pollution in the rail transport sector (interoperability aid); (d) aid for research and development in response to the needs of transport coordination.
	Council Directive 91/440/EEC of 29 July 1991 on the development of the Community's railways	Directive	EU	Infrastructure managers, CT service providers, Public authorities, CT users	The Directive aims to facilitate the adoption of the Community railways to the needs of the Single Market and to increase their efficiency by: "ensuring the management independance of railway undertakings; separating the management of railway operation and infrastructure from the provision of railway transport services, separation of accounts being compulsory and organizational or institutional separation being optional; improving the financial structure of undertakings; ensuring access to the networks of Member states for international groupings of railway undertakings and for railway undertakings engaged in the international combined transport of goods." The Article 2 sets out: "1. This Directive shall apply to the management of railway infrastructure and to rail transport activities of the railway undertakings established or to be established in a Member State. 2. Member States may exclude from the scope of this Directive railway undertakings whose activity is limited to the provision of solely urban, suburban or regional services." The Article 10 specifies that: "1. International groupings shall be granted access and transit rights in the Member States of establishment of their constituent railway undertakings, as well as transit rights in other Member States, for international services between the Member States where the undertakings constituting the said groupings are established. 2. Railway undertakings within the scope of Article 2 shall be granted acces on equitable conditions to the infrastructure in the other Member States for the purpose of operating international combined transport goods services. 3. Railway undertakinks engaged in international combined transport of goods and international groupings shall conclude the necessary administrative, technical and financial agreements with the managers of the railway infrastructure used with a view to regulating traffic control and safety issues concerning the international transport services referred to in paragraphs 1 and 2. The conditions governing such agreements shall be non-discriminatory."
	Council Directive 92/106/EEC of 7 December 1992 on the establishment of common rules for certain types of combined transport of goods between Member States	Directive	EU	Public authorities, CT service providers, CT users	This Directive applies to intermodal transport operations. Intermodal or combined transport means the transport of goods between Member States where the vehicle uses the road on the initial or final leg of the journey and, on the other leg, rail or inland waterway or maritime services where this section exceeds 100 km as the crow flies and makes the initial or final road transport leg of the journey: between the point where the goods are loaded and the nearest suitable rail loading station for the initial leg and between the nearest suitable rail unloading stations and the point where the goods are unloaded for the final leg, or within a radius not exceeding 150 km as the crow flies from the inland waterway port or seaport of loading or unloading. The transport document to be provided in the case of combined or intermodal transport must specify the rail loading and unloading stations relating to the rail leg, the inland waterway loading and unloading ports relating to the inland waterway leg or the maritime loading and unloading ports relating to the maritime section of the journey. All hauliers established in a Member State who meet the conditions of access to the occupation and access to the market for transport of goods between Member States may, in the context of a combined transport operation between Member States, carry out initial and/or final road haulage legs which form an integral part of the combined transport operation and which may or may not include the crossing of a frontier. The Commission must draw up a report to the Council every two years on the development of combined transport. Member States take the necessary measures to ensure that the motor vehicle taxes applicable to road vehicles routed in combined transport are reduced or reimbursed. In this context, an exemption from compulsory tariff regulations for initial or final road haulage legs forming part of combined transport operations is planned. The Directive also provides for provisions specific to combined transport operations where the dispatching/receiving undertaking carries out the initial/final road haulage leg for its own account. The receiving/dispatching undertaking may then also carry out the transport operation for its own account under certain conditions.
	DIRECTIVE 2011/76/EU OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL of 27 September 2011 (amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures)	Directive	EU	Public authorities, CT users	The Directive aims to move towards a sustainable transport policy where transport prices should better reflect the costs related to traffic-based air and noise pollution, climate change, and congestion caused by the actual use of all modes of transport, as a means of optimising the use of infrastructure, reducing local pollution, managing congestion and combating climate change at the least cost for the economy. A precondition for establishing fair competition between modes is the elaboration and introduction of fair and efficient pricing schemes. This means that prices have to consider the use of resources and should also reflect all external costs. The amendment of Directive allows the internalization of external air and noise pollution costs of road transport for the first time. (Reference: Database UN-ECE, Austria and Slovenia, 3.1).

	Directive 2012/34/EU of the European Parliament and of the Council of 21 November 2012 establishing a single European railway area	Directive	EU	Public authorities, Infrastructure managers, CT service providers	The Directive develops the following points: • Infrastructure managers are required to grant non-discriminatory access to railway undertakings (and other possible applicants listed in the Directive) operating on the European railway network. • The principle of open access applies to the use of railway infrastructure for domestic and international rail services. • Member states may exclude specific network and services from the mandated track access regime, such as local and regional stand-alone networks, networks intended for the operation of urban or suburban passenger rail services only, or infrastructure whose track gauge is different from the main rail network within the EU. • The core provisions of the Directive set out the requirements and procedures for the allocation of railway infrastructure capacity and methods for the calculation and collection of infrastructure charges The Directive contains also some basic principles to the functioning of terminals. More information about these implications will be known when the Commission Implementing Act on Access to Essential Service Facilities is adopted (not expected before the end of 2017). The European Commission Implementing Act on Access to Service Facilities – under Directive 2012/34 – has been emerging over the course of 2016. This act will help MSs to interpret the basic provisions contained in the Directive, and could ultimately foster the regulatory harmonisation.
	EUSALP (EU strategy for the alpine region)	Strategy	EU (Alpine Space)	Public authorities, Infrastructure managers, CT service providers, CT users, Other	An Alpine macro-regional strategy would provide an opportunity to improve cross-border cooperation in the Alpine States as well as identifying common goals and implementing them more effectively through transnational collaboration. Better cooperation between the regions and States is needed to tackle these challenges. The European Council Presidency Conclusions of 19-20 December 2013 include at paragraph 50: "(…/…) the European Council invites the Commission, in cooperation with Member States, to elaborate an EU Strategy for the Alpine Region by June 2015". This Strategy concerns 7 Countries, of which 5 EU Member States (Austria, France, Germany, Italy and Slovenia) and 2 non-EU countries (Liechtenstein and Switzerland), and 48 Regions. The Strategy will be built upon three general action-oriented thematic policy area and one cross-cutting policy area. One of them (objective 2) is dealing with mobility and connectivity (Connectivity for all: in search of a balanced territorial development through environmentally friendly mobility patterns, transports systems and communication services and infrastructures). Under this objective there is a special action group led by the Land of Tyrol and dealing with intermodality (Action Group 4: To promote inter-modality and interoperability in passenger and freight transport).
	Proposal for a DIRECTIVE OF THE EUROPEAN PARLIAMENT AND OF THE COUNCIL, amending Directive 1999/62/EC on the charging of heavy goods vehicles for the use of certain infrastructures	Directive	EU	Public authorities, CT users	The objective of the initiative (regarding the Review of Directive 1999/62/EC) is to make progress in the application of the 'polluter pays' and 'user pays' principles, thereby promoting financially and environmentally sustainable and socially equitable road transport. This initiative contributes to the Regulatory Fitness Programme (REFIT), since it is intended to bring about an update to and simplification of certain provisions of the Directive. The proposal aims at addressing the shortcomings of existing legislation, i.e. at a better fulfilment of the legislation's objectives. The terms proposed would simplify certain provisions of the Directive, by removing the variation of tolls based on Euro emission class, whose benefits are now quickly diminishing, and by eliminating cumbersome notification requirements, in particular related to external cost charging. In addition, it is proposed to include buses, passenger cars and vans in the scope of the Directive, thereby ensuring more consistent pricing of infrastructure use across the road transport sector. Given the issue of CO_2 emissions, it is also proposed that road charges reflect such emissions. In depth, the article 7(4) sets out: "Tolls and user charges shall not discriminate, directly or indirectly, on the grounds of the nationality of the road user, the Member State or the third country of establishment of the transport operator or of registration of the vehicle, or the origin or destination of the transport operation".
	Regulation (EU) No 913/2010 of the European Parliament and of the Council of 22 September 2010 concerning a European rail network for competitive freight	Regulation	EU	Public authorities, Infrastructure managers, CT service providers, CT users	This Regulation lays down rules for the establishment and organisation of international rail corridors for competitive rail freight with a view to the development of a European rail network for competitive freight. It sets out rules for the selection, organisation, management and the indicative investment planning of freight corridors. This Regulation shall apply to the management and use of railway infrastructure included in freight corridors. So far nine Rail Freight Corridors (RFCs) along European transport axes have been established. The Regulation mentions transhipment terminals requiring so-called Corridor Terminals to align their slots with pre-arranged train paths. Also, Corridors are required to publish information on Terminals along their lines.
	WHITE PAPER Roadmap to a Single European Transport Area – Towards a competitive and resource efficient transport system, Bruxelles, 28.03.2011	Roadmap	EU	Public authorities	The White Paper describes the importance of a vision for a competitive and sustainable transport system while reaching the 60% emission reduction target. The Document explains that new transport patterns must emerge, according to which larger volumes of freight should be transported by the most efficient (combination of) modes. Future development must rely on a number of strands: – Improving the energy efficiency performance of vehicles across all modes. Developing and deploying sustainable fuels and propulsion systems; – Optimising the performance of multimodal logistic chains, including by making greater use of inherently more resource-efficient modes, where other technological innovations may be insufficient (e.g. long distance freight); – Using transport and infrastructure more efficiently through use of improved traffic management and information systems (e.g. ITS, SESAR, ERTMS, SafeSeaNet, RIS), advanced logistic and market measures such as full development of an integrated European railway market, removal of restrictions on cabotage, abolition of barriers to short sea shipping, undistorted pricing etc. The White Paper explains various actions and measures to achieve: 1) an efficient core network for multimodal intercity travel and transport. Freight shipments over short and medium distances (below some 300 km) will to a considerable extent remain on trucks. It is therefore important, besides encouraging alternative transport solutions (rail, waterborne transport), to improve truck efficiency, via the development and the uptake of new engines and cleaner fuels, the use of intelligent transport systems and further measures to enhance market mechanisms. In longer distances, options for road decarbonisation are more limited, and freight multimodality has to become economically attractive for shippers. Efficient co-modality is needed. The EU needs specially developed freight corridors optimised in terms of energy use and emissions, minimising environmental impacts, but also attractive for their reliability, limited congestion and low operating and administrative costs. The challenge is to ensure structural change to enable rail to compete effectively and take a significantly greater proportion of medium and long distance freight. Considerable investment will be needed to expand or to upgrade the capacity of the rail network. New rolling stock with silent brakes and automatic couplings should gradually be introduced. 2) A global level-playing field for long-distance travel and intercontinental freight. The White Paper aims to optimize the performance of multimodal logistic chains, including by making greater use of more energy-efficient modes: - 30% of road freight over 300 km should shift to other modes such as rail or waterborne transport by 2030, and more than 50% by 2050, facilitated by efficient and green freight corridors. To meet this goal will also require appropriate infrastructure to be developed. - By 2050, complete a European high-speed rail network. Triple the length of the existing high-speed rail network by 2030 and maintain a dense railway network in all Member States. By 2050 the majority of medium-distance passenger transport should go by rail. - A fully functional and EU-wide multimodal TEN-T 'core network' by 2030, with a high quality and capacity network by 2050 and a corresponding set of information services. - By 2050, connect all core network airports to the rail network, preferably high-speed; ensure that all core seaports are sufficiently connected to the rail freight and, where possible, inland waterway system.
Austria	**Austrian government program (Regierungsprogramm) (2013-2018)**	Strategy	National	Public authorities	The shift of goods transport from road to rail is part of the currently valid "Regierungsprogramm" (government program) (2013-2018).
	Austrian Masterplan for Transport (Gesamtverkehrsplan) of the Austrian Federal Ministry for Transport, Innovation and Technology	Strategy	National	Public authorities	The Masterplan for transport contains goals, guidelines and implementation strategies concerning the Austrian transport policy until 2025. It follows the general principle to make mobility for people as free and convenient as possible and to prevent negative effects of transport. Concerning rail transport, it stipulates the goal to increase the modal split part up to 40%.

	Austrian regulation regarding the liberalisation for transnational combined transport of licences, Österreichische Kombifreistellungsverordnung (legal basis: BGBl. II Nr.399/1997 (Verordnung des Bundesministers für Wissenschaft und Verkehr über die Befreiung des grenzüberschreitenden Kombinierten Verkehrs von Bewilligungen)	Law/regulation	National	CT users	According to the regulation (1997) regarding the liberalisation for transnational CT of licences, the initial and final road leg in transnational combined transport is liberalised for motor vehicles registered within the European Union or the European Economic Area and holding a Community licence, taking into account the relevant legal provisions of the European Union.
	"Brenner Memorandum 2015"and the decision Nr. 17/2014 of the parliament of South Tyrol, Tyrol and Trento concerning "border crossing common strategy for the shift of goods transport on the Brenner axis from road to rail, supported by concrete measures"	Strategy	Regional (Alpine region Brenner)	Public authorities	At the regional level, the same goal expressed by the national documents is part of the "Brenner Memorandum 2015" and the decision Nr. 17/2014 of the parliament of South Tyrol, Tyrol and Trento concerning "border crossing common strategy for the shift of goods transport on the Brenner axis from road to rail, supported by concrete measures".
	Federal Law of 23 June 1967 on the transport of goods (Bundesgesetz vom 23. Juni 1967 über das Kraftfahrwesen, last update: BGBl. I Nr. 40/2017)	Law/regulation	National	Public authorities	The Law defines the meaning of Combined Transport.
	Regional concepts „Salzburger Landesmobilitätskonzept 2006-2015", „Kärntner Mobilitätsmasterplan 2035" and „Vorarlberger Verkehrskonzept 2006-Mobil im Ländle""	Strategy	Other (Salzburg)	Public authorities	The 3 regional concepts „Salzburger Landesmobilitätskonzept 2006-2015" (see page number 22), „Kärntner Mobilitätsmasterplan 2035" and „Vorarlberger Verkehrskonzept 2006-Mobil im Ländle"" (see page number 154) support the shift of goods transport from road to rail.
France	**Order of 25 September 1991 on the execution of the combined transport of goods between the Member States of the European Economic Community** **(Last Amendment 5 May 2010)** **Arrêté du 25 septembre 1991 relatif à l'exécution des transports combinés de marchandises entre les Etats membres de la Communauté économique européenne** **(Dernière modification : 5 mai 2010)** **as amended by:** **- l'arrêté du 22 avril 2010 relatif aux documents de transport routier de marchandises et au transport combine de marchandises (published: Journal officiel de la République Française, 4 May 2010)** **- l'arrêté du 21 février 1995 modifiant l'arrêté du 25 septembre 1991 relatif à l'exécution des transports combinés de marchandises entre les Etats membres de la Communauté économique européenne (published: Journal officiel de la République Française, 7 March 1995, p. 3571-3572)**	Law/regulation	National	Public authorities, CT service providers, CT users	The regulation applies to combined transport operations as defined by Council Directive 92/106/EEC of 7 December 1992 on the establishment of common rules for certain types of combined transport of goods between Member States. In particular, the regulation defines: - the meaning of "Combined Transport" (art. 1); - the transport document to be produced by the road haulier in the case of transport for hire or reward (art.2); - the purpose of Article 4 of the Council Directive of 7 December 1992: "all hauliers established in a Member State of the agreement on a European Economic Area who meet the conditions of access to the occupation and access to the market for transport of goods between Member States of this agreement have the right to carry out initial and/or final road haulage legs, which form an integral part of a combined transport operation between Member States of this agreement and which may or may not include the crossing of a frontier" (art.4); - the purpose of the provisions of Article 8 of Regulation (EC) No 1072/2009 of the European Parliament and of the Council of 21 October 2009 on common rules for access to the international road haulage market shall not be applied to cabotage operations by road, which form an integral part of combined transport operations as defined by Article 1 of this regulation (art.4); - other dispositions about initial road haulage leg in a combined transport operation between Member States of the agreement on a European Economic Area (art. 5).
Germany	**Directive on international (border-crossing) transport of goods and cabotage traffic (Verordnung über den grenzüberschreitenden Güterkraftverkehr und den Kabotageverkehr) of 28 Dec 2011, Federal Journal, Part I, N° 2 of 4 Jan 2012**	Directive	National	Public authorities, CT service providers, CT users	The Directive defines: - the international combined transport for hire and reward; - the measures about initial and final road haulage legs by hauliers established in Member States of the European Economic Area; - the measures about initial and final road haulage legs by hauliers not established in Member States of the European Economic Area.
	Federal masterplan of transport infrastructure (Bundesverkehrswegeplan 2030 - BVWP 2030)	Plan	National	Infrastructure managers, CT service providers, CT users, Public authorities	The current German federal master plan of transport infrastructure contains the required planning of national wide construction and extension of infrastructure for all transport modes for the year 2030. This contains also important rail infrastructure and terminal projects that influence the international alpine crossing CT.
	Fourth Act amending the Federal Trunk Road Act (BFStrMG) of 27 March 2017 (entered into force on 31 March 2017)	Law/regulation	National	Public authorities, Infrastructure managers, CT service providers, CT users	The truck toll applies on German motorways, including service areas, and selected federal highways. Vehicles subject to toll are defined as all domestic and foreign motor vehicles or vehicle combinations with a gross vehicle weight of 7.5 tonnes or above, which • are intended for transportation of goods (1st alternative), or • are being used for this purpose (2nd alternative). The Fourth Act amending the Federal Trunk Road Act (BFStrMG) of 27 March 2017 entered into force on 31 March 2017. With this Act, on 1 July 2018 the tolled road network will be extended to include all ca. 40.000 km of federal highways.
	Framework for Combined Transport in Germany for 2025 **(Erstellung eines Entwicklungskonzeptes KV 2025 in Deutschland als Entscheidungshilfe für die Bewilligungsbehörden)**	Strategy	National	Public authorities, Infrastructure managers, CT service providers, CT users	In 2012 the Federal Ministry of Transport and Digital Infrastructure developed a concept and framework for Combined Transport in Germany for 2025. The objective of the concept is to assist the approval authorities as a decision-making aid taking into account the networking function of the transhipment facilities
	Subsidy guideline to support CT and the strengthening of the intermodal transport system - 04.01.17 **(Richtlinie zur Förderung von Umschlaganlagen des Kombinierten Verkehrs nicht bundeseigener Unternehmen, vom 04.01.2017)**	Guidelines	National	Infrastructure managers	The subsidy guideline provides financial support for the construction and extension of private transhipment facilities for CT. The amount of subsidy grants is up to 80% of the eligible investment. The promotion of these private transhipment facilities is technologically oriented and can be carried out for vertical as well as horizontal transhipment technologies. The funding conditions include the fact that the facility has to be open to all users without any discrimination.

Italy	**Attachment:"Strategies for the transport and logistics infrastructures" to Economics and Finance Document -2016 (Allegato "Strategie per le infrastrutture di trasporto e logistica" al Documento di Economia e Finanza (DEF) 2016)**	Strategy	National	Public authorities, Infrastructure managers, CT service providers, CT users	This document describes the New Infrastructure Planning Process, which has to define a brief description about the unitary national infrastructure system and its sharing as much as possible. National infrastructural requirements are then identified, as well as the priorities according to the utility and feasibility of each activity and the availability of resources.
	Autonomous Province of Bolzano Alto Adige, Resolution n. 2830 in 27.08.2001 Acceptance of the implementation critieria of the articles 7 and 8 of the Provincial Law 14 December 1974, n.37 redefined by the Provincial Law 11 August 1998, n.8, related to the combined transport subsidies (Provincia Autonoma di Bolzano Alto Adige, Delibera N. 2830 del 27.08.2001: Approvazione dei criteri in attuazione dell'articolo 9 della legge provinciale 14 dicembre 1974, n. 37 così come modificata dalla legge provinciale 11 agosto 1998, n. 8, per la concessione di contributi a favore del trasporto combinato)	Law/regulation	Autonomous Province of Bolzano/Bozen	Infrastructure managers, CT service providers	The Autonomous Province of Bolzano/Bozen grants aid to duly logistical companies registered in one fo the Member States of the European Union, which organize combined transport on a railway line with departure or arrival at a rail terminal or an intermodal center located in the provincial territory. Concretely, no aids have been financed. (For details see Appendix 9)
	Autonomous Province of Bolzano, Resolution n. 655 of 13 June 2017, related to the combined transport aids (Provincia Autonoma di Bolzano - Alto Adige, Delibera della Giunta Provinciale del 13 giugno 2017, n. 655 Criteri per l'incentivazione del trasporto combinato)	Law/regulation	Autonomous Province of Bolzano/Bozen	Infrastructure managers, CT service providers	The Autonomous Province of Bolzano/Bozen grants aids to the companies located in the EU: OTM; railway companies that do freight services on rail in the provincial territory. The aids are pointed to the development of provincial CT. They are related to the rail freight services and to the building, the management, the adjustment or the extension of railway infrastructures and / or of intermodal terminals.
	General Transport and Logistics Plan (Piano generale dei Trasporti e della Logistica)	Strategy	National	Public authorities, Infrastructure managers, CT service providers, CT users	This document describes the General Plan of Transport and Logistics, conceived as the tool to change transport and logistics policies and to give the strategic guidelines necessary to face the increasing competitiveness of the sector.
	Legislative Decree 4 March 2014, n.43. Implementation of the Directive 2011/76/UE. (DECRETO LEGISLATIVO 4 marzo 2014, n. 43 Attuazione della direttiva 2011/76/UE, che modifica la direttiva 1999/62/CE relativa alla tassazione a carico di autoveicoli pesanti adibiti al trasporto di merci su strada per l'uso di alcune infrastrutture. (GU Serie Generale n.69 del 24-03-2014))	Law/regulation	National	Public authorities, CT users	The Decree contains regulations on tolls and user charges on HGVs used for the carriage of goods by road for the use of certain infrastructures. The payment includes infrastructure charge, or a burden on external costs, or both.
	Ministerial Decree 15 February 2001 Adoption of the Community Directive n. 92/106/CEE 7 December 1992, related to the issue of common rules for combined freight transport among Member States (Decreto Ministeriale 15 febbraio 2001 Recepimento della direttiva comunitaria n. 92/106/CEE del 7 dicembre 1992, relativa alla fissazione di norme comuni per taluni trasporti combinati di merci fra Stati membri. (GU Serie Generale n.65 del 19-03-2001))	Law/regulation	National	Public authorities, CT service providers, CT users	The Ministerial Decree applies to combined transport operations as defined by Council Directive 92/106/EEC of 7 December 1992 on the establishment of common rules for certain types of combined transport of goods bertween Member States. In particular the Ministerial Decree defines: - the meaning of "Combined Transport" (art. 1); - the administrative regime (art.2); - the transport document to produce by the road haulier in the case of transport for hire or reward (art.3); - the dispositions about initial and final legs for all hauliers, in a combined transport operation between Member States of the agreement on a European Economic Area (art.4); - the measures in favor of combined transport (art. 5); - the tariffs, in other words the price of transport services related to the initial or final road haulage legs (art. 6); - the dispositions about own-account combined transport (art. 7).
	Ministry of Infrastructure and Transport - Ministerial Decree 14 October 2010, n.750 "Incentives in favor of combined and trans-ship rail transport" (MINISTERO INFRASTRUTUTRE E TRASPORTI Decreto Ministeriale 14 ottobre 2010, n. 750" Incentivi a favore del trasporto combinato e trasbordato su ferro")	Law/regulation	National	CT service providers, CT users	National Law for the improvement of CT services. It allocates financial resources for the services and states the criteria for the access to the financial aids.
	Ministry of Infrastructure and Transport - Ministerial Decree 14 July 2017, n.125 "Regarding the granting of financial aid to support the combined rail transport mode" (MINISTERO INFRASTRUTUTRE E TRASPORTI Decreto Ministeriale 14 luglio 2017, n. 125 "Regolamento recante l'individuazione dei beneficiari, la commisurazione degli aiuti, le modalita' e le procedure per l'attuazione degli interventi di cui all'articolo 1, commi 648 e 649, della legge 28 dicembre 2015, n. 208.")	Law/regulation	National	CT service providers, CT users	National Law for the improvement of CT services. It aims to shift freight traffic from road to rail transport routes, by promoting intermodal and combined transport, from/to Italian logistics and port hubs, by providing incentives to companies operating rail services and to multimodal rail operators.

