2010 Report on
COMBINED TRANSPORT IN EUROPE

December 2010

INTERNATIONAL UNION
OF RAILWAYS

ISBN 978-2-7461-1908-6

Foreword

The Combined Transport Group of the UIC is pleased to present the third edition of the Report on Intermodal Transport in Europe.

The previous editions, published in 2006, then 2008, concerned respectively the years 2005 and 2007.

This periodic publication stems directly from the UIC DIOMIS project, which analysed the prospects, constraints and development conditions of Combined Transport (CT) in Europe by 2015-2020). The final report of DIOMIS, called Agenda 2015 for Combined Transport in Europe (see www.uic.org/diomis), proposed a toolbox of measures and best practices in the different fields of CT, with a view to operationally cope with a strong growth of CT in the perspective of expected infrastructure capacity constraints.

It was decided, in the aftermath of the interest raised by the findings and prospects of DIOMIS and the success of the first situation report, published in 2006, to deliver an update report every two years.

The present report, referring to the year 2009, does not fail the now established tradition.

True to its usual format, and based on extensive surveys of intermodal service providers (RUs, CT Operators,…), the Report provides an updated description and quantification of the European Intermodal Transport market. The Report provides an analysis of policies, framework conditions and market evolutions. It is illustrated by a wealth of figures, graphs and projections. Innovative in style, it attempts to evaluate and update revenues and employment of the total intermodal chain. No other study of CT has ever undertaken this exercice, which is nevertheless an essential element for our understanding of CT as an important business.

Researched and prepared on behalf of UIC by KombiConsult and K&P Transport Consultants, the Report constitutes in our view an essential reading for anyone interested in CT as a business and as a precious vector of productivity and sustainability at the service of the European economy.

2009, the reference year of the 2010 Report, has been, as it were, the annus horribilis for CT and its actors. The development and effects on CT of the global economic crisis are described in the report. It is a testimony to the vitality and relevance of CT, and to the professionalism and dedication of its actors, that it has so well coped with the crisis and that, contrary to some expectations, its actors have not only survived but have increased in number! The rebound experienced since the autumn of 2009 and during 2010 is astounding, even if one must remain very cautious against unwarranted triumphalism, considering the enduring uncertainties and the persistent volatility of the general economic situation.

We hope that the interested reader, whether academic, professional of the sector, customer of CT or public servant, will enjoy studying this report and our deepest wish is that it contributes to generate and document further discussions about the developments of CT.

Eric Peetermans

Chairman of the
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Oliver Sellnick

UIC Freight Director

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1. Introducing the 2010 survey on intermodal transport in Europe

This year's report is the third in this series and follows on from the reports on European intermodal rail/road transport in 2005 and 2007. It provides an updated description and quantification of the intermodal transport market, with particular focus on 2009, and an insight into how the intermodal industry coped with the turbulence of the recent global economic crisis. The report also presents the expectations of intermodal service providers concerning the short- and medium-term evolution of the industry. For this purpose, KombiConsult and K+P Transport Consultants conducted a comprehensive survey among intermodal service providers. The results of this investigation are conveyed in the following five chapters.

2. The intermodal rail/road industry in 2009

2.1 - Market conditions

The 2010 survey identified a total of 116 companies supplying unaccompanied intermodal services in 2009, and 7 operators of accompanied services. The complete list of intermodal companies is presented in an annex to this report.

Thus, while the number of accompanied service providers has remained stable since 2005, the number of players on the unaccompanied market has continued to grow. Despite the economic crisis, which in road haulage for example pushed a lot of companies into bankruptcy, 11 more intermodal companies were operating on this market in 2009, than in 2007. This is not to say that the intermodal industry remained unscathed by the impacts of the tremendous economic downturn and by the decline in demand for logistics services - in fact the volume of unaccompanied movements in 2009 fell significantly compared to the two previous years (see chapter 3). Moreover, a few "traditional" intermodal operators such as KombiDan and T.R.W. ceased operations due to mergers and acquisitions. Nonetheless, owing to a larger number of new entrants the total market base has expanded, which might be considered a positive signal for the future of intermodal transport in Europe.

This raises two questions:

- How was the intermodal industry able to emerge from the economic crisis so apparently unaffected?
- Why does unaccompanied intermodal transport appear to be such an attractive market?

Following the slump in the global and European economies, demand for intermodal services fell in the second half of 2008. The situation worsened, and reached dramatic proportions in late autumn 2008. In many cases, 30 or 40 per cent of the previous transport volume virtually evaporated within weeks or even days. Intermodal operators were losing money with every train departure. It was obvious that any intermodal service provider confronted with such a downturn in shipments and revenues would not be able to maintain its network of services for long.

As volumes declined intermodal professionals, amongst them particularly the UIRR, intervened very early on to achieve support for the European intermodal industry as a whole, either from the European Union or through concerted action from EU Member States. Efforts were made to put together a temporary aid package broadly aimed at maintaining the comprehensive network of intermodal services established by the intermodal industry over preceding decades. This was also achieved through the implementation, both by the EU and by individual states, of a beneficial legal framework for this environmentally-friendly transport system. But, just when their commitment to promoting sustainable development was most required, leading politicians and administrators were reluctant to spend even a tiny fraction of those resources thrown at the financial industry to sustain the intermodal industry.

In this context, intermodal companies were almost completely dependent on their own resilience and efforts. Very quickly they took measures enabling their economic performance to be stabilized in an initial phase, as described hereafter:

- It goes without saying that, just as in other businesses, rigorous cost cutting was the first and most essential action to be taken in the intermodal industry.
- This went so far that, most likely for the first time in many years, some companies were even forced to make employees redundant. However, in countries like Germany where the state provided financial support for short-time working, intermodal operators were in a better position to retain experienced personnel and gain in financial flexibility.
- With intermodal service providers, however, the largest cost is not the staff but the train services themselves, including the cost of traction, wagons and transhipment. Here the companies were confronted with a major dilemma. Had they reduced the service supply by only a small extent, they would gradually have continued to pile up financial losses. If, on the other hand, they had stopped services or cut them back as vigorously as the financial

situation appeared to require intermodal operators to do, this would likely have generated a downward spiral of falling volumes, put off long-time customers and jeopardized a network of services, many of which they had invested significant effort in developing over many years. Finally, such cutbacks would not have provided for sufficient capacity when economic recovery eventually came. Now that the crisis is over, it seems as if virtually all intermodal service providers were astonishingly successful in "saving" their service supply. The actions which enabled this outcome are as follows:

  - Where a trade lane was served by two or more trains daily, operators could fairly easily reduce the daily frequency or suspend two or more weekly departures.
  - Where a route was served only by one train daily, it was much more difficult to save costs. In spite of the crisis, the manufacturing industry and logistics service providers expected daily services. Often therefore, network operators reduced the weekly frequency of a service from 5 to 4, for example, but offered customers an alternative routing via a gateway service. On international corridors, however, it was possible to suspend one or two frequencies and still maintain the service.
  - Only in a few exceptional cases, when the economics were too poor, did operators cancel the service completely.