	Ministry of Infrastructure and Transport - National Logistics Plan 2012-2020, 26 July 2012 (MINISTERO INFRASTRUTUTRE E TRASPORTI Il Piano Nazionale della Logistica, 2012-2020, 26 Luglio 2012)	Plan	National	Infrastructure managers, CT service providers, Public authorities	National plan for the Logistics improvement. CT is described as a pillar of transport operations.
	National Strategic Plan for ports and logistics (Piano strategico nazionale della portualità e della logistica)	Strategy	National	Public authorities, Infrastructure managers, Infrastructure managers, CT service providers, CT users	This document (National Strategic Plan of Port and Logistics) aims to: -improve the competitiveness of port and logistics system; -ease the growth of goods and people traffics and to promote the intermodality of goods trades also in relation to the reorganization of the existing Port Authorities.
	Policies to relaunch the rail freight transport (Politiche per il rilancio del trasporto ferroviario delle merci)	Directive	National	CT service providers, CT users, Infrastructure managers	This document describes the strategic guidelines to ease the intermodal transport through 3 key points: infrastrctures, rules and incentives. Their aim is to increase rail traffic, by creating a transport hardware that must be efficient and sustainable to support the National Transport System linked with European Transport Networks.
	Provincial Law of Transport - 9 July 1993 In Force 27 October 2017 (Legge provinciale sui trasporti, n. 16 del 9 luglio 1993 Disciplina dei servizi pubblici di trasporto in provincia di Trento (b.u. 20 luglio 1993, n. 33, suppl. n. 1) Testo vigente dal 27 ottobre 2017)	Law/regulation	Autonomous Province of Trento	Infrastructure managers, CT service providers	The Provincial Government approves the provincial transport plan, with the aim of: - implementing coordinated management of the various transport systems, both of people and of goods, by promoting integrated mobility systems; - restructuring and building necessary works and infrastructures to the realization of the objectives; - containing energy consumption and reducing the causes of atmospheric and acoustic pollution. The Autonomous Province of Trento is authorized to promote the establishment of areas and the realization of facilities for the carriage of goods, their sorting and storage and the modal interchange. In particular, in order to promote integrated transport for the impacts of road transport and to encourage the development of combined transport, the Province may grant aid to the operators of the integrated rail-road transport services, including services provided within the Intermodal platform located in the provincial territory, in order to ensure, in non-discriminatory terms, a reduction in the fares charged by the operators, with reference to the sections which affect at least part of the provincial territory. (For details see Appendix 9).
	Reform of Freight Village Proposal (Proposta di Riforma Interporti)	Law/regulation	National	Infrastructure managers, Public authorities	This document describes the targets of the Reform of Freight Village Proposal: -to manage Freight Villages like a private sector undertaking instead of public entity; -to avoid building those Freight Village outside TEN-T corridors; -to give a definition of Freight Village to acknowledge only those entities that have all the requirements (railways connections, terminals, road connections,...)
	Regional Law 4 April 2012, n.6 - Transportation Regulation (Legge Regionale 4 aprile 2012 , n. 6 - Disciplina del settore dei trasporti (BURL n. 14, suppl. del 06 Aprile 2012))	Law/regulation	Lombardy Region	Public authorities, CT service providers, CT users	The law constraints the transport sector in Lombardy. The Region identifies rail transport systems like a pillar for regional mobility of people and goods. In this direction some important goals are: - unpgrade of infrastructure and rolling stock; - development of the rail system for the protection of the environment; - growth of rail freight traffic and containment of road freight transport.
	Regional Plan for Logistics (January 2010)	Plan	Piedmont Region	Public authorities	The Regional Plan for Logistic describes Combined Transport as a pillar for the development of the Region. For the Alpine Space, the Document outlines the development of UCT and ACT, in addition to the growth of the railway mode, corresponding to hubs.
	Regional Plan for Mobility and Transport (December 2016)	Plan	Piedmont Region	Public authorities	The Plan (approved in May 2017) outlines some targets to be achieved by 2050. The targets related to freight transport are: - to shift 50% of goods moved by road in 2013, that have a radious exceeding 300 km, to increase energy efficiency in transport; - to increase, compared to 2017, the standards of efficiency and competitiveness of the logistic services located in the region.
	Regional Plan for Transport and Logistics	Strategy	FVG Region	CT service providers	FVG Region approved its "Regional Plan for Transport and Logistics" in December 2011, outlining the future development scenarios of the regional logistic clusters, including cooperation and coordination between the three ports and the four inland terminals of the Region.
	Regional Program for Mobility and Transport	Strategy	Lombardy Region	Public authorities	The Regional Plan (approved in September 2016) outlines the framework for the future development of infrastructure and services for the mobility of people and goods in Lombardy. The Plan decribes the freight transport at regional level and identifies the following goals: - general goal: to ensure the freedom of movement for citizens and goods and to ensure the accessibility of the territory, - specific goal: to achieve an integrated, competitive and sustainable logistic and freight transport system.
	Resolution n. 1245 in 23.04.2001 Acceptance of the implementation critieria of the articles 7 and 8 of the Provincial Law 14 December 1974, n.37 redefined by the Provincial Law 11 August 1998, n.8, related to the combined transport subsidies (Delibera N. 1245 del 23.04.2001. Approvazione dei criteri in attuazione degli articoli 7 e 8 della legge provinciale 14 dicembre 1974, n. 37 così come modificata dalla legge provinciale 11 agosto 1998, n. 8, per la concessione di contributi a favore del trasporto combinato)	Law/regulation	Autonomous Province of Bolzano/Bozen	Infrastructure managers, CT service providers	The Autonomous Province of Bolzano/Bozen, in order to promote the development of combined transport and the transfer of freight traffic from road to rail, grants aid to the subjects located in the Province, which invest in movable and immovable property intended for intermodale infrastructures and aimed at the acquisition of knowledge and information for access to combined transport. (For details see the Appendix 9).
	Strategic Infrastructures Plan (PIS - Piano Infrastrutture Strategiche)	Strategy	National	Infrastructure managers	This document describes the Strategies Infrastructure Program (PIS) that considers an articulate set of infrastructural interventions to support the development and the modernization of the country, so these interventions must be considered as priority interests.
	Veneto Region - DGR 1671 5 July 2005 - Regional Transport Plan ("Piano Regionale dei Trasporti")	Plan	Veneto Region	Infrastructure managers	Regional Masterplan for the transport in Veneto Region. The Plan describes (in chapter 4.3 and 4.4) the role of combined transport in the general framework. Cap 8.2.1 underlines and defines the synergies among accompanied and unaccompanied transport. Cap 8.3 introduces the role of maritime coastal navigation.
	Veneto Region - DGR n. 737, 21 May 2013 - Assignment of the required transport to the Sistemi Territoriali S.p.a related to the maintenance and management of the Regional waterways ("Assegnazione dei trasferimenti necessari alla società Sistemi Territoriali S.p.a relativamente allo svolgimento delle funzioni concernenti la manutenzione e gestione delle vie navigabili ricadenti nel territorio regionale")	Law/regulation	Veneto Region	Infrastructure managers, CT service providers	Regional financing for the improvement of CT services along the inland waterways (through the regional company Sistemi Territoriali).

	Veneto Region - DGR n. 3863 7 December 2000 - Telematics applied to the freight transport ("Telematica applicata ai trasporti del settore merci")	Law/regulation	Veneto Region	Infrastructure managers	Regional recommendations for the improvement of ICT tools in the field of logistics transport.
	Veneto Region - DGR n. 2931 del 25 September 2007 - Program Agreement Veneto Region and Sistemi Territoriali S.p.A in 23.12.2003 ("Accordo di Programma Regione del Veneto e Sistemi Territoriali S.p.A. in data 23.12.2003")	Law/regulation	Veneto Region	Infrastructure managers, CT service providers	Regional financing for the improvement of CT services with the acquisition of new rail locomotives and wagons for CT transport (through the regional company Sistemi Territoriali).
	Veneto Region - Regional Law n.3, 14 January 2003 Regional financial reporting ("Finanziaria Regionale")	Law/regulation	Veneto Region	CT service providers	Regional law for financing and development. Among the other initiatives, it fosters the development of Rolling Motorways (Art. n. 18 "Finanziamento per l'attivazione dei servizi di Autostrada Viaggiante" defines the Rolling Motorways with finalities, roles, objectives) and allocates financial aids.
	Veneto Region - Regional Law n.8 28 January 1982 "Regional Actions to inhance transport infrastrucures and equipment" ("Interventi regionali per il potenziamento delle infrastrutture e delle attrezzature nel settore trasporti")	Law/regulation	Veneto Region	Infrastructure managers, Public authorities	Regional Law for the improvement of infrastructures for intermodality and co-modality. It allocates financial resources and describes the criteria for the access to the financial aids. In particular, art. n. 2 describes the role and the infrastructures for inland ports.
	Venice Port Area Decree 399, 4 August 2014 "Subsidies for the rail transport development" (AUTORITA' PORTUALE DI VENEZIA, Ordinanza 399, 4 Agosto 2014 "Contributi per lo sviluppo del traffico Ferroviario")	Strategy	Venice Port Area for further forward to european rail network	CT service providers	Local regulation for the improvement of rail shunting in port area and for the following forward to European rail network. It allocates financial resources and states to rules for access to financial aids.
Slovenia	**Decree on combined transport. Official Gazette of RS, Nos. 4/01 and 49/13 (UREDBA o kombiniranem prevozu. Uradni list RS, št. 4/01 z dne 19. 1. 2001 in Uradni list RS, št. 49/13 z dne 7. 6. 2013).**	Law/regulation	National	Public authorities, CT service providers, CT users	This Regulation lays distance transport and removal of the road network, provision of transport and removal, the permissible total weight of the vehicle for entry and exit, exemptions restrictions on traffic duty vehicles, documents which must be on the implementation of transport and removal to provide carrier and mandatory statistical data to be collected by contractors for combined transport report prepared by the European Commission for the EC Council. In detail Articles 3, 4 and 5 define as follows: Art. 3 - Distance in the driveway and removal "Transportation shall be considered for CT if: 1. The main part of the journey effected by rail, entry and exit on the distance to the nearest terminal or railway reloading station; 2. The main part of the transport is carried out according to waterways, the distance in the driveway, and removal is not longer than 100 km in the air line between the port of the RO-RO [...]." Art. 4 - Operation of delivery and removal "(1) for CT in the driveway and removal of a distance specified in the preceding paragraph of this Regulation shall benefit from the quotas and licenses, laid down in international and bilateral agreements. (2) The right to provide transport in the driveway and / or removal (including the possibility of crossing the border) all operators licensed to carry out transport of goods by road in the Republic of Slovenia and the European Union, and the carriers are registered for the transport of goods in road transport other countries where this right is defined in an international agreement binding on the Republic of Slovenia." Art. 5 - Gross vehicle weight for the entry and exit "For road goods vehicles carrying out entry and exit at the distance specified in the first paragraph of Art. 3, the permissible laden weight exceeding 44 tonnes, if: 1. triaxial towing vehicle with two-axle or three-axle semi-trailer saddle: when transporting intermodal transport unit, or if the semi-reinforced saddle for transportation in unaccompanied combined transport and 2. a group of vehicle with five or more axes, adapted to the transport of swap bodies."
	Operational Programme for the implementation of the EU Cohesion Policy in the period 2014-2020	Strategy	National	Public authorities	National strategy for the contribution of the operational programme to the EU strategy for smart, sustainable and inclusive growth and to the achievement of economic, social and territorial cohesion.
	Ordinance adopting the Spatial Development Strategy of Slovenia	Strategy	National	CT service providers	It defines guidelines for the development of transport infrastructure. As terminals for intermodal transport, which are developed at the international level, are defined terminals in Koper and Maribor; as terminals of national significance are defined terminals in Novo Mesto, Celje, Divača (Sežana), Nova Gorica and Kranj (Jesenice). Due to existing capacity and anticipated transport logistics needs and according to these guidelines also following terminals or distribution centres in the context of other transport hubs are identified: Brežice Dravograd, Ptuj, Ilirska Bistrica and other, if there are transport and logistics needs and there are provided spatial options.
	Railway Transport Act. Official Gazette of RS, Nos. 99/15 (Z A K O N O ŽELEZNIŠKEM PROMETU . ZZelP-UPB8, Uradni list RS, št. 99/15 z dne 21.12.2015)	Law/regulation	National	CT service providers, Infrastructure managers, CT users	This Act lays down the conditions for the implementation of the railway transport services in the field of rail transport public goods provided by the Republic of Slovenia with the public service obligation, the public railway infrastructure, its status and the conditions of access to it, the manner of exercising the right to strike in the rail sector, the establishment, functions and powers of the regulatory authority, the establishment, functions and powers of the Public Agency for rail transport, roles and responsibilities of the safety authority, tasks and an investigating authority. For the the principle of equality, the carrier and operator services must be offered, providing everybody the same, predetermined and published conditions. For CT, art. 5 outlines as follows: "(1) CT is the transport of goods, in which the container of at least 6 m, swap body, truck trailer, semi-trailer towing a semi-trailer with a tractor unit or not, and a road freight vehicle carried by rail or waterways, whereby the driveways and the removal of intermodal transport units with loading bays or unloading station to the nearest terminal for CT, ports and ro-ro, carried out by road transport. (2) The Government shall by regulation determine the distance of transport and removal of the road network, documents can be for the implementation of transport and removal to provide carrier fees and other fees payable by the operator for entry and exit, as well as any exemptions from fees and charges in accordance with the law and other issues related to the implementation of operational delivery and removal."

	Regulation on the compensation of part of the costs of transport, research and investment carriers operating certain rail transport services traffic (UREDBA o nadomestilu dela stroškov za prevoze, raziskave in naložbe prevoznikom, ki opravljajo določene prevozne storitve v železniškem prometu. Uradni list RS, št. 108/2000 z dne 24.11.2000)	Law/regulation	National	CT service providers	This Regulation regulates the method of application of criteria, the importance of each criterion for assessing eligibility for state compensation, and the procedure for granting state compensation to carriers registered in the Republic of Slovenia, which carry out rail transport of passengers in international traffic, rail freight and / or combined transport. The competent national authority may impose on a carrier, subject to certain conditions, for the provision of certain railway services in the interest of the public interest, although it would not be possible for them to take account of their own commercial interests. The public interest referred to shall be disclosed: - ensuring mobility of people and transport of goods, - by redirecting traffic from road to rail taking into account the environmental impact, - the implementation of internationally accepted obligations in rail passenger transport, - the integration of Slovenia into international traffic flows. The State may substitute part of the costs for the carriers referred to this Regulation for: 1. transportation; 2. Research; 3. investments, where resources are provided for these purposes in the annual budget of the line ministry, the compensation being granted until the quota of funds for these purposes is used in the current year. The criteria on the basis of which the competent authority assesses the eligibility to compensate part of the costs to carriers referred to this Regulation are as follows: 1. public interest; 2. the possibility of access to other forms of transport in the case of the carriage of passengers or goods; 3. the difference between the revenue on the basis of the tariff and the costs of the carrier; 4. the difference between the revenue that a carrier can achieve on the market and the actual transport costs; 5. the orientation of the research work into the long-term design of the development of the Slovenian rail transport, with the emphasis on the implementation of the national program for the development of the public railway infrastructure; 6. the impact of the investment on rail transport safety and on the qualitative and quantitative options it provides for users. When assessing the eligibility to cover part of the cost of transport, account shall be taken in particular of: - that there is a public interest in the provision of transport services, - the negative consequences that would result in the abolition of this transport.
	Research and Innovation Strategy of Slovenia 2011-2020 (RISS)	Strategy	National	CT service providers	The main new strategic guidance document on the national level: • Establishment of an effective integrated management of research and innovation system, involving all stakeholders • Increasing transparency and streamlining the system and support measures • The reform of the public research sector • Promoting innovation economy • Financing
	Resolucija o nacionalnem programu razvoja prometa v Republiki Sloveniji za obdobje do leta 2030 (ReNPRP30)	Strategy	National	CT service providers	Resolution on the national program of transport development in the Republic of Slovenia is a document that represents the transition between general measures from the Strategy into concrete actions in preparation and execution. In their definition they have been defined deadlines and bearers of individual activities, which have been allocated to the indicative costs, but values were estimated for most activities. These will be the preparation of individual study and project documentation in detail concretised. Therefore, the annual amount of funds needed for the realization of the activities of the National Program determined only by fields, while their own activities, implementation deadlines and institutions in the annex.
	Resolution on National Development Projects for the period 2007-2023	Strategy	National	CT service providers	Among the priority projects of transport infrastructure development are included those projects of development of the Slovenian railway infrastructure, which will indirectly improvie the implementation conditions of combined (intermodal) transport, namely: - modernization of railway network, where will be a priority focus on modernization and reconstruction of V. and X. Pan-European corridors; - modernization and reconstruction of infrastructure in the course of V. corridor Koper / Trieste-Hodoš; - modernization and reconstruction of infrastructure in the course of X. Corridor. A priority is the development of quality logistics services, including development of logistics centres, transhipment terminals and intermodal hubs, where partnership between the state and companies is foreseen.
	Resolution on Transport Policy of the Republic of Slovenia Intermodality: Time for synergy	Strategy	National	Public authorities	In the context of national transport policy, strategic directions in development of freight transport are oriented to the integration of various transport systems (road, rail, air and maritime transport) and to create optimal routes and integrated logistics solutions for users of the transport system and transport clients' services. For this purposes, the transport policy provided a number of general measures that will contribute to the development of intermodal transport.
	Slovenian energy concept	Strategy	National	CT service providers	Slovenia's energy concept as the basic development document, which will function as the national energy programme.
Switzerland	**Financing and Expansion of Rail Infrastructure (FABI) Bundesgesetz über die Finanzierung und den Ausbau der Eisenbahninfrastruktur**	Law/regulation	National	CT service providers, Public authorities	In February 2014, the Swiss people approved the proposal for the Financing and Expansion of Rail Infrastructure (FABI) in a popular vote. This proposal safeguards the financing of the rail infrastructure, including maintenance and expansion, in the long term. At the same time, a decision was also made as part of the Strategic Development Programme for Rail Infrastructure (STEP) on the basic aspects of future railway expansion and on the first specific phase of expansion for the period up to 2025. This includes projects costing 6.4 billion Swiss francs (around 6.1 billion euros), which are primarily aimed at eliminating bottlenecks in and around stations in large Swiss cities.
	Goods Traffic Transfer Act, "Güterverkehrsverlagerungsgesetz" (GVVG)	Law/regulation	National	CT service providers, Public authorities, CT users, Infrastructure managers	The Goods Traffic Transfer Act defines the modal shift policy goals of Switzerland. It sets the goal of reducing the number of trucks crossing the Swiss alps to 650,000 per year from 2018 on.
	Kilometre-based tax on heavy goods vehicles (Schwerverkehrsabgabegesetz, SVAG)	Law/regulation	National	CT service providers, Public authorities	The Swiss people adopted the constitutional article on the kilometre-based tax on heavy goods vehicles (HGVs) on the same day as the Alpine Initiative. Because there was a referendum against the law adopted by Swiss parliament on the basis of this article, the people had to vote once again in 1998, when it adopted the law with a clear majority. The kilometre-based tax on HGVs is levied on all roads and varies according to the gross vehicle weight rating and the emission category of the vehicles. With a few exceptions, it has to be paid by all Swiss and foreign freight vehicles above 3.5 t gross vehicle weight rating. The tariff amounts to 3 Swiss centimes (approx. €0.02) per ton-kilometre, i.e. a maximum of 1.2 Swiss francs (approx. €0.80) per kilometre for a 40-ton lorry. This is to pay for uncovered infrastructure costs and external costs (noise, health, accidents, and damage to buildings). The kilometre-based tax on HGVs came into force on 1 January 2001. The tariff is being increased gradually. The details are regulated in a decree.
	Law about freight transport (Gütertransportgesetz, 2016)	Law/regulation	National	Public authorities, Infrastructure managers	The Law regulates freight transport by rail (and by internal waterway) and it promotes CT transhipment terminals and railway sidings.
	Resources for the promotion of rail freight transport, Bundesbeschluss über den Zahlungsrahmen für die Förderung des gesamten Bahngüterverkehrs	Decree	National	CT service providers, Public authorities, CT users, Infrastructure managers	The decree provides funds that are used to subsidise user tariffs for railway lines and non-economically viable offers of combined transport. Contributions to the construction of terminals in Switzerland and abroad are financed from other sources.

	The land transport agreement between Switzerland and the European Union (June 21 1999)	International treaty	National	CT service providers, Public authorities, CT service providers, CT users	After the Swiss people rejected accession to the EEA, Switzerland and the EU negotiated seven bilateral agreements which were adopted by the Swiss people in 2000. In the land transport agreement, the EU in principle accepts Swiss transport policy (kilometre-based HGV tax, night and Sunday ban on road freight transport, etc.) and declares its support for a progressive introduction of true costs in transport and the promotion of freight transport by rail. The EU has negotiated the replacement of the 28 ton weight limit for lorries by a 40 ton limit in exchange for its acceptance of the kilometre-based HGV tax. The amount of the HGV tax was limited.

Appendix 9: CT Measures

Political level	Measure (name/title)	Geographical level	Measure type	Scope of existing CT support measures	Short description
Austria	**Exemption from the Night driving ban**	National	Use	CT transport network	Motor vehicles exceeding 7.5t which do not comply with the noise emissions standards for the so called "low noise vehicles" are not allowed to circulate from 10 p.m. to 5 a.m. Journeys, which are carried out in the context of combined transport from and to specific rail stations on clearly specified road corridors, are exempted from that ban in both directions (according to the regulation of the Federal Minister for public economy and transport regarding exceptions from the ban on driving by night in the context of combined traffic). (legal basis: BGBl.Nr.159/1960 Straßenverkehrsordnung 1960, § 42 Abs.7, last amended by BGBl. I Nr.123/2015 and Verordnung des Bundesministers für Verkehr, Innovation und Technologie über Ausnahmen vom Nachtfahrverbot für Fahrten im Rahmen des Kombinierten Verkehrs (BGBl. Nr. 1027/1994, last amended by BGBl. II Nr. 76/2007) (Reference: *Database UNECE 2017, Austria, §7.1).*
	Exemption from the summer holidays driving ban on lorries	National	Use	CT transport network	On every Saturday from July until August and on some specific days journeys with motor vehicles and trailers exceeding 7.5 t are forbidden from 8 or 9 a.m. to 3 p.m. on certain roads. Journeys, which are carried out in the context of combined transport rail-road from and to the nearest suitable rail loading station are exempted from that ban. (legal basis: BGBl. II Nr. 67/2016) (Reference: *Database UNECE 2017, Austria, §7.1).*
	Exemption from the weekend and holiday driving ban on lorries	National	Use	CT transport network	According to the Austrian Road Traffic Regulations, journeys with motor vehicles and trailers exceeding 3.5 t as well as motor vehicles and tractors exceeding 7.5 t are forbidden on Saturdays (between 3pm. and 12pm.), Sundays and Holidays (until 10pm.). Journeys which are carried out in the context of combined transport only and do not exceed a radius of 65 km to or from specific terminals, are exempted from that ban according to a regulation of the Federal Minister of public economy and transport regarding exceptions from the weekend and holiday driving ban. (legal basis: BGBl.Nr.159/1960, §42 Abs. 1 and 2 (last amended by BGBl. I Nr. 123/2015-Straßenverkehrsordnung 1960) (Reference: *Database UN-ECE, Austria, §7.1*).
	Financial support for operation of rail freight services („Beihilfenprogramm für die Erbringung von Schienengüterverkehrsleistungen in bestimmten Produktionsformen in Österreich (Dez. 2012-2017)"), the support will be prolonged	National	Use	CT financial incentives for users	Financial support for combined transport by rail is based on contracts between the bmvit and railway undertakings and is granted for each consignment transported in Austria. The extent of this support depends on the size and weight of the intermodal transport unit and the distance covered on the Austrian railway network. Furthermore, the financial support differentiates between national, bilateral and transit transport. Budget: about 55 million euros per year (not including the support for single waggon traffic). Duration: 12/2012-2017, prolongation 2018-2022 approved by the European Commission, DG Competition. https://www.bmvit.gv.at/verkehr/eisenbahn/foerderung/sgv/index.html; https://www.schig.com/wp-content/uploads/2016/08/Beihilfesätze-UKV-2017.pdf (Reference: *Database UN-ECE, Austria, §6.2*)
	Financing of rail infrastructure in Austria	National	Investment	CT transport network	According to the Austrian Federal Railways Act, the Austrian Federal Railway infrastructure Company is responsible for the financing, planning and the construction of rail infrastructure and the associated projects. The planning and construction of rail infrastructure will be promoted by the Republic of Austria. Also the promotion of terminal infrastructure is part of this financing measure. Budget: 15.2 billion euros (in total). Duration: 2017-2022, on a continuing basis.
	Innovation Programme for combined freight transport, 2015-2020 ("Innovationsprogramm Kombinierter Güterverkehr")	National	Investment	CT financial incentives for users, CT transhipment equipment	Purpose: promotion of investments in systems and equipment, which are necessary for the transport or handling of goods in combined transport road/rail/ship. Applications may be submitted by physical and legal persons as well as unincorporated firms of civil and commercial law, that have a branch in Austria; Regional administrative bodies are in principle entitled to submit applications; Applications from rail operators are eligible only when they are able to show high innovation components. The projects eligible for aid are combined transport equipment (in particular containers and swap bodies, vehicles and boxes specially fitted for the use of combined transport), implementation of innovative technologies and systems for the improvement of combined transport services, feasibility studies in connection with implementing measures and costs for training in specific EDV-systems or techniques. Budget: 3 million euros per year. (Reference: *Database UN-ECE, Austria, §6.1*)
	Internalization of external costs	National	Taxation	Taxation for users (to make the CT more competitive)	Austria has started the internal assessment procedure for the draft of an amendment of the Federal Road Toll Act that will provide regulations for charging the costs of traffic based air and noise pollution of heavy goods vehicles (Reference: *Database UN-ECE, Austria, §3.1*).
	Liberalised areas for rolling roads	National	Use	CT transport network	According to a decree (based on the freight transport law) initial and final leg used for loading and unloading do not require any permit within a radius of 70 km around the terminal of Wels if rolling roads are used. (legal basis: Erlass based on Güterbeförderungsgesetz). (Reference: *Database UN-ECE, Austria, §7.2*)
	Liberalised corridors for rolling roads	National	Use	CT transport network	A decree of the Austrian Federal Ministry for Transport, Innovation and Technology (based on the freight transport law) liberalises specific road corridors for initial and final leg of rolling road connections to terminals (i.e. no bilateral road permit for goods transport is necessary on these corridors, provided that the journey is an initial or final road leg of rolling road connections). (legal basis: Erlass des Bundesministeriums für Verkehr, Innovation und Technologie (based on Güterbeförderungsgesetz)). (Reference: *Database UN-ECE, Austria, §7.2*).
	Liberalised initial and final road leg in combined transport	National	Use	CT transport network	According to the regulation (1997) regarding the liberalisation for transnational combined transport of licences, the initial and final road leg in transnational combined transport is liberalised for motor vehicles registered within the European Union or the European Economic Area and holding a Community licence, taking into account the relevant legal provisions of the European Union. (legal basis: BGBl. II Nr.399/1997 (Verordnung des Bundesministers für Wissenschaft und Verkehr über die Befreiung des grenzüberschreitenden Kombinierten Verkehrs von Bewilligungen; Kombifreistellungs-Verordnung) (Reference: *Database UN-ECE, Austria, §7.2*).
	Liberalize access to inland water transport	National	Use	CT transport network	Austria has liberalized access to inland water transport according to the EU "aquis communautaire" and the Belgrade Convention. (Reference: *Database UN-ECE, Austria, §8.2*)
	Liberalize access to the rail networks	National	Use	CT transport network	There is free access to the rail network in Austria. (Reference: *Database UN-ECE, Austria, §8.1*)
	Payload adjustment ("Nutzlastausgleich")	National	Use	Incentive to counterbalance the loading disadvantage of CT	The Austrian "Motor Vehicle Act" defines the sum of the total weight and the sum of the axle weight of motor vehicles and their trailers as follows: transport of goods by road in general: 40 t; initial and final road hauls in combined transport to/from the nearest technically suitable terminal in Austria: 44 t (legal basis: "Kraftfahrgesetz" (BGBl. Nr. 267/1967 last amended by BGBl. I Nr. 40/2017, §4 Abs. 7a) (Reference: *Database UN-ECE, Austria, §7.3*)
	Programme for the support of sidings and intermodal terminals (road/rail/ship) (financial support for investments in terminals, regarding construction, enlargement and modernization of transhipment points) („Programm für die Unterstützung des Ausbaues von	National	Investment	CT terminals	The "programme for the support of sidings and terminals" (Anschlussbahn- und Terminalförderung) of the bmvit allows funding for sidings and intermodal terminals in Austria. This programme, which runs from 1 Jan. 13 to 31 Dec. 17, provides public co-funding for investments in installations and constructions which are exclusively used for the transhipment of goods. These transhipment facilities between road, rail and/or inland waterways (which must be located in Austria), may be promoted up to 50 per-cent of eligible costs, provided that the premises remain operative for a minimum duration of 11 years at least. Budget: about 8 million euros per year Duration: 2013 – 2017, prolongation 2018-2022 approved by the European Commission, DG Competition

	Anschlussbahnen sowie von Umschlagsanlagen des Intermodalen Verkehrs ‚Jän. 2013 – Dez. 2017")				https://www.bmvit.gv.at/verkehr/eisenbahn/foerderung/anschlussbahnen.html (Reference: *Database UN-ECE, Austria, §6.1*)
	Reduction of road vehicle tax **(Promotion of CT by encouraging the use of rail)**		Taxation	CT financial incentives for users	_ Tax exemption on monthly basis for vehicles exclusively used for pre- and on-carriage of CT load units in CT rail/road operations _ Reimbursement of 15% of monthly tax for every rail transport of a road vehicle; if vehicle is tax-free discount is transferable to another vehicle being taxed (These measures are based on the "Kraftfahrzeugsteuergesetz" 1992, last update: BGBl. Part I Nr. 105/2014)
	Research Program Future Mobility	National	Research and development	Other, CT rolling stock investments - R&D, CT transport network, CT horizontal transhipment solutions	The Research Program Future Mobility focuses on the search for integrated solutions designed to help build the mobility system of the future, a system that must balance social, environmental and economic needs. This integrated approach helps create systems that contribute significantly to ensuring mobility while minimizing the negative impacts of transport. The program supports system-oriented innovation in the fields of passenger and goods transport based on user needs. Complimenting these user-oriented themes the program also supports technical innovation in the fields of transport infrastructure and vehicle technology. This combination encourages development of synergistic solutions designed to address to-day's mobility challenges and helps create a sustainable future-oriented framework for mobility research. – Budget: about 15 million euros per year.
	Rest periods on rolling/floating roads	National	Use	CT financial incentives for users	According to the Austrian labour legislation and EU-law, the time a lorry driver spends on a rolling road train will be regarded as a rest period. (legal basis: (Artikel 9 der Verordnung 561/2006/EG und § 15b Arbeitszeitgesetz, BGBl. Nr. 461/1969 last amended by BGBl. I Nr. 42/2016). (Reference: *Database UN-ECE, Austria, §7.7*)
	Restriction related to the Euro standard of the vehicle	Section of the A 12 Inntal motorway: freom 6.35 to 90.00 road kilometers (in both directions)	Introduction of an official Austrian sticker	CT transport network	From 1st May 2017, in the A12 Motorway LEZ (Tirol), between road kilometers 6.35 and 90.00 (in both directions), the official Austrian sticker is introduced. It shows the Euro standard of the vehicle and it has to be put on the windshield of the vehicle. To drive on the motorway HGVs, there are these resctrictions: - LEZ ban on pre-Euro 3 lorries over 7.5 tons - night-driving ban on pre-Euro 6 lorries over 7.5 tons - sectoral driving ban (lorries over 7.5 tons and pre-Euro 6) - air quality-based speed limit (100km/h for passenger cars) - night time speed limit (all vehicles) - ban on overtaking (lorries over 3.5 tons) The following vehicles are not allowed on the A12 permanently between km 6.35 and 90.00: - Euro 0, 1 and 2 all Heavy Goods Vehicles over 7.5 tons maximum weight (NOx-emissions of more than 7.0g/kWh) - From 31. December 2017 Euro 0, 1, 2 and 3 - From 31. December 2022 Euro 0, 1, 2, 3 and 4 - Euro 0, 1 and 2 Heavy Goods Vehicles with trailers and tractor-trailers over 7.5 tons maximum weight (NOx-emissions of more than 5.0g/kWh) Exceptions: Journeys to and from the train terminal of Hall in Tirol, driving towards the West and the train terminal of Wörgl driving towards the East for the loading of goods, if this can be proved by a relevant document. Penalties: Maximum 2,180 € (Source: Urban Access Regulations In Europe, 2017)
	Strict enforcement of road haulage regulations	National	Taxation	CT transport network	The regulations regarding the limit of vehicle weights do not include tolerances. Therefore in principle every infringement will be punished. Based on the Austrian Motor Vehicle Act, stricter sanctions (such as stopping the vehicle altogether for example) can be imposed if road safety is imperilled. Road safety may be imperilled for a variety of reasons. In any case road safety is considered to be imperilled if the maximum authorized total weight is exceeded by more than 2 per cent or the maximum authorized axle weight is exceeded by more than 6 per cent. (Reference: *Database UN-ECE, Austria, §7.6*)
	Supplementary permits for the use of combined transport	National	Use	Taxation/charging of non CT transport	Numerous bilateral agreements on road goods transport have been drawn up with additional protocols for the promotion of combined transport with countries which are not members of the European Union. These additional protocols state, amongst other specific measures, that supplementary permits for road goods transport will be issued if rolling roads in, to and from Austria are used. (Reference: *Database UN-ECE, Austria, §7.5*)
France	**Financial Aids**	National	Investment	CT financial incentives for operators	The Government provides financial assistance to combined transport operators for the transhipment of intermodal transport units (ITU) from road to rail, inland waterway and short sea shipping and vice versa. This aid intends to compensate for additional costs of handling that do not occur in pure road transport operations. (Reference: *Database UN-ECE, France, §3.1*)
	Financial Aids (for CT terminals)	National	Investment	CT terminals	The State provides substantial financial support for the creation, improvement or extension of combined transport terminals, including those located in seaports. (Reference: *Database UN-ECE, France, §3.2*)
	Financial support for investments (installations, rolling stock, systems, etc.)	National	Investment	CT terminals	Public institutions (State, regions, departments, municipalities) provide financial support for investments in the construction and extension of terminals and related equipment. Support may cover up to 50% of total investment. (Reference: *Database UN-ECE, France, §6.1*)
	Financial support for operations (specific, initial operations, etc.)	National	Investment	CT financial incentives for operators	The State provides financial support for regular combined transport services by rail, inland navigation and short sea shipping. This support is characterized by financial compensation related to services that include transhipment on the national territory. It covers national and international traffic flows. (Reference: *Database UN-ECE, France, §6.2*)
	Fiscal support measures (vehicle tax, road user fee exemptions, etc.)	National	Investment	CT transport network	Initial and terminal hauls by road are exempted from the vehicle axle tax up to 75%. (Reference: *Database UN-ECE, France, §7.3*)
	Higher weight limits for road vehicles transporting intermodal loading units	National	Road Freight Vehicles	CT transport network	Initial and terminal hauls are authorized with up to 44 tons instead of 40 tons. This advantage has disappeared as of 1 January 2013 when the limit of 44 tons was extended to all trucks. (Reference: *Database UN-ECE, France, §7.3*)
	Integrate terminal planning into national, regional or cross-border transport and land-use planning	National	Investment	CT terminals	In the framework of multi-annual programs on land use, combined transport terminals are included and by involving local public actors in the proposed investments (Reference: *Database UN-ECE, France, §4.2*)
	Internalization of external costs	National	Taxation	Taxation for users (to make the CT more competitive)	The Government has taken steps to internalize external costs of road transport by introducing a heavy goods vehicle tax and by setting up a regulatory authority for rail operations. (Reference: *Database UN-ECE, France, §3.1)*
	Liberalization of initial and terminal hauls	National	Use	CT transport network	Initial and terminal hauls are carried out by independent road carriers. (Reference: *Database UN-ECE, France, §7.2)*
	Liberalize access to inland water transport	National	Use	CT transport network	Inland navigation is liberalized. (Reference: *Database UN-ECE, France, §8.2*)
	Liberalize access to the rail networks	National	Use	CT transport network (Incentives for CT operators)	Combined transport operators can buy traffic slots directly from the rail infrastructure manager and can select an operator for rail traction. (Reference: *Database UN-ECE, France, §8.1)*

	Strict enforcement of road haulage regulations	National	Taxation	CT transport network	Enforcement of road traffic rules with spot checks and sanctions in case of violations. (Reference: *Database UN-ECE, France, §7.6)*
	Take administrative measures to improve terminal access	National	Use	CT transport network	Regulations have been taken that compel an individual (or several) leading terminal operators to provide free access, in terms of transparency and fairness, to all operators that so request, allowing or maintaining competition and the protection of consumers. (Reference: *Database UN-ECE, France, §4.3)*
	Take administrative measures to improve terminal operations and facilities	National	Use	CT terminals	The infrastructure manager is currently in the process of establishing a single operator to improve and optimize the operation of terminals (Reference: *Database UN-ECE, France, §4.4*)
	Traffic bans for HGV and related special regulations/ exemptions	National	Use	CT transport network	In France, general and complementary traffic bans relate to vehicles or combination vehicles with a gross vehicle weight exceeding 7.5 tonnes, assigned to the road transport of dangerous and non-dangerous goods, excluding specific vehicles and agricultural machinery and devices. The general traffic ban applies all year long, to the entire national road network: • Saturday 22:00 until Sunday 22:00; • the day prior public holidays from 22:00 to 22:00 the next day. The complementary traffic bans apply to part of the Rhône-Alpes network in winter and to the entire national road network in summer. Both French and Italian regulations prohibit traffic crossing the Alps in summer from Saturday 7:00 to Sunday 24:00. Permanent exemptions are granted under certain conditions, for the transportation of certain types of goods and exceptional exemptions are applied to essential and urgent transportation. (Heavy Goods Vehicles 2017, Schedule of special traffic bans: http://www.bison-fute.gouv.fr/IMG/pdf/EN_depliant_calendrier-interdiction_2017.pdf)
Germany	**Exemption from restrictions and traffic bans**	National	Use	CT transport network	Exemptions from the driving ban on weekends and bank holidays and from the holiday driving ban (§ 30 Abs. 3 Straßenverkehrsordnung). (Reference: *Database UN-ECE,Germany, §7.1)*
	Financial support for investments (installations, rolling stock, systems, etc.)	National	Investment	CT terminals	Financing of combined transport terminals of Deutsche Bahn AG (German Railways) and of other private companies (e.g. ports, private railways). The Federal Government promotes combined transport by providing subsidies for the construction of new high-capacity intermodal terminals and upgrading existing terminals (rail/road or inland waterways/rail/road). These subsidies are provided either under the Federal Railway Infrastructure Upgrading Act, if the facilities are terminals operated by DB Netz AG, or on the basis of a Guideline to Promote Combined Transport Transhipment Facilities of 1998. The Guideline has been reviewed five times and will be submitted to the European Commission for review to ensure that it complies with state aid rules. The current Guideline on Funding for Combined Transport Terminals of Private Operators entered into force in January 2012 and will expire on 31 December 2015. A reviewed Guideline shall enter into force in January 2016. (Reference: *Database UN-ECE,Germany, §6.1)*
	Fiscal support measures (vehicle tax, road user fee exemptions, etc.)	National	Investment	CT transport network	Exemption from motor vehicle tax for those vehicles that are exclusively used for initial and terminal haulage (§ 3 Nr. 9 des Kraftfahrzeugsteuergesetz). Refund of motor vehicle tax for vehicles used in piggyback transport (§ 4 Kraftfahrzeugsteuergesetz). (Reference: *Database UN-ECE,Germany, §6.3*)
	Higher weight limits for road vehicles transporting intermodal loading units	National	Road Freight Vehicles	CT transport network	Maximum permissible weight has been increased to 44 tons for initial and terminal road haulage (§ 1 der 53. Ausnahmeverordnung von den Vorschriften der Straßenverkehrs-Zulassungs-Ordnung). (Reference: *Database UN-ECE,Germany, §7.3*)
	Internalization of external costs	National	Taxation	Taxation for users (to make the CT more competitive)	External costs of air pollution are integrated in the HGV tolling scheme (§ 3 read in conjunction with Annex 1 of the Bundesfernstraßenmautgesetz) (Reference: *Database UN-ECE,Germany, §3.1*)
	Liberalization of initial and terminal haul	National	Use	CT transport network	For cross-border CT operations, the initial and final road leg is liberalized for motor vehicles registered within the EU or in the European Economic Area. (Reference: *Database UN-ECE,Germany, §7.2*)
	Liberalize access to inland water transport	National	Use	CT transport network	There is free access to the inland waterways. Access to combined terminals whose construction has been supported through public funds has to be provided without discrimination. (Reference: *Database UN-ECE,Germany, §8.2*)
	Liberalize access to the rail networks	National	Use	CT transport network	There is free access to the rail network in Germany. Access to combined terminals whose construction has been supported through public funds has to be provided without discrimination. (Reference: *Database UN-ECE,Germany, §8.1*)
	Regulatory support measures	National	Use	CT incentive for users	In the case of the rolling road, the time spent by drivers on the train is counted against their daily rest periods. (Reference: *Database UN-ECE,Germany, §7.7*)
	Strict enforcement of road haulage regulations	National	Taxation	CT transport network	In principle, every infringement regarding the limit of vehicle weights will be punished. (Reference: *Database UN-ECE,Germany, §7.6*)
	Subsidy for Combined Transport **"Förderrichtlinie von Umschlaganlagen des Kombinierten Verkehrs", BMVI**	National	Use (subsidy)	CT terminals	Subsidy of 80% of investment costs for CT terminal (http://www.bmvi.de/SharedDocs/DE/Artikel/G/kombinierter-verkehr.html) The (financial) support provided for combined transport terminals allows for optimal transhipment operations between transport modes. (Reference: *Database UN-ECE,Germany, §3.2*)
	Take administrative measures to improve terminal access	National	Investment	Financial support (to make the CT more competitive)	The promotion of combined transport is undertaken through public (macro) policy measures and financial support. (Reference*: Database UN-ECE,Germany, §4.3*)
Italy	**Acquisition of rolling stock**	Regional	Investment	CT rolling stock investments - new equipment	Financing for the acquisition of rolling stock new equipment.
	Bilateral agreements on road goods transport with non-EU countries	National	Use	CT transport network	Some bilateral Italian agreements on road goods transport with non-EU countries (Kazakhstan, Russia, Belarus, Serbia and Ukraine) establish dedicated quotas providing for the compulsory use of the railway services (Rolling Road) to enter and exit Italian territory.
	Contribution for CT transport	Local	Use	CT financial incentives for users	Local incentives for CT users.

	Exemption from road driving bans	National	Use	CT transport network	In Italy there are some bans of circulation (schedule 2017). The driving bans, outside the residential area, for HGVs having a maximum mass exceeding 7.5 tons, are on bank holidays and on other specific days of 2017 listed in the Ministerial Decree (e.g. Sunday from 9.00 to 22.00 in January, February, March, April, May, October, November and December and Sunday from 7.00 to 22.00 in June, July, August and September). The circulation of vehicles transporting dangerous goods of Class 1, regardless of the weight of the vehicle, are prohibited on the dates indicated above and in weekends between 27 May and 10 September from Saturday 08h00 to Sunday 24h00. Exceptions may be granted on motives of absolute necessity or emergency, for work of national importance which renders round-the-clock work indispensable even on public holidays. Some exemptions are granted under certain conditions, for the transportation of certain types of goods, such as for: vehicles transporting goods which, due to their nature or to climatic or seasonal factors, are susceptible to rapid deterioration and must be transported rapidly from the place of production to the place of storage or sale, and vehicles used to transport animal feedstuff; vehicles transporting goods in cases of absolute necessity or emergency in relation to round-the-clock work; etc. The ban of circulation during Sundays and bank holidays ends 4 hours earlier for "vehicles bound to freight villages (Interports) of national relevance or located in a strategic position near Alpine crossings (Bologna, Padova, Verona Q. Europa, Torino-Orbassano, Rivalta Scrivia, Trento, Novara, Domodossola and Parma Fontevivo) and to the intermodal terminals of Busto Arsizio, Milano Rogoredo (now dismantled) and Milano Smistamento. (Ministerial Decree n.439, 13 December 2016, "Guidelines and schedule of driving bans and limitations outside urban centre, year 2017" - Decreto Ministeriale n. 439 del 13 dicembre 2016 "Direttive e calendario per le limitazioni alla circolazione stradale fuori dai centri abitati per l'anno 2017"). Source: http://www.mit.gov.it/sites/default/files/media/notizia/2016-12/Calendario%20dei%20divieti%20di%20circolazione%202017%20n.%20439%20del%2013.12.2016_0.pdf
	Financial Aids for combined transport - Autonomous province of Bolzano/Bozen	Autonomous province of Bolzano/Bozen	Investment	CT transhipment equipment, CT terminals	The Autonomous Province of Bolzano/Bozen, in order to promote the development of CT and the transfer of freight traffic from road to rail, grants aid to the subjects located in the Province, which invest in movable and immovable property intended for intermodale infrastructures and aimed at the acquisition of knowledge and information for access to combined transport. Investments are planned for: - the purchase and leasing of railway rolling stock for combined transport, cranes, ...; - the purchase of software for the management of combined transport; - the costs involved in planning intermodal terminals; - some necessary works within intermodal terminals; - works necessary to ensure accessibility to the intermodal terminals and the connection to the existing road and rail network; - studies and courses about combined transport
	Financial Aids for combined transport - Autonomous province of Bolzano/Bozen	Autonomous province of Bolzano/Bozen	Investment	Aid for logistical companies	The Autonomous Province of Bolzano/Bozen grants aid to duly logistical companies registered in one fo the Member State of the European Union, which organize combined transport on a railway line with departure or arrival at a rail terminal or an intermodal center locaded in the provincial territory. The aid is commensurate at the various external costs and at the specific insfrastructure associated with the use of comepetitive transport infrastructure and aimed at affectively reducing the costs of access to combined transport. The amount of aid granted is proportionate to the intensity of the use of combined transport - including accompanied combined transport - actually carried out. (Autonomous Province of Bolzano Alto Adige, Resolution n. 2830 in 27.08.2001 Acceptance of the implementation critieria of the articles 7 and 8 of the Provincial Law 14 December 1974, n.37 redefined by the Provincial Law 11 August 1998, n.8, related to the combined transport subsidies) Moreover the Autonomous Province of Bolzano/Bozen (thanks to the Resolution n. 655, 13.06.2017) grants aids to the companies located in the EU: to the OTM and to the railway companies that do freight services on rail in the provincial territory. The aids are pointed to the development of provincial CT. They are related to the rail freight services and to the building, the management, the adjustment or the extension of railway infrastructures and/or of intermodal terminals.
	Financial Aids for Combined Transport - Veneto Region	Regional	Investment	CT transport network	Regional financing for the improvement of CT services with the acquisition of new rail locomotives and wagons for CT transport (through the regional company Sistemi Territoriali).
	Financial Aids for freight transport - Veneto Region	Regional	Investment	CT transport network	Financial aid for the activation of services related to "RoLa" and "Motorway of the Sea", in order to contribute to the decongestion of the road and motorway network of the Region (Regional Law n.3, 14 January 2003).
	Financial support for operators	Autonomous province of Trento	Investment	CT financial incentives for operators	The Province may grant aids to the operators of the rail-road transport services, including the services provided under the intermodal terminal located in the provincial territory, in order to ensure a reduction in the rates charged by the operators, with reference to the routes which concern at least in part the provincial territory. This measure is based on Legge provinciale 9 luglio 1993, n. 16, Disciplina dei servizi pubblici di trasporto in provincia di Trento, art. 16 bis.
	Financing intermodal nodes	Regional	Investment	CT financial incentives for operators, CT terminals	Regional investments and contributions to improve the intermodal network.
	Intermodal Transport - Financial support for RoLa **Resolution of the Provincial Executive - 20 September 2016**	Autonomous province of Bolzano/Bozen	Investment	CT financial incentives for operators	Financial incentives (9 million euros in three years) to move HGVs from the motorway A22 to the railroad. This measure supports the use of RoLa. In particular the incentives are allocated to businesses running from Brenner to Trento. Source: http://www.provincia.bz.it/news/it/news.asp?news_action=4&news_article_id=561634
	Internalization of external costs	National	Taxation	Taxation for users (to make the CT more competitive)	The Legislative Decree 4 March 2014, n.43 identifies a specified amount payable for a vehicle based on the distance travelled on a given infrastructure and on the type of the vehicle comprising an infrastructure charge and/or an external-cost charge.
	Liberalised areas for transport operations	National	Use	CT transport network	Transport operations as referred to in Article 1 run by dedicated vehicles regularly registered in one of the Member States or other Countries in the European Economic Area, can be freely performed (Art.2, Ministerial Decree 15 February 2001).
	Liberalised initial and final road leg in combined transport	National	Use	CT transport network	All hauliers established in a Member State or in other Countries within the European Economic Area, who meet the conditions of access to the occupation and access to the market for transport of goods as stated by Article 1, shall have the right to carry out, in the context of a combined transport operation between Member States and Countries in the European Economic Area, initial and/or final road haulage legs which form an integral part of the combined transport operation and which may or may not include the crossing of a frontier (Art.4, Ministerial Decree 15 February 2001).
	Maintenance and improvement of inland waterways	Regional	Investment	CT transport network	Financing the maintenance and improvement of inland waterways to support CT
	New Ferrobonus **(Nuovo Ferrobonus)**	National	Use	CT financial incentives for users	The incentive Ferrobonus aims to support the combined rail transport mode, in accordance with the Stability Law for the three-year period 2016-2018. The budget for the new Ferrobonus is 20 million euros equally distributed per year, in accordance with the Stability Law, article 1, paragraph 648. The aim is to shift freight traffic from road to rail transport routes, by promoting intermodal and combined transport, from/to Italian logistics and port hubs, by providing incentives to companies operating rail services and to multimodal rail operators. The new Ferrobonus is dedicated to companies operating intermodal and/or combined rail transport services and to multimodal transport operators (MTO) that purchase full train sets and commit to maintain the traffic volumes (in train km) and increase them during the period of time covered by the incentive. This instrument includes also the overheads of part of the amount received to favor the companies operating rail transport services. Sources: http://www.mit.gov.it/comunicazione/news/marebonus-ferrobonus-trasporto-ferroviario/ok-dalla-ue-ferrobonus-e-marebonus http://www.ramspa.it/en/new-ferrobonus