- In spite of these measures, various intermodal operators would likely not have been able to maintain their scope of service supply, or even survive, had they not been backed financially. The crucial financial contribution in this respect came from a handful of leading European railways heavily involved in providing rail traction services to intermodal operators. Amongst other initiatives, these railway undertakings suspended price increases which had been contractually agreed during the previous boom, agreed to share the economic risk for block train services, and offered intermodal operators other price incentives.
- Even if the intermodal industry was not successful in convincing EU and major national authorities to set up a cross-country economic aid package, the governments of Belgium, Great Britain and Switzerland responded more sensitively to the extraordinary situation. In order to prevent a system established over many years collapsing within a few months, they implemented new intermodal service promotion schemes, raising financial support for the existing system. The Belgian and Swiss funding schemes, in particular, also impacted positively on international combined transport services.

As the crisis persisted throughout the first half of 2009, many service providers had to step up their actions or even partly cut back their scope of service supply. Basically, the whole industry was cautious in awaiting economic developments and therefore continued a policy of severe cost control throughout 2009 and early 2010, even though many operators experienced a turna-

round in volume figures during summer 2009. Now that the intermodal industry has been on the upswing for around a year, an analysis clearly shows that these measures were key in taking the sector through the crisis, and also were a prerequisite in order to offer shippers, forwarders and shipping lines competitive logistics services when the economy recovered and transport demand bounced back.

Although the global crisis exposed the fine economic equilibrium of intermodal transport, the latter is also an industry which is seemingly becoming increasingly attractive to newcomers. As mentioned earlier, during our 2010 survey we identified a net growth of 11 intermodal companies compared to the previous European market analysis. Most of these entered the market for unaccompanied intermodal services in late 2007 or in 2008, but a few even emerged during the year of the crisis, 2009.

In contrast to the first wave of new entrants which, as witnessed in the early years of this century, tended to compete with incumbent service providers on their cash-cow services, other patterns are now discernable. Many new intermodal companies have started up by capturing market niches or customers which had either been neglected or deliberately not served by traditional operators. Once a new service was successfully established, they gradually extended their supply. Based on the know-how they had acquired, meanwhile, they were henceforth self-assured enough to expand into the territory or corridors of larger intermodal operators. Against this backdrop, it is not surprising that newcomers have, on average, performed better than incumbents during the crisis. The key factors in their success can be identified as follows:

- Customized rail operation schemes.
- Innovative pricing systems focussing on exploiting market- and customer-specific service requirements and price margins.
- Business models integrating the intermodal supply chain.
- Extraordinary customer care and commitment to the product.

It has also been observable for many years that new entrants are increasingly logistics service providers demonstrating an intermodal understanding in their capacity as the customers of intermodal operators. What may drive them to change roles on at least one trade lane or another, but not necessarily on all the routes on which they operate intermodal shipments? According to the results of our market investigation, new intermodal service providers' main reasons are as follows:

- They are not satisfied with the quality of service provided by incumbent operators and/or rail operating companies.
- They consider that existing intermodal operators do not respond satisfactorily to their requests to launch new services where they have identified potential customers and volumes.

- Forwarders and other logistics service providers in particular recognize that more and more major shippers are requesting logistics solutions including intermodal services. In order to meet these requirements, they establish specialized intermodal service teams. Eventually they start intermodal services on their own and, at a later stage, even transform the service team into a dedicated company (for more details see section 2.2).
- More generally, logistics service providers expect that, in view of the rising need for sustainable logistics, intermodal transport may become one of the main growth businesses. They may therefore be keen to extend their service portfolio in this respect.

It appears that the market for unaccompanied intermodal services is regarded by many as an attractive and stable environment with the potential for development, especially in view of global trends such as sustainability and the need to benefit from economies of scale.

2.2 - Business models of unaccompanied intermodal transport

Every intermodal service provider can fairly easily be allocated to one of the three following categories of intermodal business models:

- Generalist intermodal operator
- Railway undertaking in operator role
- Logistics service provider in operator role

Generalist intermodal operator

The development of the intermodal industry in Europe in the late 1960s was attributable, in particular, to the establishment of a new category of specialized logistics service provider, the intermodal operator. In the beginning its primary function was to act as a bridge between the world of the state railways, which provided all resources necessary for the execution of rail operations, and the world of shippers, forwarding agents, road transport operators and shipping lines that had cargo to be moved. Although road and rail now work in closer co-operation, these roles have largely been maintained. What has changed significantly, however, is that intermodal operators have taken on the leadership as concerns product development, determination of rail production and economic risk. The business model of this generalist type of intermodal operator is characterized by the following features:

- Intermodal operators define, implement and operate intermodal services on behalf of third parties and their cargo.
- Based on customer requirements they design intermodal services, with particular focus on the origin and destination of trains (terminals), timetables, routing, train weight and length, pricing scheme, and type of rail cars employed.

- On the production side, operators tend to purchase most supply services, such as transhipment, rail transport or – if they supply door-to-door services - road haulage, in an effort to keep assets low. Many operators, though, provide for an own fleet of intermodal wagons.
- Intermodal operators increasingly purchase block train services from railway undertakings and thus also take on the economic risk of filling train capacity.
- Generally, they retail the train capacity to customers. Depending on market positioning, space can be booked by any customer or a defined clientele, e.g. only forwarding agents. This is what we call an operator-driven, open block train service, in contrast to "company trains" dedicated to a single user.

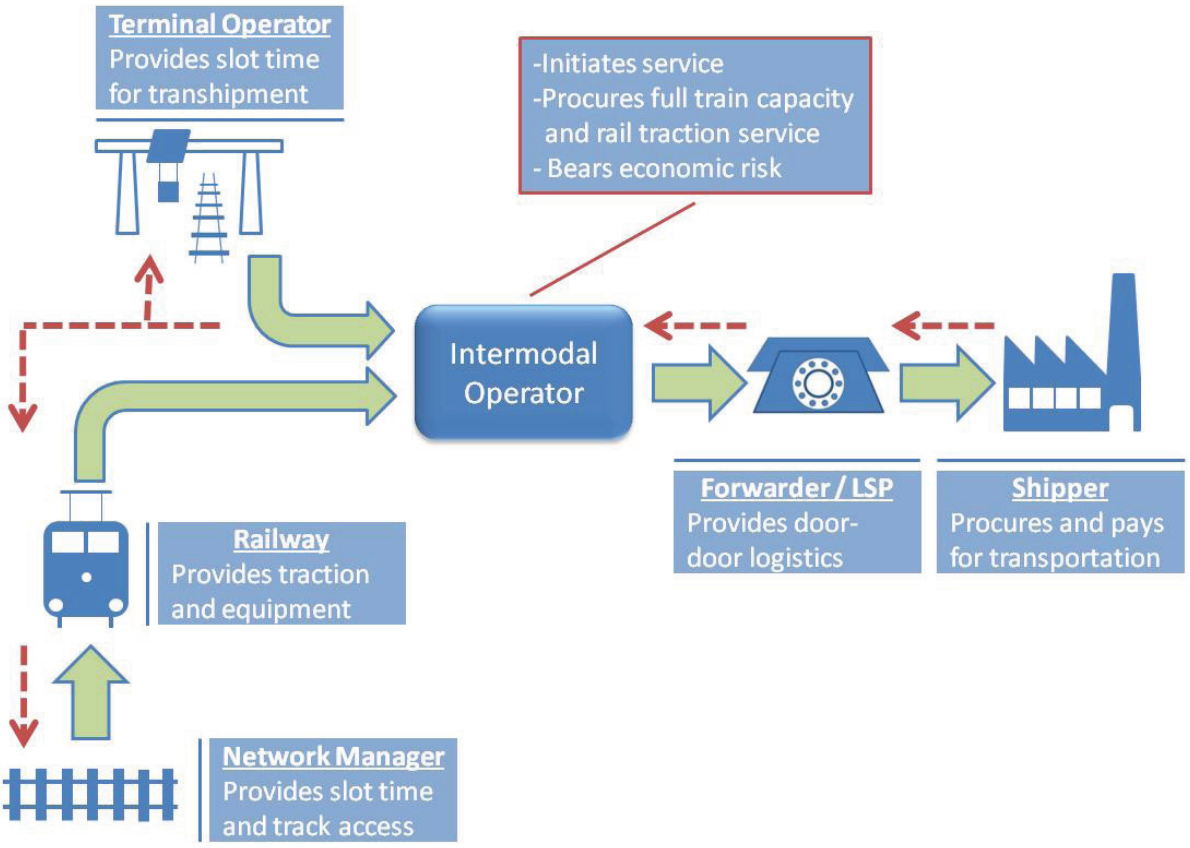
For many years, it was possible to clearly distinguish between two categories of generalist intermodal operators. One type of company was almost completely focused on the European-sourced continental shipments market. Since their customer base was built on forwarders organizing the door-to-door movement of commodities, these intermodal operators were used to supply terminal-to-terminal services only. Until recently all member companies of the *Union Internationale des sociétés de transport combiné Rail-Route (UIRR)* could be placed in this category.