	Promotion of CT by encouraging the use of both rail-based and water-based modes of transport	Regional	Incentives	CT financial incentives for operators	Article 21 of the R.L. 15/2004 foresees incentives for new intermodal and maritime services to/from the regional transport nodes. http://lexview-int.regione.fvg.it/fontinormative/xml/xmlLex.aspx?anno=2004&legge=15&ID=art21&lista=0&fx=lex
	Reduction or reimbursement of vehicle tax	National	Use	CT financial incentives for users	The Minister for Transport and Navigation notifies the Commission, according to the prescribed consultation, proposals for initiatives taken by the competent offices in accordance with applicable regulations and finalised to reduction or reimbursement – either by a standard amount, or in proportion to the journeys that such vehicles undertake by rail, within limits and in accordance with conditions and rules to be fixed – of vehicle tax as for law n. 342, 21 november 2000, art. 61, applicable to lorries, tractor units, trailers, semi-trailer, registered in the State, when used in combined transport. Reductions or reimbursements are granted on the basis of the rail journeys effected within the State. (Art.5, Ministerial Decree 15 February 2001)
	Schedule Agreement RFI (Contratto di Programma RFI)	National	Investment	CT transport network, CT terminals	The main subject of the Contract remains the discipline of financing the maintenance activities of the national rail network. Nine billions euros for new works have been allocated: - about 3.5 billion for investments of regional and metropolitan interests; - about 5.4 billion for investments in the development of European TEN-T corridors crossing Italy (Scandinavian-Mediterranean, Baltic-Adriatic, Rhine-Alps, and Mediterranean) for strengthening rail links (new infrastructures and tecnologies), in the adjustment of rail lines, in the the development of freight traffic and in the efficiency of connections with ports and airports. In particular: - 355 million euros for the adaptation of freight lines with specific reference to the Rhine-Alps, Scandinavian-Mediterranean, Mediterranean and Baltic-Adriatic corridors and for the enhancement of ports (Ravenna) and terminals (Milan and other minors); - 3.231 milion euros for the development of European corridors, including access to the Brenner corridor, (section Fortezza-Ponte Gardena), [...]; - 2.701 milion euros for the extension of the High Speed and High Capacity System (for example investments for the construction of the Terzo Valico - 4° lot and Brenner Tunnel - 4° lot,...). Source: http://www.rfi.it/rfi/LA-NOSTRA-AZIENDA/Il-Contratto-con-lo-Stato/Gli-investimenti
Slovenia	**Bonus systems for using intermodal transport**	National	Use	CT transport network	Numerous bilateral agreements for goods transport by road have been concluded containing additional stipulations for the promotion of combined transport. For countries that are not members of the European Union these additional stipulations state, amongst other specific measures, that supplementary permits for goods transport by road will be issued if the rolling road technique (RoLa) in, to and from Slovenia is used.
	Exemption from vehicles involved in CT	National	Use	CT transport network	The Decree on CT - Official Gazette of RS, Nos. 4/01 and 49/13 (UREDBA o kombiniranem prevozu - Uradni list RS, št. 4/01 z dne 19. 1. 2001 in Uradni list RS, št. 49/13 z dne 7. 6. 2013) defines the two types of exemptions: exemption from road charges for foreign vehicles (art.6) and exceptions restrictions on traffic duty vehicles (art.7). The Art. 6 outlines "Exemption from road charges for foreign vehicles traveling on the roads in the Republic of Slovenia in CT specified in the Regulation on charging foreign vehicles traveling on the roads in the Republic of Slovenia (Official Gazette of RS, Nos. 29/93, 16 / 95 and 28/95), except where a bilateral agreement between the Republic of Slovenia and the country in which it is registered goods road motor vehicle or trailer unit designated otherwise." The Art. 7 defines that "Traffic restrictions of Articles 2 and 3 ordinances restricting traffic on roads in the Republic of Slovenia (Official Gazette of RS, Nos. 38/99 and 100/99) shall not apply to road freight vehicles with a maximum permissible weight exceeds 7,500 kg, providing road transport, combined with rail or ship: 1 terminal, stevedoring station or port ro-ro if you continue to ride piggyback train or ferry and it does not arrive in time, which proves the driver of documentation, as defined in Article 8 of this Regulation, 2. from the terminal, stevedoring station or port ro-ro to the nearest border crossing in the direction of travel, if they arrive on rolling train or ferry and abroad will be able to continue driving to the destination, which proves the driver of documentation, as defined in Article 8 of this Regulation."
	Financial support for investments (installations, rolling stock, systems, etc.)	National	Investment	CT transhipment equipment	Slovenia provides financial support for the purchase of transport equipment, the implementation of innovative and new technologies as a part of general tenders for smart specialisation and implementation of innovative technologies and Operational programme of the European Cohesion Policies 2014–2020. (Reference: *Database UN-ECE, Slovenia, §6.1*)
	Governmental aids for carriers of intermodal transport for the portion of the funds spent by these carriers for investments, for research and for the share of transportation costs	National	State Aid	CT financial incentives for operators	Railway transport Act defines criteria for assessing the eligibility requirements of carriers to state compensation costs that are further elaborated in the Decree on compensation of costs for services, research and investment to carriers that perform certain transport services by rail (OG.RS, No. 108/2000). Aid can be applied by carrier that is registered in Slovenia and proves that he is entitled to such compensation with attached supporting evidences.
	Internalization of external costs	National	Taxation	Taxation for users (to make the CT more competitive)	Slovenian Transport Development Strategy provides to introduce the internalization of external air and noise pollution costs of road transport. National Road Toll Act will provide regulations for charging the costs of traffic based air and noise pollution of heavy goods vehicles. (Reference: *Database UN-ECE, Slovenia, §3.1*)
	Liberalization of initial and terminal hauls	National	Use	CT transport network	Road haulage operation (including initial and terminal hauls) are liberalized for motor vehicles registered within the European Union or the European Economic Area and holding a Community licence, taking into account the relevant legal provisions of the European Union (in particular also regulation (EC) 1072/2009). (Reference: *Database UN-ECE, Slovenia, §7.2)*
	Liberalize access to the rail networks	National	Use	CT transport network	Access to the railway network is liberalized according to the provisions of the EU legislation. (Reference: *Database UN-ECE, Slovenia, §8.1*)
	Maximum allowed gross vehicle weight for HGV	National	Road freight vehicles	CT transport network	For road freight vehicles, which carry the combined traffic delivering and shipping within the prescribed distance to the nearest rail terminal or port, the Decree on combined transport (OG RS, No. 4/2001) allowed a maximum authorized mass of up to 44 tons. For other goods vehicles which do not participate in combined transport, namely lower limit of the maximum total weight of these vehicles is prescribed. (Reference: *Database UN-ECE, Slovenia, §7.3*)
	Prohibition of traffic for all heavy goods vehicles, except for the services of local importance	National	Use of infrastructure	CT transport network	Prohibition of traffic for all heavy goods vehicles, except for the services of local importance, is determined by the Rules restricting the use of state roads to transport goods vehicles whose permissible maximum weight exceeding 7.5 tons (OG RS, No. 102/06, 109/2010 - Ces-1), on individual sections of regional roads that passes through or past the urban areas and exists the possibility of transportation by other state roads, which have equivalent or better road-technical characteristics. The aim of introduced ban is to achieve that drivers of goods vehicles using the parallel roads free charge would no longer be able to avoid paying tolls on highways, as well as to regional roads to improve traffic safety and that the transit road freight consistently diverted back to the highway. The prohibition is generally set out for all trucks and contains no exemption for road vehicles, participating in combined transport, but this kind of transport of goods from / to rail or ferry terminal can be seen as a service of local importance. (Reference: *Database UN-ECE, Slovenia, §7.1*)
	Regulatory support measure	National	Use	CT incentive for users	According to Slovenian national social legislation, the time spent by a lorry driver on a rolling road (RoLa) train will be regarded as a time of availability or as a rest period, if the driver has access to bunk or couchette. (Reference: *Database UN-ECE, Slovenia, §7.7*)

	Restrictions and traffic bans for commercial vehicles	National	Use of infrastructure	CT transport network	In Slovenia, on some state highways a time limit for heavy goods vehicles (goods vehicles having a maximum mass exceeding 7.5 tons) are introduced, on certain roads for these vehicles is introduced all-day traffic ban. Time limits on state roads have been introduced under the Regulation restricting traffic on the roads in the Republic of Slovenia, which entered into force in July 2006 and replaced Regulation of 2004. During a time limit of freight traffic on Saturdays, Sundays and holidays, in the restricted areas it is prohibited to transport heavy goods vehicles. These restrictions do not apply to trucks carrying goods in the public interest. Thus, the exception to the time limit also applies to goods vehicles engaged in road transport in combination with a rail or sea, namely in the area: -to rail or ferry terminal, if they continue to ride piggyback train or ferry, and otherwise would not arrive in time (submission of appropriate documentation required), -from the ferry or railway terminal to the nearest border crossing, if they arrived by ferry or piggyback train and if they can continue travel abroad to the final destination (submission of appropriate documentation required). (Reference: Database UN-ECE, Slovenia, §7.1)
	Restrictions for Good Vehicles	National	Use of infrastructure	CT transport network	At times of heavy snowfall, Slovenian roads are closed to goods vehicles with trailers and to vehicles transporting hazardous materials. During snowfalls, drivers of goods vehicles prohibited from travelling must stop their vehicles in good time at suitable locations off the road and may not continue on side roads. When the road is again suitable for all vehicular traffic, the end of the exclusion will be reported by the competent road-maintenance service. Driving restrictions are also imposed in case of high winds in excess of 80 km/h. The Decree on the Reduction of Traffic on Roads in the Republic of Slovenia stipulates that trucks travelling at the end of the week and during national holidays are exempted from these provisions, if they are involved in the combined transport by rail or by ship. (Reference: *Database UN-ECE, Slovenia, §7.1*)
	Subsidy for Combined Transport	National	Subsidy	CT transport network	State allowances (1) A carrier who carries out: rail transport of passengers in international traffic, railway freight transport and combined transport for the purpose of pursuing special interests, the State may substitute for part of the funds for investments, for research and for the part of the cost of transport, which provides it with an equal economic position with carriers of goods and passengers in other modes of transport, or provides for the reimbursement of costs incurred by it transport, which he would not have performed if he had only performed it because of his economic interest. (2) A carrier registered in the Republic of Slovenia may apply for a refund, which, by a reasoned request, can prove that he is entitled to compensation in accordance with paragraph 1 of this article. The request must be accompanied by proof of the difference between the realized sales price and the transport costs and the price received by other carriers, or proof of the economic viability of the investment or the rationale of the survey. [...] (Article 4, ZAKON O ŽELEZNIŠKEM PROMETU (ZZelP-UPB8, Uradni list RS, št. 99/15 z dne 21.12.2015)) ***Highlight:*** this Incentive is legally prepared but not implemented yet due to lack of budget since 2003.
	Tax incentives (cost-effective tariffs)	Other	Taxation	CT financial incentives for operators	Exemption on paying motor vehicle tax and road charges for vehicles in combined transport are the form of tax incentives for the development of combined transport and are already included in the agreement that the Republic of Slovenia has concluded with the Republic of Hungary on the international rail, road and water combined transport, with the restriction that this measure is limited to cabotage operations in unaccompanied combined transport within the 30 kilometre zone the air line from the terminal for combined transport and is effective only for goods vehicles registered in countries signatory to this Agreement. A similar provision is contained in a bilateral agreement, which Slovenia has concluded with Croatia, in which the two parties have undertaken to transport to / from the terminal in unaccompanied combined transport mutually acquitted of road user charges and other fees pay for road vehicles, from loading place to the terminal or from terminal to loading place within a certain distance of each terminal of combined transport.
Switzerland	**Exemption from restrictions and traffic bans**	National	Use	CT transport network	In accordance with the ordinance on drivers, the time spent by a lorry driver on a train in combined transport could be counted as a period of availability or may be added, under certain conditions, to the daily rest period. (Reference: *Database UN-ECE, Switzerland, §7.1*)
	Exemption from road driving bans	National	Use	CT transport network	Special regulations of the LSVA are applied for the following vehicles and transports are applied: Unaccompanied combined traffic, Timber transports, Bulk milk transport and Transports of productive livestock, etc.
	Financial support for investments (installations, rolling stock, systems, etc.)	National and outside Switzerland, under certain conditions	Investment	CT financial incentives for operators	Under the Ordinance on promotion of rail freight transport (OPTMa), the Swiss Government can award non-reimbursable investments or loans for: - construction, procurement, renovation or extension of structures, installations and equipment for transhipment between modes of transport; - development of rail installations for combined transport; - procurement of rail wagons for combined transport; - other investments that facilitate and promote combined transport. Contributions for investment are given only if the applicants also invest some of their own resources. According to legislation, which only provides for financial support for projects, the Swiss Government does not plan terminals. The applicants (owners or terminal operators) receive, if their project has been deemed worthy, a starting financial contribution, provided that each of them puts forward at least 20% of their own funding. The incentive contribution from the Swiss Government depends on the project interest from the transport policy point of view, its profitability and its evaluation by a cost-utility analysis. The available contribution is SwF 40 million a year, according to the multiannual programme for 2009-2013. Under certain conditions, financial support could also be provided for the construction of terminals outside Switzerland, particularly if it contributes to an increase in the share of rail traffic through Switzerland. Under the legislation regulating the connection of rail sidings, private companies may benefit from non-recoverable grants for construction of branch lines directly serving their sites. These funds amount to around SwF 20 million per year. (Reference: *Database UN-ECE, Switzerland, §6.1*)
	Financial support for operations (specific, initial operations, etc.)	National	Investment	CT transport network	Under the OPTMa, the Swiss Government also contributes to operating costs (expenditure not covered in budget forecasts) linked to services that have been requested by the Swiss Government in the form of combined transport services. These allowances are calculated by the number of trains and consignments transported. In 2011, the Swiss Government allocated a total of SwF 243 million to rail freight, of which SwF 21 million were allocated in the framework of measures to mitigate the effects of the strong Swiss franc. SwF 162 million were assigned to transalpine non-accompanied combined transport, SwF 16 million to non-accompanied combined transport not crossing the Alps and SwF 36 million to rolling highways. Allowances of SwF 23 million were paid in 2011 for transport with full wagon loads not crossing the Alps and SwF 6 million were assigned to rail freight on narrow-gauge line. The Swiss Federal Office of Transport and RAlpin SA have agreed upon an arrangement which guarantees the company financing from the Swiss Government for the service operations of rolling highways on links from Freiburg i.B. to Novara and from Basel to Chiasso until 2018. As such, RAlpin SA receives operating allowances for the transport of heavy goods road vehicles. Thanks to this multiannual arrangement, RAlpin SA will ensure the necessary investments and is committed to operating these services until 2018. The current offer will be then maintained for the upcoming years. The Swiss Federal Office of Transport has noted that, as a result of the economic crisis, non-accompanied combined transport has decreased more rapidly than road transport. This is due to competition and the development of prices in the road sector. In order to counterbalance these divergent developments in road and non-accompanied combined transport, the Swiss Government has decided to increase considerably the maximum financial support per consignment in 2009. These additional financial support measures are expected to allow non-accompanied combined transport operators to offer their clients competitive prices vis-à-vis road transport. (Reference: *Database UN-ECE, Switzerland, §6.2*)
	Fiscal support measures (vehicle tax, road user fee exemptions, etc.)	National	Investment	CT financial incentives for operators	In accordance with the legal provisions of the RPLP, owners of road vehicles using non-accompanied combined transport benefit from a general reimbursement of the RPLP in the order of SwF 24 per loading unit or semi-trailer of a length between 18 and 20 feet and SwF 37 for loading units or semi-trailers longer than 20 feet. Through this measure around SwF 20 million are reimbursed annually to road transport operators. (Reference: *Database UN-ECE, Switzerland, §6.3*)
	Heavy vehicle fee	National	Use	CT transport network	See Appendix 8.
	Higher weight limits for road vehicles transporting intermodal loading units	National	Road Freight Vehicles	CT transport network	While the maximum weight of lorries with more than four axes, of road trains and of articulated vehicles is limited to 40 tons, the maximum permissible weight of these vehicles is increased to 44 tons if used in non-accompanied combined transport (containers, swap-bodies, semi-trailers) for haulage towards or from a terminal or a Swiss port. (Reference: *Database UN-ECE, Switzerland, §7.3*)

	Internalization of external costs	National	Taxation	Taxation for users (to make the CT more competitive)	A distance-related heavy vehicle fee (HVF) has been levied in Switzerland since 1 January 2001. One of the objectives of the distance-related heavy vehicle fee - HVF (also called LSVA, RPLP or TTPCP) is to encourage the transfer of freight traffic from road to rail. By internalizing infrastructure and external costs, the HVF has improved the framework conditions for rail transport. The HVF replaces the previous flat-rate heavy vehicle fee and it applies to heavy-goods vehicles with a permissible laden weight exceeding 3.5 tonnes and is calculated on the basis of three criteria: number of kilometres covered on Swiss territory, permissible laden weight of vehicle and vehicle emissions. (Reference: *Database UN-ECE, Switzerland, §3.1*)
	"Promotion of trans-Alpine rail freight" Förderung des alpenquerenden Schienengüterverkehrs, BAV	National	Use -Subsidy	CT financial incentives for operators	Subsidy per transported CT loading unit and per CT train.
	Refunds for trips in unaccompanied combined transport (UCT)	National	Taxation	CT financial incentives for operators	Trips leading up to and after UCT are those carried out by road vehicles with transport units (containers, swap bodies, trailers) between the point of loading/unloading and a transhipment station or the Rhine port. In this regard, the load may not change when being transferred from one carrier of transport units (containers) to another. Source: https://www.ezv.admin.ch/ezv/en/home/information-companies/transport--travel-documents--road-taxes/heavy-vehicle-charges--performance-related-and-lump-sum-/lump-sum-heavy-vehicle-charge--psva--for-swiss-vehicles/refunds-for-trips-in-unaccompanied-combined-transport--uct-.html
	Strict enforcement of road haulage regulations	National	Taxation	CT transport network	The improvement of heavy goods vehicle traffic checks is an auxiliary measure to promote the transfer of freight transport from road to rail. It aims at creating fair competition conditions between rail and road and further improving road traffic safety, in particular on transit routes, by better enforcing legislation (traffic forbidden to non-compliant vehicles). As a first step, mobile checks for heavy goods vehicle traffic were reinforced. Additional checks were put in place in new centres of competence as a secondary step. Checks on heavy goods vehicle traffic include the following topics: weight, dimensions and technical state of the vehicle (brakes, steering, general state), driving licence of the driver, respect of the driving and rest times. Moreover, the police enforce alcohol tests and drugs controls. In 2010, SwF 24 million were allocated to the improvement of heavy goods vehicle traffic checks. The necessary funds are taken from the RPLP. (Reference: *Database UN-ECE, Switzerland, §7.6*)

Appendix 10: CT Project

Political level	Acronym/ Title	Start-End	Geographical level	Type	Main Filed	Related to CT process sub-fields	Related to stakeholder	Short description and main results
Europe	**ADB Multiplatform: Adriatic – Danube – Black Sea multimodal platform**	2012-2015	EU	Pilot	Services	Combined Services	Operators	***Short description*** The main scope of the project is to develop and promote environmentally friendly, multimodal transport solutions from the ports in the SEE area to inland countries and other regions along a selected pilot transnational network. Established "multimodal transport development platform" integrates different regions and transport stakeholders to promote rail cargo transport. Project focuses also on measures to calculate external costs of transport on pilot routes. Also institutional framework, standards and procedures for integration and interoperability is addressed. Through the implementation of "ADB Green Transport Agreements" project also addresses integration of existing best practices of ICT and cost internalisation. ***Main results*** The main results of the research project were: - Analysis and Assessment of existing transport standards in the Combined transport sector; - Development and harmonisation of ICT tools: - Tracking and tracing system for freight trains; - Harmonisation of Custom Management Systems, including tools for automated cargo documents management, Integrated Port Management System; - Development and Application of Multimodal Development Centres (MDC); - Definition of measures for external cost internalisation through the implementation of "ADB Green Transport Agreements", accompanied by the definition of a common training module. Also main pilot activities were testing and application of ADB Multimodal Platform components in pilot projects covering 4 transnational corridors: - Black Sea to landlocked countries (Greece to BG/RO and "Corridor X"); - Northern Adriatic to landlocked countries (AT/SK/SB/HU); - Inter Adriatic (Corridor VIII); - Danube River from Slovakia to Black Sea.
	ADRI-UP **Upgrade of the Pier no. 6**	2016-2020	Corridor	Implementation	Infrastructure	First/last mile solutions	Operators	***Short description*** For the port of Trieste, the project focuses on the restructuring of the multipurpose and intermodal Pier VI in order to double the existing mooring and operate safely the increased maritime traffic. ***Main results*** Doubling of the existing mooring.
	AGORA **Intermodal Terminals in Europe**	2009-2010	EU	Tool (guidelines, recommendations, …)	Infrastructure	Combined terminals	Terminal managers, Users, Operators	***Short description*** The project AGORA aims at improving management capabilities of intermodal terminal operators throughout Europe and increasing capacity by a set of innovative, smart operational measures and the involvement of users. It is also set to creating awareness of terminal capacity enlargement needs and contributing to a more effective intermodal transport in Europe by improving know-how and experience and sharing it with all intermodal stakeholders: terminal and intermodal operators, railway undertakings, customers e.g. shippers and logistic service providers, and infrastructure managers. Hereby the action matches the Marco Polo objectives concerning the improvement of co-operation among stakeholders and dissemination of results. The action has created a "Good practice manual on efficient terminal management", a website, training courses, and seminars with stakeholders including intermodal business actors as well as national and European transport administrations. The consortium is composed of intermodal terminal and intermodal transport operators from Austria, Belgium, France, Germany, Hungary, Italy, and The Netherlands under the leadership of RailCargoAustria's business unit "Terminal Services", Austria, that have committed to this action. They represent about one third of central European handling volume. ***Main results*** Good Practices Manual for the Management of Intermodal Terminals. Intermodal Terminal Database.
	AlpCheck **Alpine Mobility Check**	2006-2008	Alpine space	Pilot	Services	Other	Public decision makers, Users, Other	***Short description*** AlpCheck (Alpine Mobility Check) is a project funded under the Interreg III B – Alpine Space Programme involving 13 Partners from 4 different Member States of the Alpine territory (Austria, Germany, Italy and Slovenia) with a total budget of 4,7 Meuro, deals directly with these themes. The main objective of AlpCheck is to create an Information System providing shared and comparable information on the actual status of the Alpine road transport network building on existing data sources. The System takes into account the peculiarities of the various geographical contexts and the different traffic typologies within the Alpine Space. ***Main results*** The AlpCheck Project obtained a series of results which are far from negligible for their innovative content and their contribution to the public debate on the theme of the development of sustainable mobility in the Alpine territory. - Identification of users' requirements: an Information System was created to manage traffic data coming from the variety of monitoring systems that have been identified. Moreover, the survey allows a better understanding of potential users, possibilities of gathering traffic data, and relevant projects related to traffic data gathering; - Turning AlpCheck into a reference tool for the analysis and evaluation of monitoring strategies and policies for the Alpine road transport networks, finally leading to the creation of an info-mobility system; - The testing (definition, design, implementation and evaluation) of a series of pilot projects, concerning different types of traffic and different territorial contexts, dealing with • investigation of local, tourist and freight flows through the use of innovative technologies; • analysis of road traffic impact on environmentally critical points; • Testing the potential of logistic platforms for monitoring freight flows across the Alpine area; • Identifying traffic routes that are characterised by a high share of "empty journey"; - Identification of critical environmental points: development and implementation of an analytical methodology to quantify pollution caused by road vehicles.

	AlpCheck2 **Alpine Mobility Check - Step 2**	2009-2012	Alpine space	Pilot	Services	Other	Public decision makers	***Short description*** AlpCheck2 (Alpine Mobility Check – Step 2), funded within Priority 2 of the European Territorial Cooperation Programme "Alpine Space" 2007-2013, aims at supporting International, National and Regional policy-makers by delivering concrete tools to design and implement integrated road transport management and planning policies that match the competitiveness and sustainability needs of the Alpine regions. AlpCheck2 Partnership mixes up a wide set of competences, ranging from expertise in managing territorial co-operation projects to specific technical know-how: 3 national authorities; 4 regional authorities; 2 public research centres; 1 private company. It is made up by 3 different components linked together by the red wire of the innovation: 1) The creation of a Transport Decision Support System (TDSS) that integrates data warehouse features with advanced modeling functionalities to support decision makers dealing with transportation managing and planning; 2) The adoption of a distinctive approach towards the sustainable development of the Alpine area by integrating transport information with environmental models for estimating atmospheric and noise emissions from road vehicles; 3) The development of innovative solutions for handling transportation related issues at local scale through the implementation of 4 pilot projects. ***Main results*** AlpCheck2 concrete outputs: - A Transport Decision Support System (TDSS): Databases including road network characteristics and tables of traffic counts and traffic flows estimates concerning future scenarios; Database of calibrated Origin Destination Matrices; Traffic model for the road network of the Alpine Area; A model of estimation of dangerous goods transport; A unique georeferencing representation of the alpine Road Network (Core Network); The integration of regional transport information systems; Realisation of a census of permanent GPS stations across the Alpine pace; A user friendly web GUI interface for graphic representation of all data produced by AlpCheck2; - 5 studies of environmental assessment: Atmospheric pollution; Dispersion model; Noise pollution; Social cost of externalities (air pollution and noise); Environmental Sensitivity Index, - 4 Pilot projects; - Panel of International stakeholders (Transnational Platform Panel); - Development of synergies and clustering with 7 European Projects; - Quality control of data and services.
	AlpFRail **Alpine Freight Railway**	2003-2007	Alpine space	Tool (guidelines, recommendations, …)	Infrastructure	Environment		***Short description*** Project focus is the traffic of economical centers among the alpine space including the interface to neighbor regions. The main objective is to enhance the acceptance of the railway as alternative and complemented transport media to prevent the alpine space from an economical, environmental and traffic disaster according to European programs (e.g. Alps Convention). Shifting freight traffic from road to rail is one step to contribute to the reduction of CO2 emissions. This was aim of the European project which was funded by the European Interreg IIIB Alpine Space programme. It was demonstrated that solutions can be found in short term by developing a transnational network which is coordinated by a central project management. ***Main results*** Operation solutions for the transalpine railway freight traffic for sustainable management of connections of the economic areas within the alpine space. An optimal handling of traffic is an important precondition for economic growth and long dated securing of jobs also in peripheral regions. By analysing the freight transports over the Alps it was found out that more than 50 % is transit traffic that is generated outside the alpine space. For "danger prevention" of the Alps it is essential to have partners in the network integrated that are generators of transit traffic. For example it is necessary to have train concepts ready for the container growth at the Mediterranean ports before the containers are travelling on the road via the Alps. Further one should have in focus the long-running distances beyond the alpine space as these distances are the main interesting for railway companies and operators.
	ETCS **European Train Control System**	n.a.	Cross-border	Implementation	Infrastructure	Combined services	Operators	***Short description*** The European Train Control System (ETCS) is one of the key features of rail interoperability throughout Europe. Depending on the version, this train protection system requires no external signals at all. The information is displayed on a screen in the locomotive driver's cab. This allows trains to travel more quickly and also reduces the time between trains. The ETCS is intended to replace the wide variety of different European train protection systems. It has been in use on the high-speed routes from Rome to Naples and Milan to Turin since 2006. In Switzerland it was first introduced on the new line between Olten and Bern (Mattstetten–Rothrist; in 2004/2006) and in the Lötschberg base tunnel (in 2007). The entire standard gauge network in Switzerland will have been converted to ETCS Level 1 LS or ETCS Level 2 by 2017. ***Main results*** Development of the European Train Control System
	Fresh Fruit Corridor **Logistics Chain for fresh fruit transport from Israel to German markets through ship, rail, truck**	2016-2018	EU	Pilot	Services	Combined services, Transhipment technologies, Combined terminals	Terminal managers, Users, Operators	***Short description*** Logistics Chain for fresh fruit transport from Israel to German markets through ship, rail, and truck. It is a pilot action, co financed by EU in the CEF network. Cargo in refrigerated container are loaded in ships, and in Venice port, in Mos Fusina Terminal are loaded in trains for the forward to German markets). ***Main results*** A CT transport service using ship and rail.
	Future Trailer (simply fits on and off the road)	2016-2017	EU	Implementation	Services	Transhipment technologies	Operators	***Short description*** The project "Future Trailer" aims at creating a "Clearance Envelope" for the future intermodal transport so that semitrailers can flexibly be used on road and rail. This is done by the development of specific and practical recommendations regarding infrastructure, wagon and semitrailer. This will make the decision if the semitrailer can be used in Combined Traffic as easy as the check of the hand luggage at the airport. ***Main results*** In order to provide information about the project and interim results there was a "Future Trailer" (a standard semitrailer) at the fair transport logistic 2017. A dedicated room with information about the project offered the possibility to discuss the project contents in detail with experts. There were a lot of interesting statements about the Future Trailer at the logistic fair in Munich.

	GIFT **Green Intermodal Freight Transport**	2012-2015	EU	Pilot	Services	Environment	Operators, Operators	***Short description*** The main aim of the GIFT project is to map, analyse, and evaluate the status of the transport sector in the GIFT transport network. GIFT project focuses on: - proposal of new policies and strategies in infrastructure, processes, assets, ICT, legislation, norms and harmonization/ standardization issues, in order to promote innovative green intermodal freight transport corridors; - prepare detailed analysis of combined transport operation within three Pan-European Transport Corridors, namely IV, V and VII that cover almost the entire SEE region; - synthesize concrete and pragmatic proposals for the improvement of the current transport network and for relevant policies to promote green transport in the selected corridors; - implement CT pilot actions on the selected corridors. ***Main results*** GIFT aspires to contribute significantly in defining efficient green transport corridors through the SEE region. The expected results and outputs from the GIFT project are as follows: - assessment of the selected corridors with respect to the European benchmarks; - developement of innovative tools to support Green intermodal transport, including an innovative web tool (green observatory) that will be used for monitoring the CO2 footprint and KPI for benchmarking and assessment tools for the evaluation of selected corridors; - transnational schemes and agreements towards green transport in the SEE area.
	IMonitraf! Implementation of MONITRAF - Monitoring of Road Traffic related Effects in Alpine Space and Common Measures	2009-2012 and 2012-2018	Corridor	Implementation	Services	Environment	Public decision makers	***Short description*** The Alpine regions are particularly sensitive to the negative impacts of freight and passenger transport. This is due to very high shares of heavy goods vehicles (HGV), specific topographical features, limited spatial resources and highly vulnerable ecosystems. To tackle the common challenges, the regions Rhône-Alpes, the autonomous Province of Bolzano, the autonomous Region of Aosta Valley, the Piedmont Region, the Friuli-Venezia-Giulia Region, the Canton of Ticino, the Conference of Governments of Central Switzerland, the Land of Tyrol as well as the European Academy of Bolzano have joined forces in 2005 to develop common solutions. In the frame of two projects under the Alpine Space Programme, the regions have developed a common monitoring system and have analysed Best Practice measures as well as impacts of common steering instruments. Results from these activities have been discussed with regional policy makers and finally brought together in a common strategy. For the period 2013-2016, political representatives of the iMONITRAF! regions have decided to establish a Coordination Point which will continue the different activities of iMONITRAF!. The Coordination Point shall support the implementation of activities and milestones towards an ambitious and coordinated transport policy of the Alpine regions as defined in the iMONITRAF! resolution and strategy. As basis for further discussions, the common monitoring activities will be continued, with an annual update of the WebGIS system. Further, the best practice exchange on regional measures will be continued to support the implementation of a harmonized set of measures in the long-term. Political networking as well as the identification of political "windows of opportunity" as well as related actions for iMONITRAF! are further task of the Coordination Point. Major results of these activities are presented in annual report as well as the iMONITRAF! Transport Forums. In November 2016, political representatives from the Conference of Governments of Central Switzerland, Tirol, South Tyrol and Trentino signed a new agreement to continue the activities of the iMONITRAF! network for the years 2017-2018. This agreement has been later signed also by Auvergne Rhone-Alpes and by Ticino (the latter as observer). The agreement defines the requirements and responsibilities to participate in the network, the general tasks of iMONITRAF! as well as its financing. Eurac Research confirms its involvement in the project, modifying its position from partner to technical consultant. The main task is to provide PPs with technical information about traffic and other environmental indicators, which are considered necessary to monitor the transport condition along transalpine axes and to develop a common political strategy. The iMONITRAF! resolution includes specific actions for implementation. It is built on the following elements: 1) A common long-term vision for a sustainable transport system for the Alpine Space; 2) Common short- and mid-term targets to reach this development path; 3) Common measures that support these targets and lead to a more harmonised transport system, including the use of new steering instruments; 4) An action plan on how to continue the cooperation and the iMONITRAF! network. Objectives of iMONITRAF!: • Strengthening the common voice of the Alpine regions; • Reduction of negative health and environmental impacts; • Analysis of common measures and their impacts – both freight and passenger transport; • Development of common strategy for transalpine rail and road traffic. ***Main results*** Three Transport Forums provided a platform for creating a transport policy network in the Alpine Space. Milestone 1 – From the MONITRAF mandate towards Innsbruck: Web-survey to feel the pulse of stakeholders and decision makers; Indicators to define a common framework to analyse effects of transalpine traffic; The Best Practice Guide. Milestone 2 – Transport Forum in Lucerne: The DPSIR-system as decision making tool to support the analysis of policy scenarios; Report on innovative approaches from the regional viewpoint. Milestone 3 – Final Transport Forum in Lyon: The political roundtable discussion clearly illustrated recognise high pressures from transalpine transport, common measures are crucial to develop a sustainable transport system, the cooperation of the Alpine regions is recognised as crucial need towards a sustainable transport system. For the Annual Reports (released in January), iMONITRAF! partners have provided information on Best Practices and environmental and traffic indicators in their region. Results are visualized thorugh the WEBgis system.
	NAPA4CORE **Construction of the new "Logistics Platform"**	2014-2018	Corridor	Implementation	Infrastructure	First/last mile solutions	Operators, Terminal managers	***Short description*** The activity addresses the first phase of reconstruction of the port area, with the main objective to develop a new logistic platform. The activity concerns construction of 431 metres (m) long quay for vessels of up to 13 m draught as well as development of a confined disposal facility (CDF) for dredged sediments. The construction works consist of the following main parts: • Site preparation • Land decontamination • Excavation • Construction of a plastic diaphragm wall • Completion of the quay line and construction of the roro berth • Positioning of structural piles • Construction of structural deck with prefabricated plates ***Main results*** No results are visible yet. First impacts on travel times, rail capacity and reduction of pollutant emissions are expected after the end of the construction phase. Technical improvements described in column M are considered necessary to shift freight traffic from road to rail (see also the report provided by ProgTrans, 2007, available at: https://www.bmvit.gv.at/verkehr/eisenbahn/verfahren/bbt/uvp/progtrans_prognose.pdf

	NexTrust – EU project	2015-2019	EU	Pilot	Services	Environment	Public decision makers, Operators, Users	***Short description*** NexTrust is an EU-funded project which brings together 31 partners to drive collaboration in the logistics industry. Its objective is to increase efficiency and sustainability in European logistics. It will create interconnected, trusted networks that collaborate together along the entire supply chain. NexTrust will build these trusted networks bottom up, with like-minded partners, adding multiple layers of transport flows that have been de-coupled and then re-connected more effectively along the supply chain. It will develop C-ITS cloud based smart visibility software to support the re-engineering of the networks, improving real-time utilisation of transport assets. A specific focus is on CT. NexTrust is coordinating 33 different pilots which address problems across the length and breadth of the logistics industry. These include: - Bundling freight volumes to reduce the number of vehicles running empty, or at less than full capacity; - Shifting freight from the road onto rail and waterways which are more carbon-efficient; - Creating and refining technologies designed to optimise efficiency in logistics, including re-engineering networks and improving real-time utilisation of transport assets. ***Main results*** In progress. Two reports are currently online: a) D1.1 Report: Results of identification phase (11th January 2017) b) D2.1: Report: Network Identification FTL (11th January 2017) This report provides an overview of the identification phase of the three-step trusted network methodology in WP2 which aims to develop interconnected trusted collaborative networks along the FTL transport supply chain across Europe. In particular collaboration opportunities for FTL road bundling and FTL conversion to inter-modal services were analysed and identified.
	NiKRASA	2015-Ongoing	EU	Implementation	Services	Transhipment technologies	Users	***Short description*** The NiKRASA-system makes it possible to easily transfer non-crane-able semi-trailers from road to rail within the existing standards and infrastructure. This transfer is done without any changes at the wagon, the semi-trailer or the business processes. The already existing transhipment sites in the terminals for combined traffic can be used without any additional investments and thus, the utilization of these terminals can be improved. NiKRASA is already being deployed successfully on the following routes: a) Padborg – Verona b) Herne – Verona c) Bettembourg - Trieste d) Herne - Malmö Shortly, NiKRASA will also be available on the following transport links: a) Göteborg – Verona b) Lübeck – Verona c) Rostock – Verona d) Hanover – Verona e) Herne – Vienna f) Cologne – Verona g) Malmö - Herne - Bettembourg - Le Boulou ***Main results*** Well-perceived, NiKRASA allows freight forwarders to use their current equipment, lower barrier for freight forwarders to use CT
	POLY5 **Polycentric Planning Models for Local Development in Territories interested by Corridor 5 and its TEN-T ramifications**	2011-2014	Alpine space	Implementation	Infrastructure	Long haul solutions, Combined services	Public decision makers	***Short description*** POLY5 is a transnational project under the framework of the European Cooperation Programme Alpine Space 2007-2013, priority 2 "Accessibility and Connectivity". The project involves 10 partners coming from Italy, France, Austria and Slovenia and 10 observers which are institutions supporting the project and interested in its development and results. The main project objective is to enhance accessibility, connectivity and competitiveness of alpine territories interested by Major Transport Infrastructures (MTIs) granting, at transnational level, a balanced and polycentric local development. This overall project objective is addressed through the implementation of local development models able to take advantage of the opportunities offered by the infrastructure in all phases of its life-cycle: design of the infrastructural project, implementation during its building and management, once the infrastructure is functioning. The project starts from data collection to define a shared cognitive framework of the territorial resources, values and risks related to the MTI impacting on the partnership area. Then the intervention logic provides transnational solutions, with the provision of specific toolkits, to common problems and the implementation of pilot actions to test the toolkits proposed for local polycentric development. The last step is the evaluation of the efficacy of the toolkits developed and their generalization and transfer to decision makers at the European, National, Regional and local level. ***Main results*** POLY5 shared among the partnership a cognitive framework to understand how large scale infrastructures impact on fragile territories, has built a series of tools to transform impacts in opportunities and tested them at local level through 9 pilot actions ranging from solutions on sustainable mobility, to support measures for construction sites. Project results have been analyzed in terms of transferability, both at local and transnational level, and resumed into an Open Letter which is both a policy recommendation and the basis around which partners agree to carry on the cooperation around this topics in the future. POLY5 is now closed but the partnership will be working together to put into action the Open Letter indications, either through bilateral cooperation among some partners or by enlarging the cooperation and preparing new project proposals.
	Suivi de Zurich - Working Group, Heavy goods traffic management systems in the alpine area, Review on Combined Transport in Alpine countries	2014-2014	Alpine space	Study	Infrastructure	Combined services, Combined terminals, Long haul solutions	Public decision makers, Terminal managers, Operators	***Short description*** In the context of the declaration of Zurich, the ministerial conference of May 2nd 2012 entrusted the working group of traffic management systems to carry out a review of the different offers of Combined/multimodal/rail transport services aiming at enhancing the transparency for consigners and transporters about existing and planned services by rail, in particular using Combined Transport. This should lead to an increase in demand for rail services and thus contribute to one of the overall aims of the Suivi de Zurich, i.e. the modal shift from road to rail. This review of Combined/multimodal/rail transport is designed to give an overview of the existing services, the projects already under construction or planned, the specific framework conditions and the remaining weak points which should be tried to eliminate or to find solutions to overcome them. The review presents the status quo in May 2014 and serves for information. ***Main results*** The report gives information about measures for CT, infrastructure, CT-offers and CT-volumes in the countries of the Alpine region.

	Susfreight **Sustainable Freight Transport**	2013-2014	Alpine space	Tool (guidelines, recommendations, …)	Services	Environment	Operators, Public decision makers	***Short description*** SusFreight, Sustainable Freight Transport – Now and Tomorrow, is a project co-financed by the Alpine Space Programme under the 5th Call for Proposals. SusFreight aims at addressing the environmental problems related to transports through the natural bottleneck represented by the economically dynamic regions composing the Alpine Space. The SusFreight project gives recommendations to the public sector to support future policies and projects and reshape EU Programmes – Alpine Space 2014+ in particular - in the field of sustainable transport and mobility. The SusFreight project mapped the relevant stakeholders as well as projects and initiatives in the Alpine Space and beyond. ***Main results*** The project results include the 18 recommendations in future policies to improve sustainable freight transport in the Alps. Furthermore, a grown understanding for the economic demands and companies issues is provided. In particular, the inclusion of companies in future projects and their grown importance not only as target group but as project partner with valuable knowledge and contribution to the implementation of future projects and increase their effectiveness. The recommendations are focused especially on: - Combined Transport logistics chain and the identification of specific leverages and measures leading to improvement or simulating consequences along the whole chain; - New technologies for Combined Transport should be fostered and supported; - New business models need to be developed in order to facilitate participation of transport industry SMEs in the Combined Transport market ; - A best-practice guideline for the design of loading and transfer terminals as well as freight villages based upon state-of-the-art processes and existing standards. Moreover, integrate a sustainable and robust transport network in the Alpine Space can increase infrastructural capacity of and seamless transport flows; - Find a balance between optimal transport flows, effective and efficient transport ways and sustainable land use.
	SWIFTLY Green **Sweden-Italy Freight Transport and Logistics Green Corridor**	2013-2015	Corridor	Tool (guidelines, recommendations, …)	Services	Environment	Public decision makers	***Short description*** The mission for the SWIFTLY Green project is to support the development of green logistics and transport in Europe. The goal was to develop a toolbox with measures and recommendations to "green" the TEN-T Corridors, especially the Scan-Med Corridor. This was done by analysing the Corridor, meaning that the traffic flows were evaluated, and the same was done for the infrastructure, the various tolls and the varying regulations in the various regions. Subsequently, the existing studies were evaluated and in the next step - the main part of the work - measures were analysed and best practice cases were drawn up. ***Main results*** The result of the project was the drafting of about 130 analysed measures that can all be called up in the Green Corridor Portal and filtered according to certain criteria, and the Green Corridor Development Plan. This document is addressed mainly to the Coordinators and decision-making institutions of the other Corridors and includes recommendations as to how the results of the SWIFTLY Green project can be applied to other projects. The "Replica Corridor Tool", a large data bank of measures permits to search for specific activities or objectives that the actions are meant to be implemented. The project partners defined greening (goals) as follows: reduction of noise, energy consumption and greenhouse gas emissions, modal shift , improvement of traffic flows, reduction of air pollution and increased efficiency within individual transport modes and the various measures are mainly evaluated on the basis of these criteria. Subsequently, marketability was evaluated, verifying whether a prototype of a certain technology exists, if it is ready for serial production and whether it is relevant for the corridor as such, whether it can be applied only in a certain region or in the entire Corridor. There is a search field where queries can be input and some measures are identified. The measures cover many different sectors of infrastructure, logistics, transport technologies and guidelines or directives. The Green Corridor Portal includes all the measures analysed as part of the project but the overall goal is for stakeholders to upload their own measures to create a portal that can be used over the long term.
	TEN-T **Scandinavian-Mediterranean Core Network Corridor**	2014-2020	Corridor	Implementation	Infrastructure	Long haul solutions	Operators	***Short description*** It is a crucial axis for the European economy, linking the major urban centres in Germany and Italy to Scandinavia and the Mediterranean. Crossing the Baltic Sea from Finland to Sweden and passing through Germany, the Alps and Italy, it links the major urban centres and ports of Scandinavia and Northern Germany to continue to the industrialised high production centres of Southern Germany, Austria and Northern Italy further to the Italian ports and Valletta. The most important projects in this corridor are the fixed Fehmarn belt crossing and Brenner base tunnel, including their access routes. ***Main results*** 1) The Öresund Bridge is a combined two track rail and four lane road bridge and tunnel across the Øresund Strait between Sweden and Denmark. It is the longest combined road and rail bridge in Europe. Works started in 1995 and the link was opened to traffic on 1 July 2000, with a project cost of €2.7 billion. Railway and road transport have developed quickly, mainly as a result of the increased integration between the areas in both sides of the link. 2) The Milano – Roma – Napoli high speed line became fully operational with the completion of the section between Bologna and Firenze at the end of 2009. The travelling time between Milano and Roma has been reduced from 5 hours to 2 hours 45 minutes. This high speed section now takes 60% of the total passenger traffic flow between the two cities. The passenger volume between Milan and Napoli has increased by approximately 25%. In 2010, almost 20 million passengers used this line. The Brenner Base Tunnel the cross-border section between Munich and Verona going through the Alps is a major bottleneck on the Scandinavian - Mediterranean Corridor. The removal of this bottleneck is crucial for the realisation of the entire corridor. The Fehmarn Belt crossing is a key component in the main north-south route between central Europe and the Nordic countries.
	TEN-T **Baltic-Adriatic Core Network Corridor**	2014-2020	Corridor	Implementation	Infrastructure	Long haul solutions	Operators	***Short description*** The Baltic-Adriatic Corridor is one of the most important trans-European road and railway axes. It connects the Baltic with the Adriatic Sea, through industrialized areas between Southern Poland (Upper Silesia), Vienna and Bratislava, the Eastern Alpine region and Northern Italy. It comprises important railway projects such as Semmering base tunnel and Koralm railway in Austria and cross-border sections between Poland, Czech Republic and Slovakia ***Main results*** During the last decade some road and rail sections along the Baltic-Adriatic-Corridor have been upgraded, renovated or build in Poland, Czech Republic and Slovakia. In Austria the works to eliminate bottlenecks or missing links started or are close to being terminated: 1) The building of the new Vienna railway station is going to be finished by 2015. The station was already partly opened in 2012. 2) The works at the 30 km long Koralm-Tunnel started in April 2011. This tunnel will provide the first direct rail link between Klagenfurt and Graz in Austria. Once operational in 2022, the travelling time from Vienna to Klagenfurt will be shortened from 4 to 2.5 hours. The travel time between Warsaw and Klagenfurt will be reduced by over 3 hours (compared to the current almost 12 hours to get from Warsaw to Klagenfurt, in 2025 it should take less than 9 hours). 3) The preparatory works at Semmering Base Tunnel (27.3 km, 230 km/h max) started in April 2012. 4) In Italy, the so-called Pontebbana line has been double tracked, electrified and improved in the 1990 already. The main missing links of the Baltic – Adriatic Corridor are the cross-border sections and the Semmering and Koralm tunnels in Austria for the Alpine crossing. The multimodal cross-border connections between Vienna, Bratislava, Ostrava and Katowice need upgrading.