However, for some years now the UIRR has also attracted intermodal service suppliers, which (though classified as generalist intermodal operators) primarily deliver door-to-door or rather port-to-door intermodal services. Their main target market is the carriage of marine containers in hinterland traffic. To be competitive on this market, full supply chain integration is usually necessary, as well as providing (inter alia) road haulage and empty container depot services. To this second category belong companies like *Freightliner, Intercontainer Austria, InterFerryBoats, Metrans* and *boxXpress*.

It should be emphasized, however, that intermodal companies increasingly act on both the continental and maritime market segments.

The general interplay between generalist intermodal service providers and their surrounding environment, namely customers and service suppliers, is presented in **Figure 1**. Whilst the green arrows demonstrate the flow of service, the red arrow flows depict the way that orders/ information are processed.

Figure1: Business model I: generalist intermodal operator

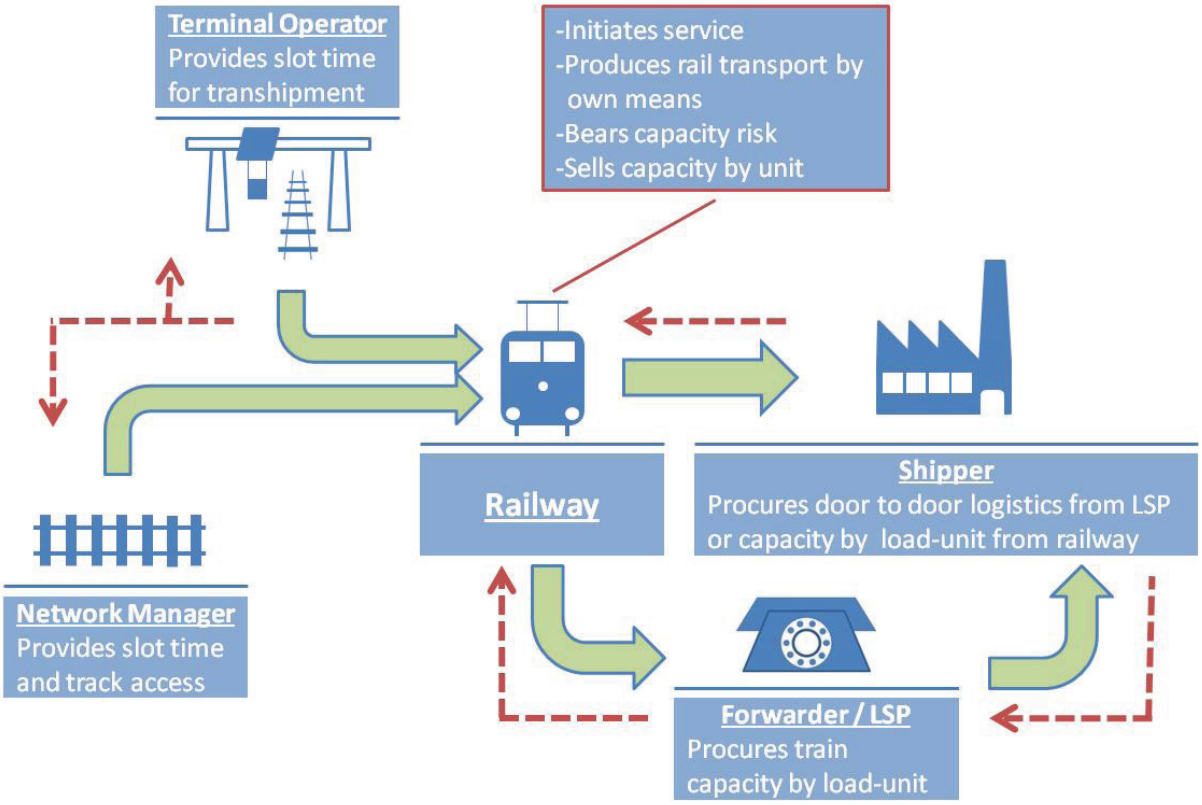


Source: KombiConsult

Railway undertaking in operator role

Practically all incumbent European railway undertakings and a substantial number of new entrants are involved in intermodal services as train operating companies. Additionally, many of them act as intermodal operators by supplying more or less “open” combined transport schemes for third-party shipments as depicted in **Figure 2**. However, they also organize and operate company trains for dedicated customers, in a manner similar to that of generalist operators.

Figure 2: Business model II: railway undertaking in operator role



Source: KombiConsult

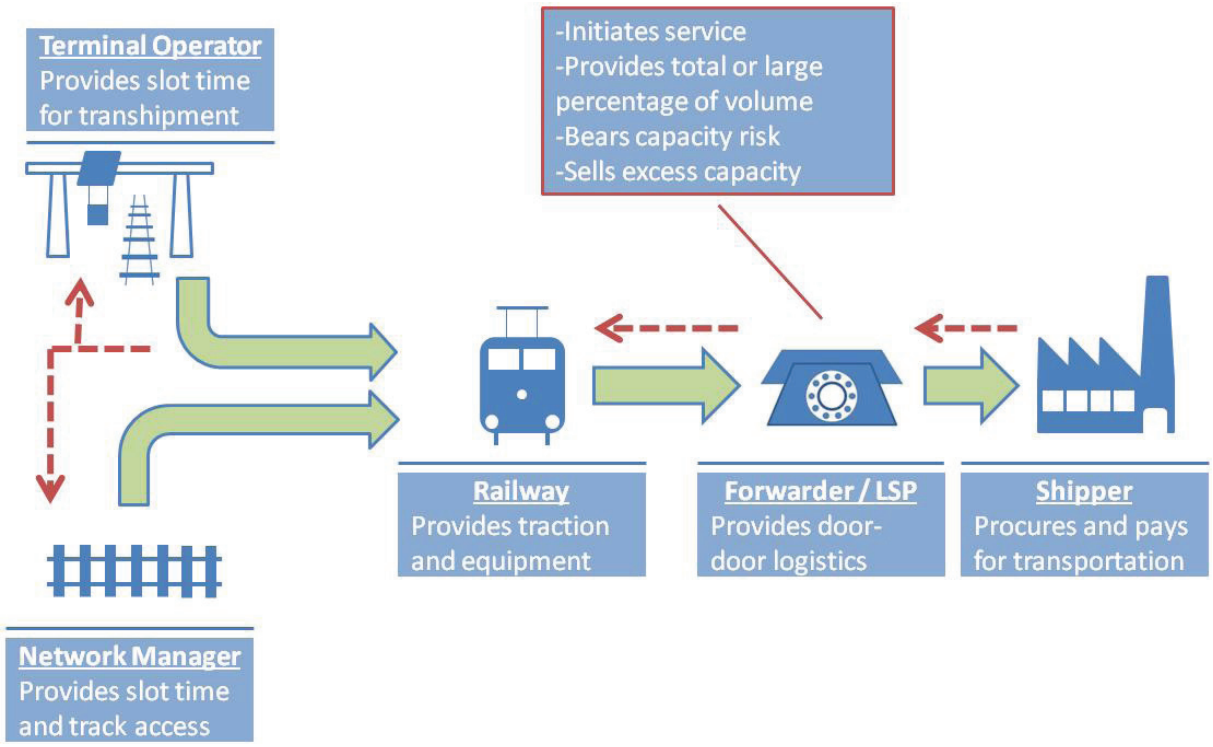
With regard to the scope and coverage of intermodal services, two categories of railways can be distinguished:

- Most incumbent railway undertakings have maintained a network of domestic and international wagonload services. These systems generally allow customers to ship intermodal loading units as well. Where a railway focuses solely on such a role in combined transport activities, it acts as an operator on a comparatively small scale.
- In contrast to the above, other railway undertakings can be characterized as full-blown intermodal operators. They operate and market their own dedicated intermodal services and also offer integrated intermodal door-to-door supply chain solutions for shippers. Amongst them are *RENFE, SBB Cargo, VR Cargo*, *CargoNet*, *TX Logistik* and all the UK railways such as *Freightliner*. We also find railways that have spun off their intermodal business into independent companies such as *ACOS*, or that supply both type of business.

Logistics service provider in operator role

For a long time, the supply and demand sides of intermodal services could clearly be distinguished, and all parties attributed to one or the other sector. The liberalization of the rail freight market since the 1990s, i.e. allowing any authorized company to provide intermodal and/or rail transport services, was key to stimulating competition and encouraging the emergence of new business models in intermodal transport. One business model which has become more popular in recent years is the logistics service provider as combined transport operator. This trend, discernable in previous surveys, was once more in evidence in the 2010 survey. We identified almost 40 intermodal companies established by forwarders, steamship lines, road transport companies or barge operators: inter alia, *Ambrogio, DHL, Emons, ERS, Messina, RailLink, Wenzel* and *Wincanton* belong to this category of intermodal operators (see **Figure 3).**

Figure 3: Business model III: logistics service provider in operator role



Source: KombiConsult

Many of these companies initially launched intermodal services primarily as a closed shop for conveying shipments ordered by their own logistics branches. However, most companies quickly adopted the operator role by offering spare transport space to other users in order to improve the capacity utilization rate and, as business grew, specifically plan intermodal services carrying third-party volumes. Some of these new operators even deepened integration further by obtaining a railway undertaking license and/or acquiring terminal handling facilities.

By establishing proprietary intermodal services, logistics service providers extended their existing value chain and achieved greater integration of the supply chain. At the same time they "eliminated" the broker function of the generalist operator, at least for those shipments carried on their own services. **Figure 3** depicts this model of a logistics service provider acting as intermodal operator. At the same time, however, most of these logistics service providers also utilize other operators' combined transport services on those trade lanes they do not serve themselves. In this case the value chain would resemble that in **Figure 1**.

Results of the 2010 survey

Approximately one third of all 116 intermodal service suppliers identified in the 2010 survey fell into one of the three main categories. This highlights the ongoing trend within intermodal transport since the industry's deregulation: until some 12 years ago, logistics service providers such as forwarders, shipping lines or transport companies were the customers of intermodal operators, but were less committed to establishing intermodal services of their own. The intermodal market was shared between railway undertakings and generalist intermodal operators, which dominated in terms of market share.

It is important, however, to realize that despite the fairly equal split of companies among the three categories, the generalist intermodal operators have the largest volume impact. Whilst accounting for only 35 per cent of companies, they represent significantly more than 60 per cent of the total volume of intermodal unaccompanied shipments in Europe. Generalist intermodal operators essentially offer a wide variety of services on multiple corridors, i.e. they offer more connections and departures and consequently move larger volumes.

2.3 - Scope of services supplied by intermodal service providers

This section analyses the marketing approach of intermodal service providers, with particular focus on 2009, and examines the extent to which they were covering intermodal market segments, the extent of their involvement in the logistics value chain and whether their approach has an impact on market share.

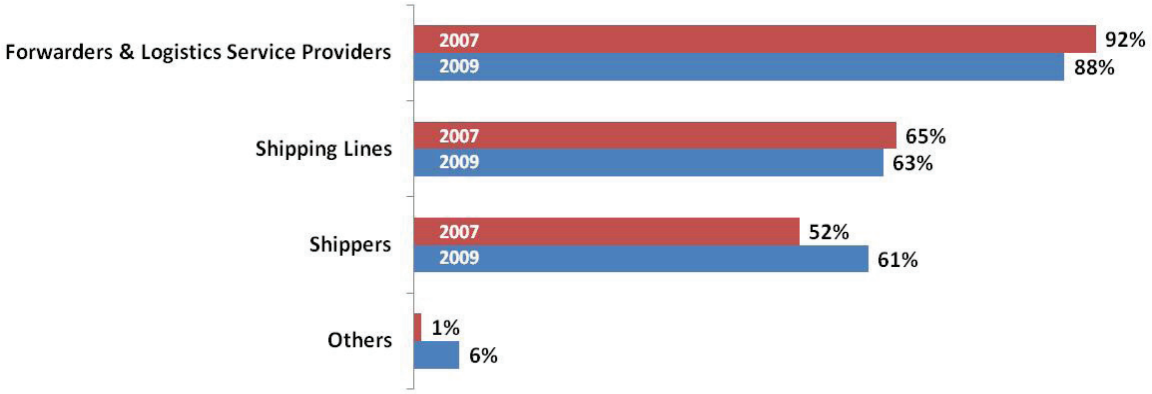
Market positioning

We provide detailed information on the target customer base for 86 of the 116 companies offering unaccompanied intermodal services in 2009. **Figure 4** shows that the most important target group for intermodal service providers remains the forwarding and logistics industry. 88 per cent of all intermodal operators say that they are aiming at this class of customers. This is a slightly smaller percentage than in the previous survey. Also, the importance of the "shipping lines" target group decreased by 2 percentage-points. On the other hand, slightly more than

60 per cent of all intermodal service suppliers offered shippers their services in 2009. This is almost 10 per cent more than in 2007. We assume that this trend can be traced back to the fact that the number of logistics service providers acting as intermodal operators has continued to increase, and these primarily serve shippers.

The strong increase in the "others" category can be explained by intermodal operators and railway undertakings providing other intermodal operators with their services. This happens, for example, when a company has insufficient shipment volumes to achieve satisfactory capacity utilization rate (load factor) and therefore offers spare capacity to other operators.