	TEN-T **Rhine-Alpine Core Network Corridor**	2014-2020	Corridor	Implementation	Infrastructure	Long haul solutions	Operators	***Short description*** The Rhine-Alpine Corridor constitutes one of the busiest freight routes of Europe, connecting the North Sea ports of Rotterdam and Antwerp to the Mediterranean basin in Genoa, via Switzerland and some of the major economic centres in the Rhein-Ruhr, the Rhein-Main-Neckar, regions and the agglomeration of Milan in Northern Italy. This multimodal corridor includes the Rhine as inland waterway. Key projects are the base tunnels, partly already completed, in Switzerland and their access routes in Germany and Italy. The volume of freight transported each year on the 1500-km-long corridor amounts to more than one billion tons (2013). Forecasts indicate that this Figure will more than double by 2030. The plan is to introduce ETCS as the standard train protection system on the corridor over the next few years (Contribution of the partner PP15 AI, manuel.herrmann@alpeninitiative.ch). ***Main results*** 1) The Betuwelijn (Betuwe Line - Priority Project 5) Line is a 143 km long, two track railroad dedicated to freight linking Rotterdam harbour to the German border. It was put into service in June 2007. Since then, traffic on the Betuwe Line is progressing. A further increase of demand for train paths is expected to occur due to the entry into service of the Maasvlakte 2 in the Port of Rotterdam. The cost of the infrastructure amounted to €4.7 billion, with EU contributions amounting to €179 million since the year 2000. 2) The Lötschberg Tunnel, part of the AlpTransit Project, is a 35 km long railway tunnel cutting through the Swiss Alps. It is currently the world's longest land tunnel in use and accommodates both passenger and freight trains. Breakthrough was made in April 2005 and construction ended in 2006 for a full scale operation in December 2007. It is a centrepiece of the corridor: built to ease lorry traffic on Swiss roads, the tunnel allows an increased number of lorries and trailers to be loaded onto trains in Germany, pass through Switzerland on rail and be unloaded in Italy. It is also used for bringing tourists to the Alpine resorts by train as well as for local commuting. About 110 trains per day use the Lötschberg Base Tunnel, including passenger trains and intermodal freight transport plus heavy freight trains. 3) The Gotthard Tunnel, part of the AlpTransit project, is a railway tunnel beneath the Swiss Alps. With a route length of 57 km and a total of 151.84 km of tunnels, shafts and passages, it is the world's longest rail tunnel. The construction works of the tunnel began in 1996 and the tunnel should be operational in 2017, cutting the 3.5-hour travel time from Zurich to Milan by an hour. The main missing links on this corridor are the bottlenecks in Germany and Italy, where capacity upgrades are required, and a better interconnection between the Belgian and Dutch networks with the German one, particularly between Emmerich and Oberhausen. In addition, the access routes to the Swiss tunnels on EU (Karlsruhe-Basel and CH-Milano/ Novara) territory need to swiftly progress.
	TEN-T **Mediterranean Core Network Corridor**	2014-2020	Corridor	Implementation	Infrastructure	Long haul solutions	Operators	***Short description*** The Mediterranean Corridor links the Iberian Peninsula with the Hungarian-Ukrainian border. It follows the Mediterranean coastlines of Spain and France, crosses the Alps towards the east through Northern Italy, leaving the Adriatic coast in Slovenia and Croatia towards Hungary. Apart from the Po River and some other canals in Northern Italy, it consists of road and rail. Key railway projects along this corridor are the links Lyon – Turin and the section Venice – Ljubljana. ***Main results*** 1) The Madrid-Barcelona high speed line was opened in February 2008. This new 621 km line reduced the journey time between the two cities from 5 hours in 1996 to 2 hours 38 minutes today. It has attracted millions of passengers from air and road transport because of the standards of comfort and a seamless city to city connection. This line is now being extended towards France via the Perpignan-Figueras cross-border tunnel, linking Spain to the trans-European high speed network. The Madrid-Barcelona line has drastically cut back passenger numbers on the saturated air route between the two cities. The main missing sections are the new cross border rail links between France and Italy ("Lyon-Turin") and between Italy and Slovenia ("Trieste-Divača") and the finalisation of a completely upgraded rail link between Spain and France. Multimodal connections with the ports in Spain have to be developed and some rail-way sections in Italy need to be upgraded in order to remove key bottlenecks.

	TRANSITECTS **Transalpine Transport Architects – Improving Intermodal Solutions For Transalpine Freight Traffic**	2009-2012	Alpine space	Pilot	Services	Transhipment technologies	Operators	***Short description*** The project TRANSITECTS aims to shift transport volumes towards rail bound alternatives and to promote multimodal solutions. The main topic of the project was to carry out transport studies for selected transport relations in Northern Italy – Switzerland / Austria – Southern Germany, giving an insight in alpine transport flows, the transport market and intermodal system. Focus of project activities has been a large number of business case studies concerning transalpine train services for combined transport. In the area of Slovenia the case study focused on potential CT developement. The study for Slovenian territory represents a basis for the introduction of two pilot projects through the Republic of Slovenia - unaccompanied intermodal transport between Luka Koper-Ljubljana CT- Munich/Stuttgart and accompanied intermodal transport between Cervignano (Italy) and Maribor Tezno. In the study analysis of demand for such services together with estimation of potentials for both pilots and identification of potential users and organizers of transport are examined and presented. In addition, the railway infrastructure in the Republic of Slovenia is analyzed and the bottlenecks and constraints for CT developement are shown. TRANSITECTS was aiming at developing and implementing attractive rail products and systems to disburden traffic bottlenecks in the Alps and to mitigate related negative effects of traffic. TRANSITECTS elaborated numerous measures for this purpose. The main content of TRANSITECTS has been the development of additional transalpine pilot products for combined transport. At the end of the project the status of the processed pilot projects is different: the output reaches from feasibility studies via implementable concepts to signed declarations of intent or initiative test-trains. Amongst others a new shuttle-service between Mortara and Savona and a wagonload-service in the region of Salzburg were implemented. Apart from that TRANSITECTS designed innovative concepts that aim to improve the functionality of intermodal nodes. For instance a cooperation agreement regarding the development of the logistic node Villach-Fürnitz as a common dry port for the North Adriatic Port Association (NAPA) was signed. Additionally TRANSITECTS developed an environmental model, strengthened cooperation between public authorities and the logistic sector across borders and enhanced attention for the necessity to implement a shift to the railway system. TRANSITECTS thus took important steps for a better transport organisation in the Alpine Space: new offers and optimised intermodal processes strengthen attractiveness and functionality of the railway system for freight transport. ***Main results*** Alpine space area; - development of additional transalpine train services for combined transport. Key Achievements: - Analyses of Cross-Alpine-Freight Transport (CAFT) data in regard to transported goods. Several maps, tables and reports are available. In-depth analysis also available for the Brenner-Corridor. - Analyses of handling technologies that are currently on the market. - Analyses of the Slovenian transport system. - Concepts for train services in transalpine combined transport. These new services may connect economically strong regions in northern Italy, Slovenian ports and hubs and important economic locations in southern Germany with each other. Partly they also include additional antennas to northern Germany. TRANSITECTS elaborated 13 concrete ideas for unaccompanied train offers and 4 concepts for accompanied transport services. All concepts are theoretically implementable as they fit perfectly in the existing system and are able to use spare capacities. - Environmental model for the calculation of the potential reduction of emissions of new train services. - Concepts proposing ideas for functionality improvements of intermodal nodes (e. g. for Villach-Fürnitz, Hubs in Veneto Region and Salzburg). - Intensified discussion process about shifting traffic from road to rail - encouraged by several public events. - New contact networks between public authorities, train operators and transporting economy. - Strengthened transnational network between partners.
Austria	**BBT** **Construction of the Brenner Base Tunnel as central part of the Munich-Verona High Speed (HS) railway line.**	1999-2025	Corridor Austria-Italiy	Implementation	Infrastructure	Long haul solutions, Environment	Public decision makers, Users, Operators	***Short description*** The Brenner Base Tunnel (BBT) is a straight, flat railway tunnel between Innsbruck (AT) and Fortezza (IT). BASIC DATA: - Length of the new Brenner railway line from Munich to Verona: 425 km - Total tunnel length from the Innsbruck bypass to Fortezza: 64 km - Longitudinal grade: 4.0 ‰ – 6.7 ‰ - Design speed for goods trains: 120 km/h - Design speed for passenger trains max. 250 km/h - Energy supply for railway traction: 25 kV 50 Hz - Control and command system: ETCS Level 2 - Travel time (Verona - Munich, with a passenger train): current = 05 h 23 m; future = 03 h 00 m Planning and construction phases: I_ preliminary project and prospection: 1999–2003 II_ final project and Environmental Impact Assessment: 2003–2010 IIa_ exploratory section: 2007–2013 III_ main tunnel: 2011–2025 ***Main results*** No results are visible yet. First impacts on travel times, rail capacity and reduction of pollutant emissions are expected after the end of the construction phase. Technical improvements described in column M are considered necessary to shift freight traffic from road to rail (see also the report provided by PorgTrans, 2007, available at: https://www.bmvit.gv.at/verkehr/eisenbahn/verfahren/bbt/uvp/progtrans_prognose.pdf).
	ILKÖ **Integriertes Logistiknetzwerk KV in Österreich**	2014-2016	National	Study	Services	Combined services	Operators, Other	***Short description*** The ILKÖ-project aims to develop an integrated end-to-end logistics network for rail freight transport focusing on Combined Transport in Austria. Existing barriers between the different players shall be dismantled and an innovative, neutral logistic-network in the approach of a one-stop-shop should be designed. The essential output of the project consists of an innovative software-architecture and an implementable organisational and business model. Project partners: c.c.com Andersen&Moser GmbH, LTE Logistik- und transport-GmbH, Montan Speditionsgesellschaft m.b.H., Salzburg AG für Energie, Verkehr und Telekommunikation, Traffix Verkehrsplanung GmbH, Wiener Lokalbahnen Cargo GmbH ***Main results*** The essential output of the project consists of an innovative software-architecture and an implementable organizational and business model. As a follow up, it is planned to test this new developed logistics-network with existing logistics services.

	Koralm Tunnel	1999-2023	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Users, Operators	***Short description*** The Koralm tunnel is the central part of the 130 km long Koralm Line, a high capacity railway link between the provinces Styria and Carinthia in southern Austria. The Koralm Line is, in addition, part of the extension of the high priority TEN Corridor 23 to Northern Italy. It is thus part of the internationally important Baltic-Adriatic axis that extends from Gdansk via Warsaw and Vienna to Trieste, Venice and Bologna. The railway is primarily built for intermodal freight transport but will also be used by passenger trains travelling at up to 250 km/h. The Koralm high-speed rail project is currently underway in south-east Austria by ÖBB Infrastruktur. It is part of the 2,400km trans-European Baltic-Adriatic Corridor that stretches from Gdansk and Gdynia on the northern coast of Poland to Bologna and Ravenna in northern Italy via Warsaw and Vienna, linking the Baltic and Adriatic seas. The Koralm line will directly link Klagenfurt and Graz, the respective capital cities of Austrian states Carinthia and Styria, while reducing the travel time between the cities from three hours to less than an hour. The project is estimated to cost €11bn ($13.8bn) and includes 130km of double-track electrified line, 12 stations and stops, as well as a 32.9km-long tunnel, the longest railway tunnel of Austria. Expected to be operational by 2023. Infrastructure: - Between Frauental an der Laßnitz in Styria (AT) and Sankt Andrä in Carinthia (AT); - Length of the tunnel: 32,9 km; - Expected speed: 200 km/h ***Main results*** No results are visible yet but the new project will reduce the travel time.
	Mobility of the Future, KV FTI-Study about potentials in Combined Transport	2014-2014	National	Study	Services	Environment	Public decision makers, Terminal managers, Operators, Users	***Short description*** KV-FTI - Combined freight traffic - revealing the future potentials of research and innovation Combined transport (CT) is an environmentally sensible and politically desired traffic, which is struggling with cost problems due to complicated supply chains. Previous innovations in CT have focused much on the development of new transhipment technologies. These innovations were very expensive and resulted in the medium term partly to a further increase in the cost of the supply chain. The intention of this study includes a redesign of the transport and business processes, the compatibility of interfaces (with orientation towards homogenization and standardization) for the individual actors and an adapted technological development of intermodal transport containers (containers, SAL, WAB). 06/2014 DI Alexander Chloupek (ABC Consulting), Publisher: bmvit ***Main results*** The study is finished and was used for the programme "mobility of the future".
	Semmering Base Tunnel	2012-2024	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Users, Operators	***Short description*** The twin-tube Semmering base tunnel will connect Gloggnitz with Mürzzuschlag, Styria, Austria. The tunnel will be part of the Baltic-Adriatic railway corridor and is one of the most important large-scale infrastructure projects in Central Europe. Infrastructure: - Between Gloggnitz in Lower Austria (AT) and Mürzzuschlag in Styria (AT) - Length of the tunnel: 27,3 km - Expected speed: 230 km/h - Developer: Austrian Federal Railways (ÖBB) - Prevision to reduce the travel time between Vienna and Graz by 30min ***Main results*** No results are visible yet but the new project will reduce the travel time.
France	**Lyon-Turin Base Route (France-Italy)**	2008-2020	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Users, Operators	***Short description*** France and Italy have embarked on a major project to open up connections to 5,000km of railway lines, and create a route to both boost trade and consolidate the competitiveness of southern European countries including France, Portugal, Spain and Italy. The new tunnel will allow up to 30 million tons of freight per year to be transported by rail, and also bring significant advantages to passenger travel through slashed journey times between major European cities. The project has been split into three sections. France is tasked with building a 75km high-speed passenger railway between Lyon and Chambery, plus a freight line between Lyon and la Combe de Savoie and a passenger and freight line between la Combe de Savoie and Saint Jean-de-Maurienne totalling 120km. This stage is being managed by Reseau Ferre de France (RFF). Italy's Rete Ferroviaria Italiana (RFI) is building the section between Turin and Bruzolo to create a connection with the southern portal of the base tunnel. This forms part of the common French-Italian section of the route, and is being project managed by Lyon Turin Ferroviaire (LTF). Some 90% of the 72km route will be through the mountains. The longest structure of the two is the 53.1km base tunnel, whilst the second, shorter, Bussoleno Tunnel will be 12.2km long. INFRASTRUCTURE: The base tunnel through the Alps is to be bored at an altitude of 570–750m above sea level, with a maximum gradient of 12%, a much easier climb for trains than the 30% through the current Mont Cenis tunnel. Boring will take place from 17 points and it will take a total of five-and-a-half years to complete construction, with up to another three years to equip the tunnel with ventilation and safety measures, and carry out testing. The entire route from Lyon to Turin will be designed for operational speeds of up to 250km/h, but in contrast to many recent railway projects, the infrastructure will be shared by both passenger and freight trains. Standard gauge 1,435mm track will be used throughout the route to allow continuity with the French and Italian railway systems. Noise levels will be reduced by the use of silent materials in construction. ROLLING STOCK: the majority of the rolling stock passing along the route will be drawn from the current main passenger and freight fleets. However, tests have been carried out with the French equivalent of Germany's 'Rolling Road' wagons, which allow lorry trailers to be driven onto trains for onward efficient movement, thus reducing long-distance road traffic. The use of such a 'railway motorway' will allow a further 10 million tons of freight to be moved through the tunnel every year, bringing the total potential tonnage to 40 million tons. ***Main results*** No results are visible yet but the new base tunnel route between Lyon and Turin is being designed to handle the high volumes of freight traffic, together with its expected increase over the coming decade. In addition, it will drastically shorten journey times between major European cities. The annual operating costs of the tunnel route have been estimated at €34m, but the heavy freight traffic will bring significant environmental benefits in terms of noise and pollution. Predictions show that without the new route, the current railway will become saturated by 2015 but will still only carrying 13 million tons of freight.
Germany	**DUSS-Terminal Regensburg Süd (under construction)**	ongoing	National	Implementation	Infrastructure	Combined terminals	Terminal managers	***Main results*** Creation of an efficient intermodal node for the implementation of CT.

	Regensburg Hafen	2017-2018	National	Implementation	Infrastructure	Combined terminals	Terminal managers, Operators	***Main results*** Improvement of the intermodal node.
	SysLog+	2017-2019	National	Study	Education	Participants of CT-Chain	professional schools, Universities, Forwarders	***Short description*** The aim of the SYSLOG + project is to contribute to the reduction of greenhouse gas emissions through the professional qualification of the logistics and freight forwarding industry. The use of sustainable, complex transport systems is to be promoted by the sensitization of trainees, teachers and decision-makers. In particular, specialist vocational schools, companies in the freight forwarding and logistics sector as well as transport associations and IHKs are to be addressed within the scope of the project. The project is being implemented by the SGKV and the Beuth University of Applied Sciences Berlin in collaboration with the bayernhafen Gruppe. ***Main results*** The core objective of the project is to enable junior staff in the freight forwarding and logistics sector to formulate a complex transport chain with efficient and resource-saving aspects and to evaluate them on a case-by-case basis. Instead of a linear, individual view of the modes of transport, the strengths of the individual modes of transport will be linked more closely in the future. The central instrument is the development of an innovative, virtual logistics laboratory as a process simulation and practice tool for use in vocational education and training as well as in the professional world. Furthermore, seminars and workshops with teachers and trainers are planned for the transfer of knowledge. The project is intended to make a positive contribution to the climate protection targets of the Federal Government.
	Straubing-Sand Terminal (under construction)	ongoing	National	Implementation	Infrastructure	Combined terminals	Terminal managers	***Main results*** An efficient intermodal node for the implementation of CT.
Italy	**Brennero – Verona**	n.a.	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Operators, Users	***Short description*** Infrastructure: - Part of TEN-T Core Network corridor Helsinki – Valletta - Brenner Base Tunnel (Italian part) (implementing phase) - Upgrading of access lines to Brenner (quadrupling Fortezza – Ponte Gardena – implementing phase, Bolzano bypass, Trento bypass, quadrupling Bolzano – Trento, access to Verona)
	Chiasso – Milano	n.a.	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Operators, Users	***Short description*** Infrastructure: - Part of TEN-T Core Network corridor Genova – Rotterdam - Quadrupling of line Chiasso-Monza - Upgrading of line Bergamo-Seregno (East Gronda of Milano)
	Domodossola – Novara/Milano	n.a.	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Operators, Users	***Short description*** Infrastructure: - Part of TEN-T Core Network corridor Genova – Rotterdam - Upgrading of line Gallarate-Rho (implementing phase) - Upgrading of south access lines of Simplon crossing: Doubling Vignale-Oleggio-Arona
	Fast Corridor	n.a.	National	Other	Services	Transhipment technologies	Operators, Terminal managers	***Short description*** New processes based on intangible infrastructure, on the use of new technologies, on the electronic goods tracking for the simplification of the import / export cycle and the decongestion of port facilities have been identified. 9 May 2017 The Fast Ferry Customs Corridor between the ports of La Spezia and Intermodal Terminal of Padua is now active ***Main results*** At operating speed , the use of Fast Corridors will allow: - decongestion of port areas; - reduction of residence time of containers in the port (less costs), - reduction of travel time; - more security; - digitization of the process (logistics internet); - companies are able to integrate customs compliance with their own business logistic procedures. Scope of existing project: for CT transport network, CT transhipment equipment
	Fusina MoS New terminal for motorways of the sea in Fusina (port of Venice)	2008-2020	Cross-border	Implementation	Infrastructure	Combined services, Combined terminals, Long haul solutions	Terminal managers	***Short description*** New terminal of Motorways of the sea. Combined transport from ship to rail. First 2 berth are operative since 2014, other 2 are under construction. 750m long rail trucks allow direct shifting from ship to main European rail network. ***Main results*** A modern and efficient intermodal node for the implementation of CT transport.
	Intermodal Terminal of Verona Improvement of intermodal node both for equipment and staking areas	2016-2020	Other	Implementation	Infrastructure	Transhipment technologies, Combined terminals	Terminal managers, Operators	***Short description*** New RFI terminal with new rail trucks (750m long, as EU standard) and new portal cranes for cargo handling. ***Main results*** Improvement of intermodal node

	Intermodal terminal of Padua Improvement in infrastructures, civil and ICT-Improvement in equipment for handling	2016-2019	Other	Implementation	Infrastructure	Transhipment technologies, Combined terminals	Terminal managers, Operators	***Short description*** New gate for terminal access, new portal cranes ***Main results*** Improvement of intermodal node
	Improvement of inland waterways infrastructures Sistemi Territoriali	2010-2020	Corridor	Implementation	Infrastructure	Long haul solutions, Environment	Users	***Short description*** Improvement of inland waterways infrastructures ***Main results*** Improvement of corridor.
	Luino – Novara/Gallarate	n.a.	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Operators, Users	***Short description*** Infrastructure: - Part of TEN-T Comprehensive Network lines Genova – Rotterdam - Doubling Laveno-Luino (Goods West Gronda Milano)
	Piattaforma Logistica Nazionle - PLN	n.a.-2017	National	Tool (guidelines, recommendations, ...)	Services	Combined terminals	Operators, Terminal managers	***Short description*** PNL is a Intelligent Network System that aims to link in a network all the logistics nodes in Italy (ports, interchanges, railway freight centers, private operators) with the road or rail carriers. ***Main results*** PLN aims to reduce and make more reliable the crossing times of the Italian logistics chain. In particular it amis to give a real-time traffic trends in import and export from Italy.
	Terzo Valico	2001-2021	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Operators, Users	***Short description*** Terzo Valico is a new high-speed line that increases the connections of the Liguria port system with the main railway lines of Northern Italy and the rest of Europe. The project is part of the Rhine-Alpine Corridor, which is one of the corridors of the Trans-European Transport Networks (TEN-T), connecting the North Sea ports of Rotterdam and Antwerp to the Mediterranean basin in Genoa, via Switzerland and some of the major economic centres in the Rhein-Ruhr, the Rhein-Main-Neckar, regions and the agglomeration of Milan in Northern Italy. The project is 53-km long, of which 37 km in the tunnel and involves 12 municipalities in the province of Genoa and Alexandria and the Liguria and Piedmont regions. ***Main results*** No results are visible yet but the new project will redirect the freight traffic from road to rail, bringing about environmental, safety and economic benefits. In addition, the project will also shorten the journey time for cargo traffic that comes from the Far East in the Mediterranean by choosing the Ligurian bay ports and the northern Tyrrhenian Sea ports, to the North Sea ports.
	Trieste – Divaca and Torino – Lione	n.a.	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Operators, Users	***Short description*** Infrastructure: - Part of TEN-T Core Network "Mediterranean Corridor" - New line Trieste – Divaca - New line Torino – Lyon (priority intervention on Italian side) (implementing phase) - Torino Belt and connection to new line Torino – Lyon
	Udine-Cervignano	n.a.	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Operators, Users	***Short description*** Infrastructure: - Part of TEN-T Core Network "Baltic-Adriatic Corridor" o Doubling Udine – Cervignano and Udine connection
	Ventimiglia – Genova	n.a.	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Operators, Users	***Short description*** Infrastructure: - Part of TEN-T Comprehensive Network lines Genova – Rotterdam - Doubling Genova – Ventimiglia (Finale-Andora-S.Lorenzo-Ospedaletti) (implementing phase)
Slovenia	**ITL** **Developement of Intermodal logistics terminal Ljubljana**	2018-n.a	National	Implementation	Infrastructure	Combined terminals	Terminal managers	***Short description*** Intermodal terminal Ljubljana is already established terminal that occupies 99.000 square meters of logistic area east of Ljubljana. Further developlement and investmenet plans for expanding intermodal terminal are being planned. Arround 140 mio of investements are planned to be made that will expand the operating area of intermodal terminal to 474,000 square meters. Investement forsees to alocate 900 new jobs in the area. Currenty the project is in developement phase. ***Main results*** No results of the implementation are evident yet. Preparation and investement plans are currently in developement.
	Road-rail Combined Transport analysis and measures for its future development in Slovenia	2010-2010	National	Study	Services	Combined services	Public decision makers	***Short description*** The study covers an analysis of the situation of freight and combine transport in Slovenia with an analysis of public railway infrastructure and its capacity, environmental aspects of freight transport, analysis of legal framework of EU, Slovenia and its neighbouring countries, including transport policy with emphasis on Austria, Switzerland and Italy, research of the possibility of introducing measures to encourage freight transport shift from road to rail, analysis of freight potential, analysis of railway rolling stock, review of the possibilities of acquisition or lease of special wagons, analysis of the possibilities of cooperation in the area of road-rail combined transport with neighbouring countries, analysis of the necessary investments in the transport infrastructure, transhipment terminals or stations and vehicles for the purpose of stimulating the road-rail combined transport on the main public railway infrastructure lines. ***Main results*** Main project results can be summarised in the three main groups of infrastructure, policy and services proposals that are focusing on : - proposals on needed investment in the CT sector in the area of Republic of Slovenia (investments within the multimodal terminals, investment in the ICT and investments in the railway public infrastructure); - investment and other incentives to promote usage of CT in Slovenia; - proposal on bi- or multi-lateral agreements with Slovenian neighbouring countries to promote further development of CT in the region.

Switzerland	**AlpTransit, also known as New Railway Link through the Alps, NRLA**	1992-2022	Corridor	Implementation	Infrastructure	Long haul solutions, Environment	Users, Operators	***Short description*** AlpTransit, also known as New Railway Link through the Alps, NRLA (German: Neue Eisenbahn-Alpentransversale, NEAT, French: nouvelle ligne ferroviaire à travers les Alpes, NLFA, Italian: Nuova ferrovia transalpina, NFTA), is Switzerland's largest-ever construction project for faster north-south rail links across the Swiss Alps by constructing a series of base tunnels several hundred metres below the current tunnels. The $13 billion[1] project consists of two major sections, the Gotthard axis and the Lötschberg axis, which respectively include the 57 kilometre long Gotthard Base Tunnel and the 35 km long Lötschberg Base Tunnel, respectively. The centrepiece, the Gotthard Base Tunnel, became operational on 11 December 2016, and the Ceneri Base Tunnel is scheduled to become operational in 2021. ***Main results*** No results are visible yet. More infrastructure capacity for rail freight.
	Bözberg Tunnel	2015-2021	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Users, Operators	***Short description*** The Bözberg Tunnel is located in the canton of Argovia and it is 2.5 km long. It is built parallel to the existing one. In the future, the current tunnel will be used as a service and rescue tunnel and it will be linked to to the new one. The Bözberg Tunnel will be put into service by the end of 2020 and by 2021 the new gelleria will be modified ***Main results*** Not results are visible yet but the project is a part of the NFTA/Alptransit, the largest project ever undertaken in Switzerland for freight transport.
	Ceneri Base Tunnel	1999-2020	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Users, Operators	***Short description*** In the Canton of Ticino, between Bellinzona and Lugano, Ceneri Base Tunnel extends for 15.4 kilometres from the North portal of Vigana (Camorino) to the South portal of Vezia. The Ceneri Base Tunnel is the third longest railway tunnel in Switzerland after the Gotthard and Lötschberg. Now that the Gotthard Base Tunnel is in use, it is only by finishing the Ceneri Base Tunnel that the New Railway Link through the Alps (NRLA), the continuous flat railway that will link Northern and Southern Europe with a High Speed/High Capacity line, can be completed. It is of strategic importance not only because it is part of the NRLA, but also because of the part it plays in regional railway links: it will reduce travelling time from Lugano to Locarno by one third from 55 to just 22 minutes. The passenger trains, with a speed of up to 250 km/h, will reduce the trip from Milan to Zurich to under three hours. The high capacity freight trains will be able to carry over 2,000 tons trailing load without stopping at Erstfeld or Bellinzona and without midtrain and/or pushing locomotives which are currently needed to climb the Gotthard and Ceneri mountain routes which have gradients of up to 27% on the present day lines. The overall project involves constructing the most efficient railway link in the world in the European belt known as the "Blue Banana", the area that goes from the Mediterranean (Genoa) to the North Sea, via the English Channel: one of the richest, most densely populated areas in the world which, with 111 million people, covers the whole of Northern Italy, part of Germany and France, the Netherlands and the United Kingdom. At present, if it is to be fully operational, in addition to completion of the Ceneri base tunnel (2020), the Gotthard trans-Alpine line needs Italy to implement its part of the Third Giovi Pass project from Genoa to Milan (2021) which will complete the high speed Genoa-Rotterdam corridor that connects Northern Europe on one side with the Mediterranean ports on the other (Lu-Mi-Med project). ***Main results*** The main strategic aim is to move the freight traffic that now runs in both directions along the ridge between southern Germany and northern Italy onto rail. Since 11 December, when the Gotthard Tunnel became operational, freight trains increased from 140 to 260 a day with a speed of 160 km/h and an annual increase in freight transport from 20 to 50 million tons. When the Ceneri Tunnel has been completed and is fully operational in 2020, it is estimated that road freight traffic in Switzerland will be halved and will fall from 1,200,000 shipments/year to approximately 650,000. The estimated value added for the economy is EUR 4.6 billion per year, 44,000 jobs and a reduction of 6 million tons of CO_2 emissions. The impact that the Ceneri Tunnel will have on passenger traffic is equally important. With 50-80 trains a day at a speed of 250 km/hour, passengers will be able to travel from Milan to Zurich in approximately 3 hours, reducing the current trip time by 25%. Railway and Environment According to the latest report published by the International Energy Agency and the International Union of Railways, based on 2012 data, at European level (EU 27) 30.4% of CO2 emissions from fuel combustion can be attributed to the transport sector: 71.1% road transport, 13.9% navigation, 12.7% air transport and 1.5% rail transport. The transport sector produces more emissions only in the United States (34.4%): in Japan the environmental impact of the transport sector is 20.6%, in Russia 17.5%, in India 12.7% and in China, 9.6%. As soon as the new Ceneri Base Tunnel is opened and completes the project, the NRLA will be the heart of the Swiss master plan for new sustainable mobility.
	Gotthard Base Tunnel	n.a.-2016	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Users, Operators	***Short description*** The test operations for Gotthard Base Tunnel began in October 2015 and the tunnel was officially opened in June 2016. Commercial train services are scheduled to begin in December 2016. Controls on road freight were only deemed acceptable by surrounding EU countries if there was improved rail infrastructure, notably at the Lötschberg and Gotthard pinch points. Even with access to dedicated Rollende Landstrasse (RoLa) trains for transit of complete heavy goods vehicles, both north-south routes had long, slow climbs at either side of tunnels at the respective summits and capacity was limited. The NEAT projects were aimed at removing the main limiting factors for the introduction of more, faster and longer trains on the key Rotterdam-Milan rail corridor. ***Main results*** Planning allows for advances in freight vehicles to allow for speeds up to 160km/h (100mph) through the tunnel. Longer trains and more of them allow for doubling the present freight capacity on the Gotthard route, much of which will be intermodal services, with Alp Transit setting the amount at around 40 million tons annually.

	Innovationen im alpenquerenden Güterverkehr: Schlussbericht, Bundesamt fuer Verkehr (BAV)	2013-2014	Alpine space	Study	Services	Combined services	Other	***Short description*** What are the potentials of innovative measures in the freight transport sector (rail, intermodal)? The study gives answers for the following measures: 1. innovations of the transport system which present completely new systemic solutions for the transport chain and covering several sectors such as rolling stock, infrastructure and operational services offered; 2. innovations related to the rolling stock which include improvements of the rolling stock and its components; 3. innovations related to the infrastructure leading to improvements of the fix infrastructure or its components, 4. innovations related to processes which optimise the proceedings at the existing railway system at existing technology For each category, examples of detailed measures with a high degree of market and industry readiness are defined. Project partners: ETH Zürich, Institut für Verkehrsplanung und Transportsysteme. ***Main results*** For each category, examples of detailed measures with a high degree of market and industry readiness are defined: for instance in category 1: radio based multiple unit control for double traction in shuttle services; optimization of freight rail traction in a highly occupied rail network of mixed traffics; automatic braking test for entire trains requesting intra train communication and energy supply on every waggon; Hybrid or bi-system traction locomotives; Modalohr rolling stock, Cargobeamer for non cranable units; in category 2: telematics of rail waggons for tracking and tracing; automatic center buffer couplers for rail waggons; retrofitting with low noise composite breaks (K-Sohle, LL-Sohle) in category 3: optimization of tunnel gaudge, rolling stock and loading units; increase of axle weight according to TSI on certain categories of TEN routes; in category 4: harmonization of operating rules and regulations in international and multisystem rail transport (including operation language, signalling systems); train coupling and sharing (to and from blocktrains) for increased network capacity.
	Lötschberg Base Tunnel	1999-2007	Corridor	Implementation	Infrastructure	Long haul solutions	Public decision makers, Users, Operators	***Short description*** The new Lötschberg tunnel is part of Die Neuen Eisenbahn-Alpentransversalen (NEAT) / New Rail Link through the Alps (NRLA) project to shift transit traffic from road to rail. Route Length: 34.6km. ***Main results*** Switzerland undertook to provide rail infrastructure for handling increasing tonnages and faster transits.
	Trends and Innovations at UCT in and through Switzerland	2008-2012	National	Study	Services	Combined services	Other	***Short description*** Initial situation: The Swiss Federation pursues a stringent and continuous policy to shift road freight traffic in and through Switzerland to rail, especially to unaccompanied freight transport. The Federal Office for Transport commissioned a study to enhance the framework conditions of the corresponding support program and - more important - create the necessary organisational conditions. Objectives of the project: With regard to foreseeable developments and trends in the logistics market and technological innovations, the study aims at assessing their relevance for the technical requirements on rail and terminal infrastructure both qualitatively and quantitatively. It considers the following developments: • Dimensions and weights in road freight transport, • Dimensions and weight of ISO-containers, • Adaption of intermodal equipment for the transport of temperature-controlled goods, • Production parameters for rail (axle loads, train length and weight, speed), • Market opportunities for horizontal transhipment techniques and possibilities for (semi-) automation of transhipment within inland terminals • Innovative traction technologies to connect peripheral regions as well as the possibility for diesel traction or hybrid locomotives on long distance freight transport.
	4-metre corridor	n.a.-2020	Corridor	Implementation	Infrastructure	Combined services	Users, Operators	***Short description*** It is already possible to transfer semi-trailers with a 4-metre corner height onto trains on the Lötschberg route and in the Gotthard and Ceneri base tunnels, but there are obstacles to this on the approach routes to the Gotthard tunnel. Therefore, the Swiss Confederation has awarded contracts for the modification of a number of tunnels, platform roofs and catenaries. This will allow semi-trailers with a 4-metre corner height to be transported along the entire length of the Swiss north-south axis by 2020. This move is particularly important because the combined transport of semi-trailers with a 4-metre corner height is a rapidly growing segment. Switzerland is also financing measures to increase the clearance on the Italian Luino line to enable semi-trailers of this kind to reach the major intermodal terminals in northern Italy. The overall cost amounts to almost 1 billion Swiss francs (around 950 million euros). ***Main results*** Possibility to transport 4m lorries by rail, without technical costraints.

Appendix 11: CT Bodies

Political level	Name for CT responsible body	Organisational level/type	Geographical level of responsibilities	Responsibilities	Short description of each responsibility
International	**UNECE, Working Group "intermodal transport and Logistics"**	Ministry Level	Member States of UNECE	Policy, Strategy	The Working Party on Intermodal Transport and Logistics (WP.24 and its predecessors) has, since 1951, provided a forum for exchange of technical, legal and policy information, as well as best practices, in combined and intermodal transport at the Pan-European level. This works prepares the ground for policy advice and for the negotiation and administration of multilateral legal instruments. The objective is to promote combined and intermodal transport in the 56 UNECE member countries and to ensure the maximum utilization of equipment, infrastructure and terminals used for such transport. The Working Party brings together eminent experts from UNECE Governments, the European Commission, non-governmental organizations (UIRR, UIC, OTIF, CIT, IRU, BIC, IRF, CLECAT, ISO, FIATA, etc.) as well as concerned industries and academia. Its structure and working procedure is able to quickly address newly emerging issues. The Working Party meets twice a year in Geneva.
Europe	**Alpine Convention**	Ministry Level	Alpine Space	Policy, Strategy	The Alpine Convention is an international treaty between the Alpine Countries (Austria, France, Germany, Italy, Liechtenstein, Monaco, Slovenia and Switzerland) as well as the EU, for the sustainable development and protection of the Alps. There is a special working group for transport issues with deals also with modal shift. The main objective of the Transport Protocol of the Alpine Convention is "to pursue a sustainable transport policy which will reduce the negative effects of and risks posed by intra-Alpine and transalpine transport to a level which is not harmful to people, flora and fauna and their environments and Habitats, inter alia, by transferring an increasing amount of transport, especially freight transport, to the railways, in particular by creating appropriate infrastructures and incentives in line with market principles." Promoting sustainable transport is also one of the six priorities set in the Multiannual Work Programme 2017-2022 of the Alpine Convention. At medium-term, the Contracting Parties to the Alpine Convention aim at decoupling economic growth from an ever-increasing transport demand. (Reference: Database UNECE 2017, Austria and Slovenia, 2.1-2.2).
	Bulkaul	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Community of European Railway and Infrastructure Companies (CER)	Association	EU	Policy	The Community of European Railways is an association of rail transport and railway infrastructure companies from the European Union and its neighboring countries.
	ERS	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Ewals	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	IFB - Inter Ferry Boats	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Nord Cargo	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	P & O Ferrymasters	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Shuttlewise B. V.	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Timcal SA	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Transport and Environment	Organization	EU	EU	Transport and Environment is the umbrella organization of non-governmental European sustainable transport organizations. The 51 member organizations come from 23 countries.
	TTS Belgium S. A,	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	UIRR	Association	EU	Policy, Strategy, Standards	Created in 1970, the International Union for Road-Rail CT (UIRR) is the industry association for the sector of CT in Brussels. ts members are CT Operators and CT Terminals. UIRR actively promotes CT, primarily towards European decision-makers and facilitates the enhancement of the sector, while also supporting the daily functioning of this ecologically and economically sustainable mode of long(er) distance freight transport.
Austria	**Amt der Tiroler Landesregierung**	Regional Government	Regional - Federal State Tirol	Policy, Strategy	The Tyrolean regional authority is committed to containing the volume of traffic and developing further environmental protection measures.
	bmvit - Austrian Ministry for Transport, Innovation and Technology	Ministry Level	National (the Ministry is also responsible to improve international policy coordination)	Policy, Strategy, Development, Financing (co-financing), Measures	BMVIT provides a general framework for infrastructure from rail to road, water and air to telecommunications and technology development in Austria. Austrian transport policy is shaped by EU-wide legislation and by international, national, regional and local rules. It is guided predominantly by the principle of "sustainable mobility". Austrian experts of BMVIT participate in numerous national policy coordination working groups in the field of environment and land use, also dealing with, among others, measures for the promotion of combined transport. These are, e.g. the ongoing works in the area of the Alpine Convention, the Austrian Conference on Spatial Planning, the National Committee on Climate, the Austrian Committee on Sustainable Development and the national Task-Forces for the elaboration of mid- and long-term infrastructure concepts considering all land transport modes. The Austrian transport experts assign the highest importance to articulate national interests in the field of international coordination bodies. These are, e.g. also the current activities within the Transport Group in the context of the Alpine Convention, ongoing works in the different Transport and Environment expert groups of the European Commission, the further elaboration of the European Union Sustainable Development Strategy, the work of the bodies considering questions to guarantee the fulfilment of the commitments arising from the Kyoto-Protocol as well as with respect to all works and duties considering the climate and energy package 2020 of the EU, in particular concerning the EU-effort-sharing decision in the field of land transport. Austria is actively involved in the establishment of three rail freight corridors according to Regulation (EU) 913/2010, which address intermodal transport through explicit consideration of terminals (rail, road, maritime and inland ports). Austria cooperates with its neighbouring countries in the implementation of the TEN-T Core Network Corridors, focusing firmly on intermodality issues. (Reference: Database UN-ECE, Austria, 2.1 and 2.2).
	Far East Land Bridge Ltd	Operator/Carrier	EU and International	Operations	Far East Land Bridge Ltd. is specialized in transporting 40ft DV, 40ft HC and 20ft containers from the Far East (China, South Korea and Japan) to Russia/Europe and vice versa using the Trans-Siberian railway connection. The intercontinental CT specialist headquartered in Vienna, delivered convincing growth of 15% on its services to and from China and other Far East destinations over the course of 2016 (Source: UIRR, 2017).
	Federal Ministry of Agriculture, Forestry, Environment and Water Management, Department V/5: Transport, Mobility, Human Settlement and Noise	Ministry Level	National	Policy, Strategy, Development, Measures, Financing (co-financing)	The Austrian Federal Ministry of Agriculture, Forestry, Environment and Water Management's klimaAKTIV mobil climate protection initiative provides a pertinent offering for more climate friendly mobility across the whole Austria and support for implementing traffic-related environmentally friendly projects.
	Land Salzburg / Department for road infrastructur and traffic planning	Regional Government	Regional Federal State Salzburg	Strategy	The Regional department of Salzburg is responsible for the regional transport & infrastructure in the Region of Salzburg. It is especially interested in solutions for a sustainable and efficient CT which can be integrated in regional strategies.
	LKW Walter	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	RCA - Rail Cargo Austria	Operator/Carrier	Alpine Space	Operations	With a turnover of EUR 2.1 billion and 8,260 employees, the Rail Cargo Group is one of the leading logistics and transport specialists in European rail freight transportation. They transport about 109 million tons of goods and offer tailor-made rail logistics solutions – from individual services to customer-specific solutions. Starting from the home markets Austria and Hungary, the Rail Cargo Group offers tailor-made rail logistics solutions between the North Sea, Black Sea and the Mediterranean. With companies in 18 countries in Central, Southern and Eastern Europe and a high-quality partner network, they ensure safe and reliable transportation by railway. The controlling legal entity of the Rail Cargo Group is the Rail Cargo Austria AG.

	RCG - Rail Cargo Group	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	SLB	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	STB	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	WLC -Wiener Lokalbahnen Cargo	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
France	**Autostrada Ferroviaria alpina (AFA)**	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	France Ministry for Transport	Ministry Level	National	Policy, Strategy, Development, Measures, Financing (co-financing)	The Government has recently taken the decision to boost rail freight by investing in more efficient trains, simplifying technical regulations, reservation of priority slots for rail freight and developing main rail corridors. At present and in the future, significant investments are planned to improve the rail network. Regulatory provisions have been enacted already to ensure free access to the national network. Efficient terminals in ports are developed that generate traffic together with large cities. Financial support for the operation of regular combined transport services is provided (Reference: Database UN-ECE WP24, France, 2.1).
		Ministry Level	International	Policy, Strategy, Development, Measures, Financing (co-financing)	Avoid cross-border distortions, particularly through adequate funding arrangements. Support the improvement of energy efficiency of transport modes, particularly short sea shipping (Reference: Database UN-ECE WP24, France, 2.2).
	Naviland Cargo	Operator/Carrier	Alpine Space	Operations	The French CT Operator and terminal managing company, specialising in hinterland connections to and from French ports, suffered a contraction on both its domestic and cross-border network mirroring the reduction of container traffic at French ports (Source: UIRR, 2017).
	Novatrans	Operator/Carrier	Alpine Space	Operations	The French CT Operator and terminal managing company suffered a decline on its domestic network, which it could not compensate with its better performing cross-border services, and thus realised a minimal contraction in tonnekilometre terms, while transporting 5% fewer consignments (Source: UIRR, 2017).
	Region Auvergne-Rhône-Alpes Transport Department	Regional Government	Regional	Policy, Strategy	The department deals with themes related to transport (mainly passengers) and mobility.
	Region Bourgogne Franche Comte Transport Department	Regional Government	Regional	Policy, Strategy	The department deals with themes related to transport (mainly passengers) and mobility.
	Region Grand Est Transport Department	Regional Government	Regional	Policy, Strategy	The department deals with themes related to transport (mainly passengers) and mobility.
	Region Provence-Alpes -Cote d´Azur Transport Department	Regional Government	Regional	Policy, Strategy	The department deals with themes related to transport (mainly passengers) and mobility.
	T3M	Operator/Carrier	Alpine Space	Operations	The French CT Operator and terminal managing company, which specialises in domestic traffic, has been focusing on developing its cross-border network. T3M delivered a stable performance in 2016 (Source: UIRR, 2017).
Germany	**Allianz pro Schiene**	Institution	National	Other	Lobby, Cooperations
	Bavarian Ministry of the Interior, Building and Transport	Ministry Level		Policy, Strategy, Development, Measures, Financing (co-financing)	The Ministry is responsible for a wide range of issues, including highways, roads and bridges.
	BAYERNHAFEN GMBH & CO. KG (BHG)	Provider	Alpine Space	Operations	With BHG as provider of logistics infrastructure for CT and expert for transhipment technologies, the integration of experiences in transalpine railway transport and the knowledge of intermodal transhipment terminal is guaranteed. With six bavarian locations in Aschaffenburg, Bamberg, Nuremberg, Roth, Regensburg and Passau, BHG refers to a large terminal experience by transporting goods by ship, rail and truck. BHG provides a broad portfolio of services around the rail transport like "last mile-traffic", location architecture around CT and connection to terminals. BHG acts as site architect, who develops company and location strategies, invests in infrastructure and works in close cooperation with economical and political decision makers
	Chamber of Industry and Commerce for Munich and Upper Bavaria	Association/Cooperation	Other	Development	The Chamber of Industry and Commerce in Munich with its Unit for Transport and Logistics represents the interests of the Bavarian logistic industries.
	DB Cargo AG	Operator/Carrier	Alpine Space	Operations	DB Cargo AG, as the biggest European rail freight company, is interested in an increase of rail freight transport.
	DB Schenker	Operator/Carrier	Alpine Space	Operations	The company offers CT relations which are included in the Alpine Space
	Eberl	Service Provider	Alpine Space	Operations	Eberl as a worldwide operating forwarding agency and logistics services provider integrates extensive knowhow regarding logistics processes and the market & customer requirements especially on the pilot corridors. To have a broader view and use the expertise of forwarding agencies in other alpine countries, Eberl represents also freight forwarders and transport companies from his extensive network (from alpine countries). Many of these network partners have a function as representative of regional or national associations, chambers etc.
	German Ministries - In particular German Federal ministry of transport and digital infrastructure (BMVI)	Ministry Level	Other	Policy, Strategy, Development, Measures, Financing (co-financing)	The German transport experts also attach highest importance to articulate national interests in the field of international coordination bodies. Germany is actively involved in the establishment of six rail freight corridors according to Regulation (EU) No 913/2010 and No 1316/2013/EU (CEF) which address intermodal transport through explicit consideration of terminals. Germany is also involved in the implementation of the TEN-T Core Network corridors (Reference: Database UN-ECE WP24, Germany, 2.2).
	German Ministries - In particular German Federal ministry of transport and digital infrastructure (BMVI)	Ministry Level	National	Policy, Strategy, Development, Measures, Financing (co-financing)	Experts of the German Federal Ministry of Transport and digital Infrastructure (BMVI) participate in numerous national policy coordination groups or other groups and meetings regarding combined transport. (Reference: Database UN-ECE WP24, Germany, 2.1). BMVI is responsible for the national transport & infrastructure policy & can take up recommendations/solutions for the future of CT and integrate them into their own policy.
	Italian Chamber of Commerce Munich-Stuttgart e.V.	Association/Cooperation	Other	Development	The Italian Chamber of Commerce Munich-Stuttgart strengthens collaboration between Italy & Germany by establishing & expanding business contacts.
	Kombiverkehr	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space. The largest European CT Operator headquartered in Frankfurt, Germany, delivered a convincing performance in 2016 aided by both its domestic and border-crossing services: overall growth of 6% in tonne-kilometres and 2% in the total number of consignments (Source: UIRR, 2017).

	LBS - National Association of Bavarian forwarders e.V.	Association/Cooperation	National	Development, Strategy	The LBS represents the Bavarian freight forwarders and has a great interest to bring their ideas, requirements and needs through Alpine Space on an European level due to its closeness to the Alps. LBS is also interested in a common CT knowledge basis.
	National Association of Bavarian transportation and logistics companies (LBT) eV.	Association/Cooperation	National	Development, Strategy	LBT represents the Bavarian transport companies with the interest to bring their ideas, requirements & needs through Alpine Space on an European level.
	Netzwerk europ. Privatbahnen	Institution	EU	Other	Lobby, Cooperations.
	SGKV	Institution	National	Other	Lobby, Cooperations.
	TX-Logistik	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space. TX as "European rail company" with alpine crossing experiences in railway transport, is interface between customer and railway transportation, integrates intermodal CT and non-craneable trailer knowhow.
	VDV	Institution	National	Other	Lobby, Cooperations.
	VPI-Association of Wagonkeepers in Germany	Association	National	Strategy	VPI represents the interests of private wagon keepers in Germany. Its main aim is to increase the competitiveness of rail and to improve framework for rail freight.
Italy	**ALIS**	Association	National	Measures, Organization, Operations, Development	ALIS combines the will of logistics operators able to support intermodal transport. In the view of the relationship between the sea, road and rail, ALIS system offers to various stakeholders in the logistics sector the possibility to solve logistics problems.
	Alpe Adria	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space. The Trieste-based CT Operator, whose activities are linked to the Port of Trieste, achieved an overall positive performance in consignments (+8%) and robust growth in tonnekilometres (+18%), attributable to longer distance crossborder connections, while Alpe Adria's domestic network declined (Source: UIRR, 2017).
	Ambrogio	Operator/Carrier	Alpine Space	Operations	The company offers CT relations which are included in the Alpine Space. The Italian CT Operator, which also manages terminals in Italy and France, suffered a decline in output performance attributable to the combination of a pressure on margins related to the low oil price that depressed freight rates and disturbances due to rail infrastructure maintenance works that temporarily undermined service quality (Source: UIRR, 2017).
	Association of Freight Forwarders of the port of Trieste	National Association	International	Operations	ASPT as Association of Freight Forwarders of the port of Trieste represents the interests of their members and introduces their knowhow & expertise to transport in the Alpine Space. ASPT is focused on new CT technologies/solutions and on better connections to the ports of Southern Europe.
	AssoLogistica	Association	National	Policy, Strategy, Standards, Organization, Development	Assologistica is the associative reality of logistics companies, general warehouses and refrigerators, of the terminal operators of the ports, interports and airport terminals. Assologistica represents over 250 associated companies operating in Italy.
	Autonomous Province of Bolzano/Bozen - Mobility Department	Provincial Government	Provincial	Policy, Strategy, Measures, Financing (co-financing)	Among other goals, the Autonomous Province of Bolzano/Bozen (PAB) aims at reducing the volume of freight transport along the Brenner highway, by developing alternative mobility schemes.
	Autonomous Province of Trento I.S. PER IL SUPP. AL DIP. SVIL. CORR.BRENNERO	Provincial Government	Provincial	Policy, Strategy, Development, Measures, Financing (co-financing)	The Department manages the provincial mobility plan and the implementation of projects related to the Alpine space, in particular to the Brenner Corridor.
	Autonomous Region of Valle d´Aosta - Transport Department	Regional Government	Regional	Policy, Strategy, Measures, Financing (co-financing)	The Autonomous Region of Valle d´Aosta aims at the improvement of accessibility and at promoting the mobility of people and goods in its Autonomous Region.
	Autorità di Sistema portuale per il mare Adriatico Settentrionale (institutions + terminal operators)	Port Authority	Local	Strategy, Financing (co-financing), Organization, Operations	Port Authority acts as intermodal node through the operations made by private terminals. The Authority draw the intermodal strategies and build the intermodal infrastructures to foster the use of CT, terminals operates shunting and create CT with train.
	Brenner Action Community	Cooperation	Alpine Space	Development	The Brenner Action Community (BAC) as cooperation of Verona, Trieste, Bolzano, Tyrol & Bavaria provides solutions for improvement of rail transport on the existing railway line Munich-Verona & construction of new route sections.
	CEMAT	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space. The dominant CT Operator of Italy realised a growth on its cross-border network, while suffering a contraction on domestic relations, which resulted in an overall growth in tonne-kilometres (+4%), while a decline in consignments (-3%)(Source: UIRR, 2017).
	Central European Initiative	Forum of regional cooperation in Central, Eastern and South Eastern Europe	Alpine Space	Organization, Development	CEI as intergovernmental forum, supporting European integration by cooperation among its Member States, combines multilateral diplomacy & bridges EU macro-regions. Its interest in AlpInnoCT is the transnational cooperation on political & economical level.
	FVG Region - Infrastructure, Logistics and Transport Services Department	Regional Government	Regional	Policy, Strategy, Measures, Financing (co-financing)	FVG Region approved its "Regional Plan for Transport and Logistics" in December 2011, outlining the future development scenarios of the regional logistic clusters, including cooperation and coordination between the three ports and the four inland terminals of the Region.
	G.T.S.	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.