Figure 4: Importance of target customer groups: 2009 vs. 2007



Source: 86 intermodal service providers

Scope of intermodal services

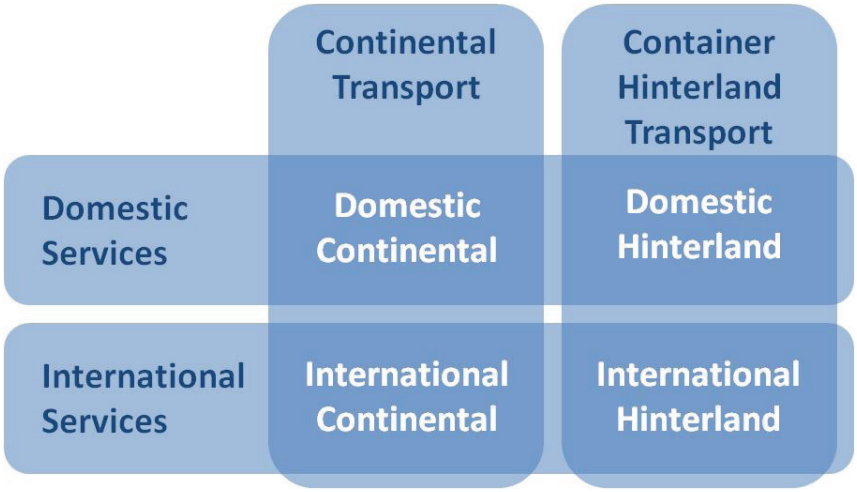
Combined rail/road transport in Europe is composed of four market segments. With regard to the origin and destination of the cargo moved, we distinguish between two basic market segments:

- Container hinterland transport is the transport of marine containers between sea ports and inland areas. The containers almost exclusively carry trans-continental cargo, i.e. goods whose origin or destination is located overseas, and only a very small proportion of European freight moved by coastal shipping services.
- Continental transport is the carriage of cargo sourced in and bound for European terminals. It includes short-sea transport e.g. with the U.K. and Ireland, and traffic between inland terminals and ferry port facilities. For continental transport, intermodal customers usually employ "European" equipment, i.e. domestic freight containers, swap bodies, or liftable semi-trailers.

We can further distinguish between domestic and international services. Domestic (or national) intermodal transport comprises services which are entirely performed on the rail network of a single European country, even if the cargo carried is travelling from one country to another.

By contrast, international services must cross at least one national border. Each of the intermodal transport categories can be combined, resulting in four market segments (see **Figure 5**).

Figure 5: Intermodal market segments



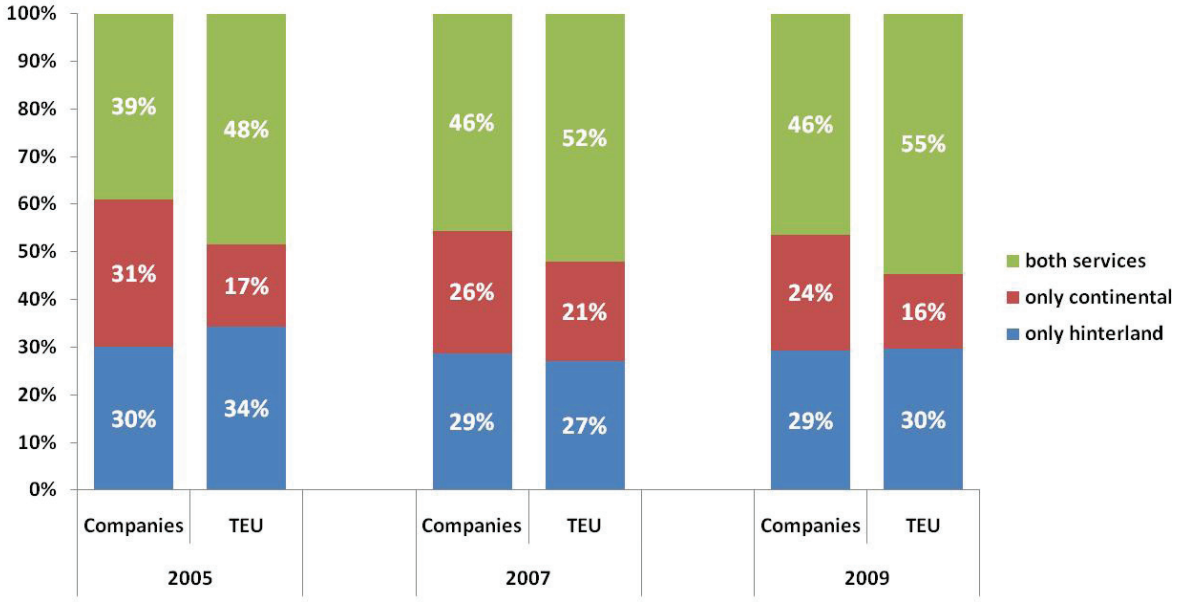
Source: KombiConsult

The following analysis is based on information from 83 intermodal service providers, who provided a full data set on their market approach and precise transport volumes.

The left column of **Figure 6** presents for the years 2009, 2007 and 2005 the proportion of companies offering container hinterland, continental transport or both services. The right column shows the same categories of companies but weighted with their TEU volumes. According to this analysis, 46 per cent of intermodal service operators provided both continental and container hinterland transport in 2009, and these 46 per cent represented 55 per cent of the total TEUs moved in Europe. This proves that the ongoing development from 2005 to 2007, when we first observed the increasing importance of quasi "full-service" providers, continued and had stabilized by 2009.

While in the "intermodal operators focused on container hinterland services" category both the proportion of operators and the volumes they account for have remained fairly stable across all three surveys, the significance of those companies relying entirely on continental services is in continuous decline.