	Italian Ministry of Infrastructure and Transport	Ministry level	National	Policy, Strategy, Development	The Italian Ministry drew up "The National Logistics Plan" (Il Piano Nazionale della Logistica, 2012-2020, 26 Luglio 2012), which makes the changes in transport and logistics policies necessary for the strategic lines that must be addressed in the short and medium term to increase the Italian competitiveness of freight transport and intermodal center.
	Liguria Region - Mobility and Transport Department	Regional Government	Regional	Policy, Strategy, Measures, Financing (co-financing)	The Region defines strategic objectives through the Regional Transport Plan, in line with the General Plan for Transports and Logistics.
	Lombardy Region - General Infrastructure and Mobility Department	Regional Government	Regional	Policy, Strategy, Measures, Financing (co-financing)	The Lombardy Region aims at the improvement of accessibility and at promoting the mobility of people and goods.
	Lotras Srl.	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Piedmont Region - Transport Department	Regional Government	Regional	Policy, Strategy, Measures, Financing (co-financing)	The Lombardy Region aims at the improvement of accessibility and at promoting the mobility of people and goods.
	RILVE	Enterprise network	Other	Strategy, Measures, Organization, Operations	Rilve (Rete Intermodale Logistica di Verona) was created to coordinate and to improve the management of the railway terminal and its railway traction, and more generally to develop the Verona QE system and rto educe costs for operators.
	RTC	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Trasporservizi	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Trenitalia Ferrovie Dello Stato	Railway Company	National	Operations	Trenitalia is a railway company with extensive knowhow in CT – especially across the Alps. As parent company of TX Logistik AG, it is interested in a further shift of freight from road to rail and innovative solutions regarding CT.
	UIR - Unione Interporti Riuniti	National Association	National	Policy, Organization, Strategy, Development	UIR is the national association that brings together all Italian Freight Villages. Its main objective is to consolidate and develop intermodal transport and logistics through a stable relationship between freight terminals, ports, inland hub, companies and organizations, connected as a homogeneous system of exchanging goods.
	Veneto Region - Mobility and Transport Department	Regional Government	Regional	Policy, Strategy, Measures, Financing (co-financing)	The Regional Government, through its technical logistics unit drew up the masterplan for regional logistics and all the legislatives initiatives to support freight transportation both form infrastructural and service points of view. Regional government can allocate financial resources to support initiatives.
Liechtenstein	**Office for Construction and Infrastructure** (Ministry of Infrastructure, Economy and Sport)	Ministry department	National	Infrastructure Transport planning Local planning	The Office for Construction and Infrastructure essentially comprises the development of basics and concepts for decisions on the transport planning, strategic transport planning as well as the support and optimal design of transport systems. The aim is to take into account qualitative and quantitative requirements for the cost-effectiveness, efficiency and safety of transport processes for current and future generations - based on knowledge of traffic flow, traffic technology and transport organisation.
	Office for Economic Affairs (Ministry of the Interior, Justice and Economy)	Ministry department	National	Freight transport Transport permit	The Office for Economic Affairs is subject to the Ministry of the Interior, Justice and Economy. The Office of Economic Affairs is responsible for compliance with the regulations for the commercial freight transport in the European Economic Area (EEA). The basis for the commercial freight transports carried out in Liechtenstein is formed by the law on the approval of road transport companies and transboundary freight transports by road (LGBl. 2006 No. 185). The EEA provisions on the activities of transport companies apply to road HVG weighing more than 3.5 tonnes in total weight. Any company wishing to carry out commercial freight transport requires a transport enterpreneur's permit from the Department of Economic Affairs.
Slovenia	**Adria Kombi, d.o.o.**	Combined transport operator	EU	Organization, Operations, Development	International intermodal transportation road-rail was introduced in Slovenia in 1974 when the first rolling motorway trains Ljubljana – Cologne and Ljubljana – Munich started operating. In 1989, in order to accelerate the development of combined traffic Yukombi d.o.o. as an independent intermodal operator was established and later renamed to Adria kombi d.o.o. By its clear strategy over more than twenty-five years the company managed to develop an European train network for transporting containers, trailers, swap bodies and trucks connecting the main industrial hubs across Europe. Today, Adria kombi daily operates twenty-five to thirty-five trains. The main supporting hubs of the Adria kombi company are its three terminals in Slovenia: Ljubljana for continental traffic and as Gateway, Koper for sea cargo and Maribor for the rolling motorway. Adria kombi is transporting cargo to all major industrial hubs in SE Europe. Domestic links between major industrial centres in Slovenia also need to be mentioned. On the section between Koper and Maribor three trains are running to the terminals in Ljubljana, Celje and Maribor. Last mile is organized by truck. Apart from scheduled lines, Adria kombi also operates company trains for the automotive industry and FMCG (Fast Moving Consumer Goods) required by major clients. The Slovenian CT Operator, which works closely with the Port of Koper, realised a setback of 4% in 2016 (Source: UIRR, 2017).
	Adria Transport, d.o.o.	Railway transport operator	Regional	Operations	The company Adria Transport is the first Slovenian private railway carrier. The company was established in 2005 by Luka Koper (www.luka-kp.si), port and logistics system and GKB (www.gkb.at), the Austrian railway carrier to improve the railway connection between the Port of Koper and the hinterland markets, in particular Austria, Hungary, Germany, Czech Republic, Slovakia, Poland. The company's goal is to become a well-established railway undertaking offering services in the Central and South Eastern Europe. On the 1st December 2009 Adria Transport obtained the Safety certificate to carry on services in the railway freight transport. The certificate enables the development of independent railway services in Slovenia. At the moment the company employs 11 people. All of them are specialists in the field of railway transportation and logistics which cooperate with a network of partner companies. The main advantages of such an approach to business is adaptability as well as the ability to offer tailor made quality services.

	AŽP - Public Agency Of the Republic of Slovenia for Railway Transport	Agency	National	Standards	In the role of the Railway Infrastructure Capacity Allocation Authority, AŽP performs the following tasks in line with the above stated Act: - it prepares and confirms the public railway infrastructure network programme from the viewpoint of its legal responsibilities, - it administers and enforces the user charges for the use of the public railway infrastructure, - it approves the time-table, and it allocates train paths. In the scope of this role AŽP is also a member of the international association of railway infrastructure managers and railway capacity allocation authorities - Rail Net Europe (RNE), and has its representative in the RNE Management Board. This membership is considered to be an opportunity and a commitment for taking efforts to create a more attractive offer of the railway infrastructure and pertaining services for interested transport operators. Focusing to this objective, plans have been made to establish, under the coordination of AŽP, a new RNE corridor, C 11, (besides the existing C 7 and C 8 crossing Slovenia) already in 2010, which will connect south Germany, across Austria, Slovenia, Croatia and Serbia, with Bulgaria, heading towards Istanbul. As a safety national authority, the Public Agency of the Republic of Slovenia for Railway Transport performs, in line with the above stated Act, the following tasks: it issues licences, safety authorisations, safety certificates, use permits and operating permits (pacing in Service of the subsystems), it fosters the development of the safety regulatory framework, including the system of national regulations. According to this role, AŽP is a member of the European Railway Agency (ERA), in the framework of which it participates within the range of possibility, in the preparation of legal bases, especially concerning TSI, and in other ERA activities. The Railway Transport Act, amended in 2009, imposes additional tasks on the Public Agency of the Republic of Slovenia for Railway Transport, connected to the implementation of the Directive on the certification of train drivers. The envisaged amendments and modifications of the Railway Transport Safety Act enable a clearer delimitation of competences and responsibilities among institutions within the railway system. Within the scope of market activities and other activities the Public Agency of the Republic of Slovenia for Railway Transport: - coordinates and implements several projects of technical and research nature in the framework of the EU Funds co-financing, - invites tenders for technical and developmental studies, serving as a basis for making decisions in the scope of its basic responsibilities, - invites tenders for the preparation of technical or drafts of regulations in its sphere of activities, - hires external experts for the implementation of tasks within the scope of its responsibilities, - in agreement with the responsible minister, and within the range of its role of a public agency, AŽP serves as a platform for the implementation of various tasks connected to the EU-fund co-financing.
	Chamber of Commerce and Industry of Slovenia-Transport and Communications Association/ Union of transport and warehousing and forwarders	Chamber, Cluster	National	Organization, Operations	Corporate Vision Association marketing is a long-term provision of better business conditions of members, companies in the sector of transport and logistics. With the constant changes and improving the functioning of the association in order to achieve excellence in all core areas of work of the Association of Transport. Constructive and comprehensive work of members of the executive bodies of various sections and members of the board and staff associations in the association and support services Chamber of Commerce of Slovenia is based on the identification of problems in the industry, which are the basis for strategic plans and policies to achieve the goals and meet the expectations of membership. All set targets based on unanimously adopted work programs of individual sections, which include members of the Association of Transport. It sets an accelerated action and lobbying to eliminate many administrative barriers and solve the accumulated problems in the broad field of logistics services, all modes of transport, passenger transport and technical reviews, which hinder the development of enterprises in the sector of transport and logistics.
	DARS - Družba za avtoceste RS	Motorway manager	National	Policy, Strategy, Development	DARS, Motorway Company in the Republic of Slovenia is a joint-stock company. The company was established by law and entered in the companies' register on 7th December 1993. Since 1st January 1994, DARS d.d. has had its head office in Celje and a branch in Ljubljana. By way of contract on 1st January 1994, the Republic of Slovenia transferred the management of all existing motorways, as well as relevant infrastructure and plant, to DARS d.d. The Republic of Slovenia transferred to DARS d.d. 198.8 km up-to-then built two-lane and four-lane motorways and expressways and 67.5 km of access roads to them. Thus, DARS d.d. has assumed the right to collect motorway tolls as a source of income necessary for the management and maintenance of Slovenia's motorway network, as well as an important source for building new ones. DARS d.d. in accordance with the new Slovenian Motorways Company Act approved in 2010: on behalf of and for the account of the Republic of Slovenia performs individual tasks regarding spatial planning, implementation of motorways into space and tasks related to the acquisition of real-estate needed for the building of motorways; on its behalf and for its account implements the building of motorways; manages and maintains the motorway sections for which it acquires building concessions. Since the very beginning of the implementation of the National Motorway Construction Programme (NMCP) in the Republic of Slovenia, from 1st January 1994 till now, 528 km of four-lane, two-lane motorways and other public roads have been built and given over to traffic. At the moment DARS manages and maintains a total of 610 km of motorways and expressways, 163 km of access roads, 27 km of rest areas and 7 km of other roads.
	Intereuropa, d.d.	Road transport operator	EU	Operations, Organization	The Intereuropa Group as a global logistics service is the leading supplier of complete logistic services in Slovenia and South-Eastern Europe and a successful logistics group with great development potential. The Head Office of Intereuropa d.d. parent company is situated in Koper (Slovenia), where it operates via a network of 8 business units. Next to the parent company, the Intereuropa Group also consists of 12 subsidiaries in 9 countries where it has its own companies with the network of business units and logistics terminals. It provides the logistics solutions in other European countries and around the world through the network of reliable business partners.
	Luka Koper, d.d. - Port of Koper	Port operator	EU	Operations, Development, Organization	The Obalno-Kraška (Coastal-Karst) region is one of the smallest regions in Slovenia in terms of size and among the most developed in terms of economic conditions. Luka Koper is a public limited company, whose activity leaves an impact on the development of the Obalno-Kraška region, giving it a positive and dynamic economic pulse. The company Luka Koper provides port and logistics services in the port of Koper.
	Ministry of infrastructure, Air and sea traffic directorate	Ministry level	National	Policy, Strategy, Development	The Air and Sea Traffic Directorate performs expert and administrative tasks that refer to the development of air transport and airport infrastructure in the field of aviation and the maritime sector and port infrastructure.
	Ministry of infrastructure, Land Transport Directorate	Ministry level	National	Policy, Strategy, Development	The Land Transport Directorate performs expert and administrative tasks that refer to development, investments, maintenance and management in the field of public road infrastructure, coordination of transport links with neighboring countries and within the EU, tasks related to intermodal transport and logistics, tasks related to the development of rail and cableways transport and infrastructure, tasks related to promoting development of intelligent transport systems, tasks related to control and management of traffic and tasks related to the scope of road transport legislation and road transport safety.
	Ministry of infrastructure - Slovenian Infrastructure Agency	Ministry level	National	Policy, Strategy, Development	On 1 January 2015, as per the Decree amending the Decree on bodies affiliated to ministries (Official Gazette of the Republic of Slovenia, no. 91/2014 of 18 December 2014), the Slovenian Roads Agency assumed from the Ministry of Infrastructure its staff, rights to budgetary funds, obligations, documentation, facilities, equipment and inventory used to implement the assumed tasks of constructing, upgrading, reconstructing and maintaining public railway infrastructure, and other tasks determined by acts and executive acts governing public railway infrastructure, and continues this work as the Slovenian Infrastructure Agency.
	Republic of Slovenia Ministry of infrastructure	Ministry level	National	Policy, Strategy, Development	Ministry of Infrastructure of the Republic of Slovenia is in a charge of a two-year mandate 2014 -2016 presiding over this process. The transport ministers of the Zurich process encourage all measures for the transfer of road traffic to the railways in a spirit of sustainable development, with the aim of increasing road safety for all users and ensuring optimum traffic flow through the Alps. The development of rail freight and road-rail transport (accompanied or unaccompanied combined transport) is also dealt with: • by improving railway infrastructures, including tightening of safety in railway tunnels (elimination of bottlenecks) and in particular terminal installations for transalpine combined transport; • by improving the quality and attractiveness of offers by the railways (guaranteed access to the network, timetable, number of trains, travel time, equipment of wagons for drivers, priority train-paths for freight trains, quality of service, etc.); • by granting financial support while ensuring that there is no market distortion, thus enabling combined transport to be competitive compared with road transport; • by supporting the development of new technologies or innovations in combined transport; • by means of increased domestic and international cooperation (public authorities, combined transport operators, railway companies); Related to the role of Presidency country Slovenia coordinates all five working groups. (Reference: Database UN-ECE WP24, Slovenia, 2.1). The Ministry of Infrastructure is responsible for transport in the Republic of Slovenia, in the field of rail, air, transport and maritime transport, navigation on inland waterways and road transport, except the safety supervision of road transport, tasks in the field of transport infrastructure and cable installations, tasks in the field of the energy sector and mining, and tasks in the field of efficient use and renewable energy sources.

	Slovenian logistic association	Association	National	Development	The Slovenian Logistic Association (SLA) represents eg. CT experts, entrepreneurs & managers and is interested in sustainable development of European freight transport.
	SŽ-Cargo/SŽ-Tovorni promet, d.o.o. KT (SŽ-Cargo) - Container terminal	Railway transport operator, Terminal operator	EU	Operations	SŽ-Tovorni promet offers comprehensive and intermodal rail freight and logistics services on the Slovenian transport market, as well as abroad. Using logistic centres in Ljubljana, Maribor, Celje and Koper, they serve the supply chains from North West and Central Europe to South East Europe and all the way to Turkey. Most of the services are operated on two major European rail freight corridors, Corridor V and X, with Slovenia's capital situated at their crossroads. Customers can choose from a broad set of comprehensive transport and logistics products ranging from standard rail services (freight wagons, fuel tanks, road vehicles, dangerous goods etc.) to combined transport (containers, swap bodies, lorries etc.) and door-to-door delivery for small consignments. New train connections in cooperation with partners design tailor-made products to provide train services. At the same time, fixed train times and connections to rail freight routes across Europe are offered.
	SŽ- Infrastruktura, d.o.o.	Railway infrastructure manager	National	Operations, Development, Standards	Slovenian Railways-Infrastructure, company for the management and maintenance of rail infrastructure and for the operation of rail traffic Ltd. With the date of 1 August 2016, the works and tasks related to the allocation of train paths, setting, charging and collecting fees, creating, adopting, implementing and publishing network timetable, ensuring the effectiveness of international train paths, ensuring the competitiveness of international freight transport, the methods of ensuring effectiveness in rail traffic are transferred from the Public Agency of the Republic of Slovenia for Railway Transport to the infrastructure manager SŽ-Infrastruktura, d.o.o. Works and tasks have been transferred under Article 34 of the Act Amending the Railway Transport Act (Official Gazette of RS, no. 84/2015 – ZZelP-J). With the mentioned date, all the rights, obligations and duties under the first paragraph are assumed by the infrastructure manager SŽ -Infrastruktura, d.o.o.
	Traffic information centre for public roads	Agency	National	Operations, Other	Single point of access for the state road network Publicly accessible data and information There are various communication channels, applications, and services available for public information purposes. •Websites: www.promet.si and m.promet.si •Application adapted to mobile devices: DARS Traffic+ Android | IOS | Microsoft •RSS channels: Traffic report. Conditions on state roads, Conditions at border crossings, Latest traffic news •Teletext RTV SLO: http://www.rtvslo.si/ttx (stran 171, 172 in 173) •Automatic telephone voice station 1970
Switzerland	**ACTS AG**	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Alpine Initative	NGO	Alpine Space	Policy	The Alpine Initiative is a Swiss association. In 1989 the association launched the popular initiative "for the protection of the Alpine region from transit traffic", that was accepted on the 20th February 1994 by a majority of both the Swiss population and the cantons.
	ASTAG	Association	National	Policy	On behalf of its members, the Swiss Commercial Vehicle Association ASTAG is committed to the legitimate interests and concerns of road transport and the transport industry.
	Bertschi AG	Service Provider	EU	Operations	Bertschi AG is a logistics service provider active worldwide in the chemical industry, specializing in liquid and bulk-free products. In Europe, Bertschi is the market leader in intermodal chemical transport by rail and by water. The company has also been developing for several years into a major global provider of tank container services and complementary value added logistics services to the chemical industry.
	BLS Cargo	Operator/Carrier	EU	Operations	Traction on the north-south corridor through Switzerland.
	Contargo	Service provider	EU	Operations	Contargo GmbH & Co. KG is an international logistics service provider that carries out transports between the seaports and the European hinterland in trimodal transport with all associated additional services.
	Detranz	Innovation Center	National	Policy, Research	Innovation center for transport-efficient business.
	Federal Department of the Environment, Transport, Energy and Communications DETEC	Ministry level	National	Policy, Strategy	DETEC assures the sustainable provision of primary services in Switzerland. Its goal is to meet present requirements for infrastructures and at the same time to secure for future generations the chances of an intact environment.
	Federal Office for Spatial Development ARE	Agency	National	Strategy, Financing (co-financing), Development, Research	Transport planning and research. Distance-related heavy vehicle fee (HVF) in coordination with the FOT.
	Federal Office of Transport (FOT)	Agency	National	Policy, Strategy, Development, Measures, Standards, Organization, Operations, Research	In addition to its activities in rail transport (rail infttrastructure planning, modal shift policy, combined transport, intermodal terminals), the FOT has competencies in goods transport by road. It is responsible for making amendments to the Heavy Vehicle Fee, which are discussed in the Joint Committee on the Land Transport Agreement with the EU. In connection with the Land Transport Agreement, Switzerland also produced new legal regulations for market access in the road haulage business. Since 1 January 2004 all transport companies (including passenger transport) require a licence issued by the FOT.
	Federal Roads Office FEDRO	Agency	National	Financing (co-financing), Strategy	The Federal Roads Office (FEDRO) is Switzerland's federal authority responsible for road infrastructure and private road transport. It is responsible for HGV inspection centres.
	Federal Customs Administration FCA	Agency	National	Operations	The FCA levies the heavy vehicle charge.
	Hupac	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space. The Swiss CT Operator and terminal managing company, which offers one of the most comprehensive CT networks in Europe, delivered a robust overall growth performance of 9% in tonne-kilometres and 3% in number of consignments, which also included increases on relatively shorter distance domestic relations. In the middle of 2016, ahead of its upcoming 50th Anniversary in 2017, Hupac unveiled an ambitious CHF 280 million growth strategy (Source: UIRR, 2017).
	LITRA	Association	National	Policy	LITRA is an association based that represents the interests of public transport.
	Planzer Transport AG	Operator/Carrier	EU	Operations	Planzer Transport AG is a Swiss transport and logistics company
	railCareAG	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space.
	Ralpin	Operator/Carrier	Alpine Space	Operations	The company offers CT relations that are included in the Alpine Space. The Swiss Rolling Highway specialist realised a 7% traffic decline in 2016. The phase 1 of expansion at Freiburg terminal, a key launching point for RAlpin, has been completed in May 2016, which should improve conditions there. The rail infrastructure maintenance-related service quality problems negatively impacted the overall performance, while cheap diesel undermined competitiveness (Source: UIRR, 2017).
	SBB Cargo	Operator/Carrier	National	Operations	SBB Cargo is the rail freight subsidiary of the Swiss Federal Railways, which operates the freight transport division.
	SBB Cargo International	Operator/Carrier	EU	Operations	Traction on the north-south corridor through Switzerland.
	SBB Infrastructure	Company	National	Development	Responsible for rail infrastructure construction.
	SPEDLOGSWISS	Cluster	National	Policy	SPEDLOGSWISS is the association of international shippers and logistics companies in Switzerland.

	Swissterminal	Operator/Carrier	National	Operations	Handling and storage of empty and loaded containers. In addition to the actual handling and depot business, the transport organization, the securing of the cold chain as well as an inspection or expertise on behalf of a shipping company are offered.
	TRANSWAGGON AG	Service provider	National	Operations	The Transwaggon Group rents out rail freight cars.
	Trasse Schweiz AG	Agency	National	Organization	Trasse Schweiz provides for planning impartially, allocating capacity and making best use of the rights to use the rail network (train paths). This requires close coordination between applicants for train paths, infrastructure managers and trasse.ch.
	VAP	Service provider	National	Policy	VAP represents approx. 300 shipping and logistics companies in Switzerland, Germany, Italy, Poland, Austria and France, transporting goods by rail, truck, ship or pipeline.
	Verband öffentlicher Verkehr (VöV)	Association	National	Policy	The Association of Public Transport is the national umbrella organization of public transport companies. Its members are 127 transport companies and around 180 companies from business and industry.
	Verein Netzwerk Logistik (VNL)	Association	National	Policy, research	VNL Switzerland is an association committed to the continuous development of logistics. VNL brings together business and research to break down traditional and functional logistical perspectives and explore new ways to increase productivity and performance through logistics innovation.
	VTG Rail Europe GmbH	Service provider	EU	Operations	VTG is the largest private wagon hire company in Europe and one of the leading providers of rail and tank container logistics services.
	Wascosa AG	Company	EU	Operations	Wascosa AG is an internationally active freight car leasing and management company headquartered in Lucerne and is one of the ten largest European rental companies. The areas of activity include the rental of freight wagons throughout Europe, the management of customer-owned wagon fleets, as well as advice on the maintenance, insurance and safety of freight wagons.