Figure 6: Intermodal markets portfolio by companies and TEU: 2005, 2007, 2009

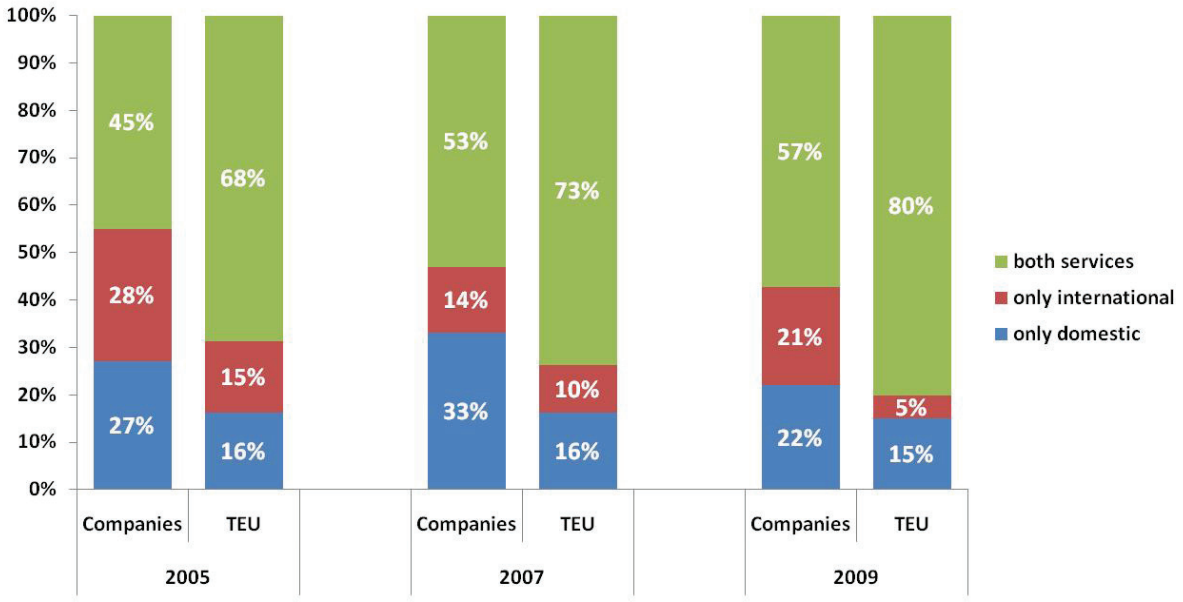


Source: 83 intermodal service providers

With regards to the geographic coverage of the intermodal transport chain, a trend towards companies delivering both domestic and international services can be confirmed. Not only did the percentage share represented by these companies increase between 2005 and 2009 from 45 per cent to 57 per cent, but the weighted market share also increased proportionately to 80 per cent in 2009 (see **Figure 7**).

Companies delivering only international services have lost tremendously in market share, which fell from 15 per cent of all TEU moved in 2005 to one third of this value in 2009. At the same time, the number of service providers in this category did not decrease at the same rate. Surprisingly, this trend does not apply to intermodal companies specializing in domestic services: despite an ongoing percentage drop in terms of the number of companies they represent, they have been able to maintain their market share in terms of TEU volumes. Thus, while intermodal operators providing only domestic transport have on average grown their business, the opposite development has occurred with companies completely focused on cross-border intermodal journeys.

Figure 7: Geographic intermodal service portfolio by companies and TEU: 2005, 2007, 2009

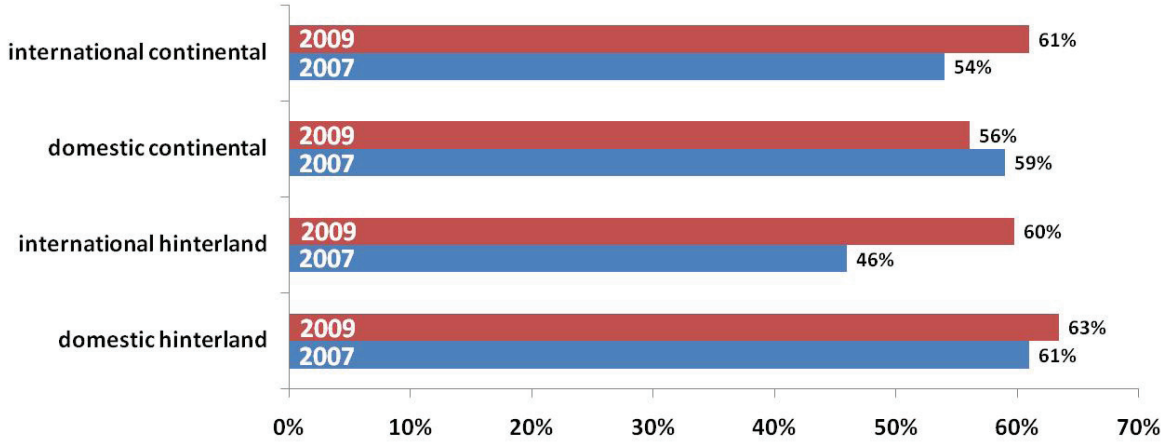


Source: 83 intermodal service providers

Consolidating the four market segments allows an evaluation of the share of intermodal service providers servicing each market segment. **Figure 8** displays the results. Since it is possible for a company to offer services in every market segment, the values add up to more than 100 per cent. Compared to 2007 there have been the following changes:

- International continental services have become substantially more attractive for intermodal actors. While just 54 per cent of all companies delivered services in this segment in 2007, their share in 2009 has increased to 61 per cent.
- Domestic continental services were offered by 59 per cent of all operators in 2007. This share in 2009 has fallen slightly, to 56 per cent.
- The "international container hinterland transport" market segment has experienced the greatest gains in significance. The proportion of operators providing these services has soared from 46 per cent in 2007 to 60 per cent in 2009.
- Domestic hinterland transport, in contrast, has seen only a small rise in interest, from 61 per cent of companies in 2007 to 63 per cent by 2009.

Figure 8: Market segments served by intermodal service providers 2009 vs. 2007

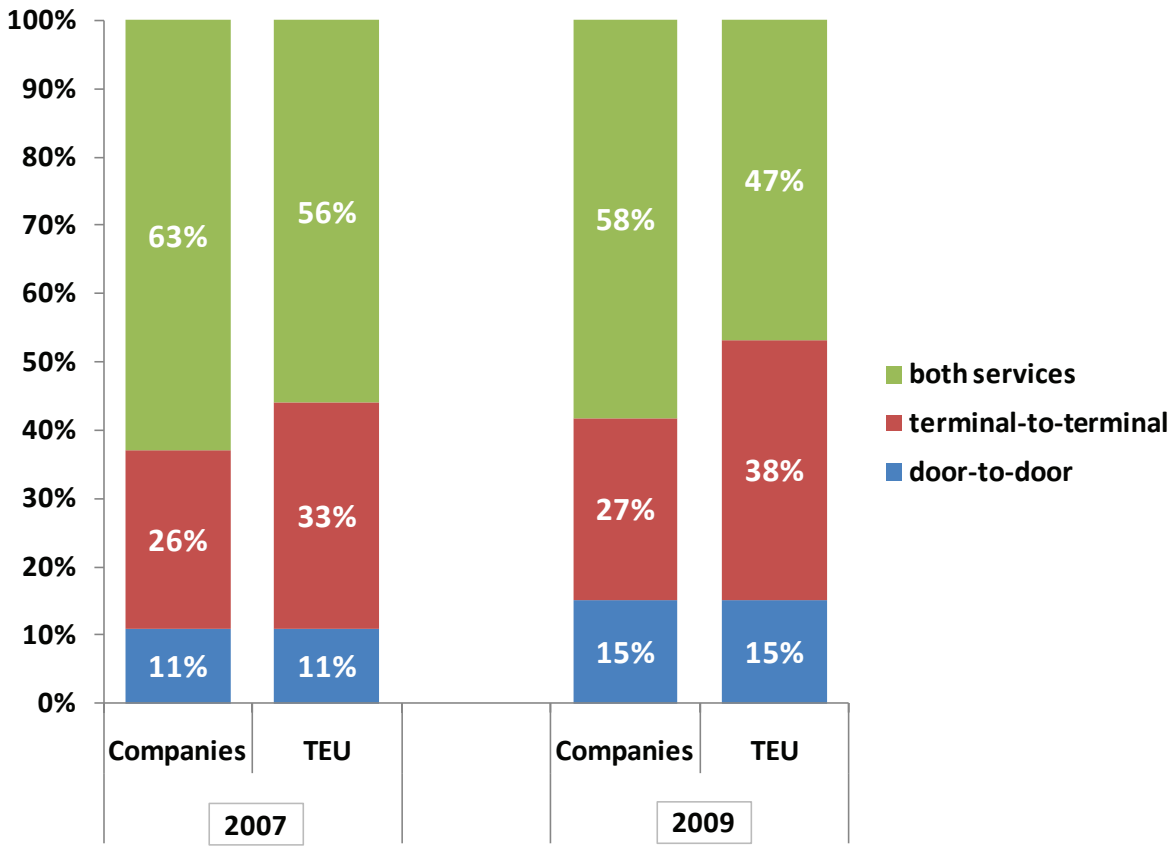


Source: KombiConsult based on indications by 92/70 intermodal service providers (2009/2007)

The general trend towards a higher percentage of companies offering services in each segment can be explained by companies broadening their scope of operations, perhaps in response to new entrants serving a profitable market niche that was previously targeted by the incumbent. A landscape composed only of new niche market actors would have quite the opposite effect. With more companies offering niche market services, the overall percentage of market actors serving each market sector would decline. An additional trend towards diversification among both incumbent and new intermodal service providers is therefore needed.

Another way to distinguish between the services offered by intermodal service providers is the extent of their service along the entire supply chain. Here the intermodal companies have two basic options: either they deliver full door-to-door or port-to-door transport, or they provide only terminal-to-terminal services. Of course they can also offer their customers both variants. **Figure 9** shows the results of this year's survey compared with the previous one.

Figure 9: Extent of intermodal supply chain covered by companies and TEU: 2009 vs. 2007



Source: 83 intermodal service providers

Between 2007 and 2009, the percentage of companies offering both door-to-door and terminal-to-terminal services decreased by 5 percentage-points, to 58 per cent. In terms of TEU carried, the all-rounders are actually rather "underperformers" since they represented just 47 per cent of all TEU moved. In fact, their market share by volume declined by a disproportionately great extent, by 9 percentage-points.

The other two categories of intermodal service providers, which focus either on their core terminal-to-terminal transport business or the full-service package, have clearly benefited from this development. Both of them were able to grow their market shares by a substantial amount. These results suggest that clear positioning vis-à-vis the target customer base produced a better rate of return than a wide service scope. Future surveys will provide more evidence as to whether this development will continue or whether it was more attributable to the recent year of crisis.

3. Unaccompanied intermodal rail/road transport

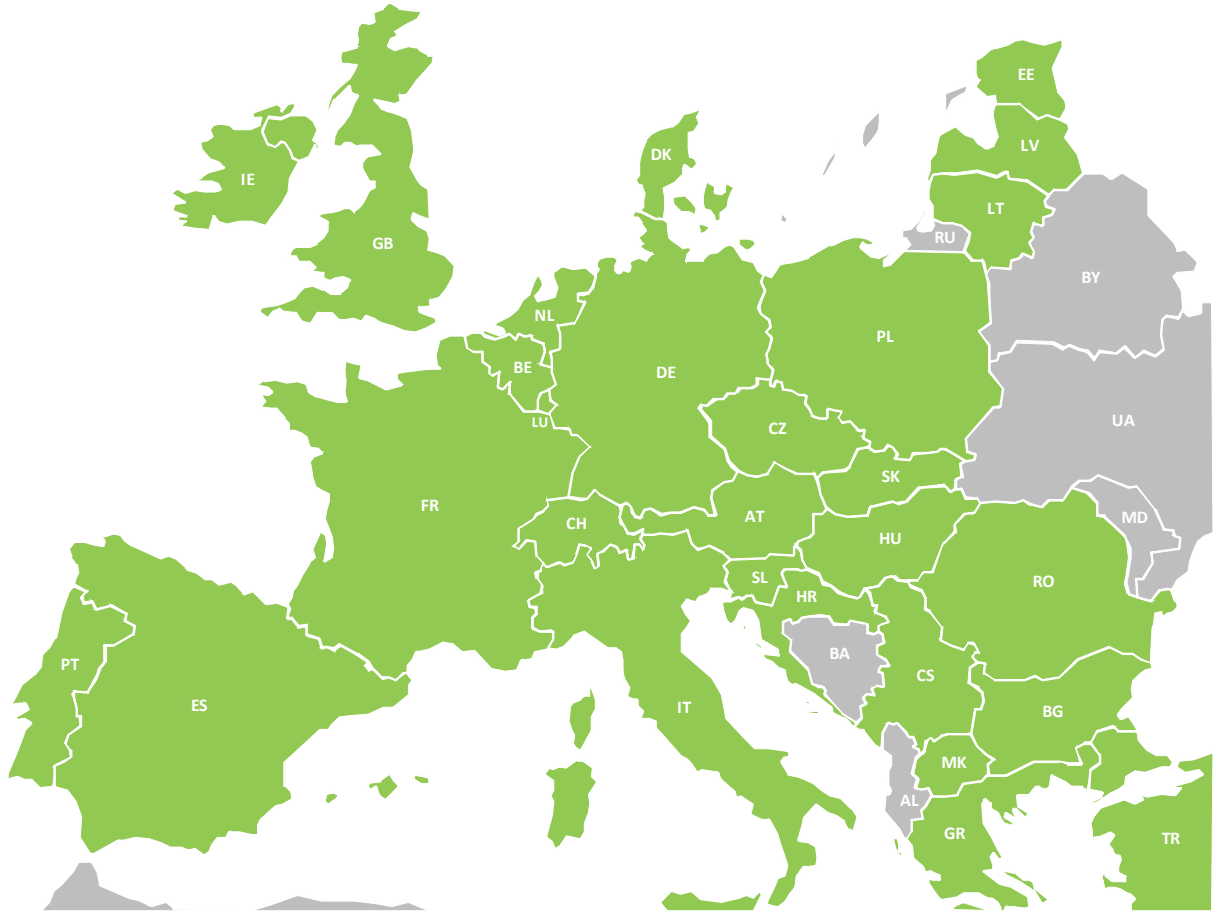
3.1 - Coverage and sources of survey

The 2010 survey on European intermodal transport identified 116 intermodal service providers across all the business models described above operating unaccompanied rail/road services in the reference year 2009. Circa 70 per cent of all companies returned a completed questionnaire and supplied qualified information on their transport performance for this year at least. Further, we were able to record the transport volumes of almost all other service providers by the following means:

- As in the previous surveys, the UIRR statistics were again an indispensable source of statistical data and, additionally, enabled us to eliminate double counts of shipments moved by other (non-UIRR) operators which were also customers of a UIRR company.
- It was extremely helpful that several railway undertakings, which did not themselves operate intermodal services of great significance but which provided traction services for intermodal operators, supplied detailed intermodal statistics. First of all, these allowed validation of other data sources. In conjunction with our market knowledge, they enabled the volume of domestic intermodal transport in some countries to be determined, even where data was not received from every individual operator.
- Though the intermodal transport data published by several national offices for statistics lacked a consistent methodology, it nonetheless contributed to the data collection process and the evaluation and cross-checking of information from other sources. However, since the national statistics are based on a territorial concept – i.e. all intermodal units carried on inland, export, import and transit trains are recorded – international shipments are counted by each country involved in the intermodal transport chain. Both the data from individual operators and a profound market knowledge – which operator serves which intermodal trade lanes – were therefore necessary in order to eliminate multiple counts.

The survey thus ensured a very broad coverage of European intermodal rail/road transport as concerns both the number of service providers on the intermodal market and the geographic scope. The report includes the domestic and international intermodal transport of all EU Member States plus Norway, Switzerland, Croatia and Turkey, as well as (at least) the international, trans-European shipments to and from Bosnia, Serbia, Macedonia, and the Ukraine (cf. **Figure 10**).

Figure 10: European countries covered by intermodal market survey



Source: KombiConsult

Despite the extraordinarily high rate of response to our questionnaire, some intermodal service providers were unable to supply a complete data set. This particularly applied to operators of container hinterland services, who do not always record every item of the transport volume we sought to establish. For example, although they register the number of TEU carried, they do not necessarily count the tonnage shipped via the containers. In these cases, we estimated the "missing" data item based on our own knowledge of the market characteristics in question and/or on key indicators such as "average tonnes per TEU", which were calculated from comprehensive data sets of other operators serving the same or a comparable market. These exercises produced relatively precise results, since we were often able to validate our assumptions using double-checks with data collected by national statistics offices or railway undertakings.

The 2010 survey not only provided a comprehensive insight into European intermodal transport in the year 2009, but also enabled remarkable retrospective information to be obtained.

This is because, in addition to detailed statistical data for 2009, nearly all respondents to our questionnaire also indicated their total transport volumes for the years 2007 and 2008 - if they were operative at all. This data was extraordinarily valuable in two respects. First, it showed how the individual companies performed over this period and if and how they were affected by the global economic crisis. Second, since several intermodal service providers participated in the European survey for the first time, we were able to review our previous estimates. The majority of our assessments proved to be very accurate or close to the recorded data sets. Only in three cases were the 2007 results considerably overestimated so that we were required to revise them accordingly. The impact of those adjustments on the total volumes of the intermodal market segments affected, however, are comparatively small.

As more official intermodal statistics were available, we have also reviewed our 2005 and 2007 data sets for domestic intermodal transport in those countries. As a result, the total volumes increased for both years. The same exercise could not be carried out for international transport, for the reasons mentioned above.

3.2 - Intermodal market segments

The European intermodal industry serves four market segments distinguished by the nature of the goods shipped and the geographic scope of the rail service carrying them.

The carriage of containers shipping intercontinental cargo on intermodal services between sea ports and inland locations in Europe is defined as container hinterland transport. When freight which is both sourced in and bound for a European country is moved by intermodal trains, it is designated as continental intermodal transport. Apart from the differences in the cargo carried, the two markets are also distinctive with regard to the transport equipment deployed. Only marine containers primarily featuring an ISO standard length of 20’ or 40’ are used for intercontinental movements, while continental intermodal shipments are overwhelmingly performed with pallet-width swap bodies and European domestic containers, as well as with liftable semi-trailers.

The second segment of the intermodal transport market relates to a geo-political category. For our survey, we conformed to the methodology used in other statistics collections and applied a principle of strict territoriality. This means that, where an intermodal unit was conveyed on a domestic service between two terminals located in a single country (irrespective of whether the final origin and/or destination of the cargo was in this country), it has been considered as domestic intermodal transport. The movement of a shipment on an intermodal service between two locations in separate countries is defined as international transport.

3.3 - Unaccompanied intermodal transport in 2009

According to our survey, European intermodal service providers moved 154,542,100 gross tonnes[1] of goods on unaccompanied services in 2009. Approximately 84.5 million tonnes, representing 54.7 per cent of the total volume, were shipped in marine containers on hinterland transport to and from sea ports. The continental intermodal volume accounted for 70.0 million tonnes, representing 45.3 per cent of the total volume (cf. **Figure 11**).

If measured in twenty-foot equivalent units (TEU), the market share of continental intermodal transport (amounting to 6.7 million TEU) was exactly 2 percentage-points smaller than in terms of tonnage. With nearly 8.8 million TEU (56.7 per cent), 2 million TEU more were carried on container hinterland services. This resulted in a total European intermodal transport volume of 15,448,870 TEU (cf. **Figure 12**).

Domestic transport clearly dominated the European intermodal industry in 2009, accounting for 91.5 million gross tonnes or 60 per cent of the goods moved on intermodal services. More than 9.3 million TEU of equipment were required to ship these volumes. Within this market segment, the maritime sector accounts for around two thirds of the tonnage/TEU. The movement of marine containers in domestic hinterland transport is the single biggest market segment of the European intermodal business, representing 40 per cent of the total unaccompanied volume.

Figure 11: Unaccompanied intermodal rail/road transport: goods moved in 2009

Intermodal market segment	Continental transport		Container hinterland transport		Total intermodal transport	
	Tonnes	%	Tonnes	%	Tonnes	%
Domestic services	**30.199.059**	33,0%	**61.313.241**	67,0%	**91.512.300**	100%
International services	**39.803.680**	63,2%	**23.226.120**	36,8%	**63.029.800**	100%
All services	**70.002.739**	45,3%	**84.539.361**	54,7%	**154.542.100**	100%

1. Gross tonnes include the weight of the goods and the tare weight of the intermodal loading unit employed but not the weight of wagons, locomotives or similar means of transport.

Figure 12: Unaccompanied intermodal rail/road transport: TEU carried in 2009

Intermodal market segment	Continental transport		Container hinterland transport		Total intermodal transport	
	TEU	%	TEU	%	TEU	%
Domestic services	**2.984.189**	32,0%	**6.341.401**	68,0%	**9.325.590**	100%
International services	**3.707.550**	60,5%	**2.415.730**	39,5%	**6.123.280**	100%
All services	**6.691.739**	43,3%	**8.757.131**	56,7%	**15.448.870**	100%

International intermodal services in Europe recorded a volume of 63.0 million gross tonnes, equating to 6.1 million TEU, in 2009. The relationship between the continental and maritime sectors is almost the reverse of the situation in domestic transport. Continental intermodal freight represents a clear majority of the tonnage (63.2 per cent) and of all TEU (60.5 per cent) in cross-border transport. This market segment also is the second biggest intermodal business and in 2009 represented nearly 25 per cent of the entire volume.

Although domestic maritime container hinterland transport constitutes the largest and most important market segment, it is important to highlight the position of international continental intermodal transport, since this latter ranks second in size and shows consistently strong growth rates. Keeping in mind the economic recovery, which will be addressed in more depth in the following chapter, it is foreseeable that infrastructure and capacity constraints in this field will recur and that terminal and rail infrastructure will need improvement in order to keep pace with demand.

3.4 - Evolution of unaccompanied intermodal transport from 2007 to 2010

According to our previous survey, unaccompanied intermodal transport in Europe totalled 173 million gross tonnes, or 17.4 million TEU, in 2007. These results took into account the adjustments made in the light of the findings of the 2010 survey. According to that survey, the intermodal business in Europe suffered from a 10.6 per cent fall in volume if measured in tonnes, or 11.1 per cent if measured in TEU, over the period from 2007 to 2009 (cf. **Figure 13** and **Figure 14**). Domestic services altogether were less badly hit than international intermodal transport. In 2009, the consolidated domestic volume declined by 7.9 per cent (2007: 99.4 million tonnes) or, by 10.0 per cent if measured in TEU (2007: 10.4 million TEU). The throughput on international services, however, dropped by 14.4 per cent (2007: 73.7 million tonnes) or, by 12.6 per cent if expressed in TEU (2007: 7.0 million TEU). As a consequence, domestic transport's share of of the total intermodal volume, which had fallen between 2005 and 2007, rose once more to about 60 per cent.

Compared to 2005, the first year for which we carried out a European survey, the intermodal industry in 2009 maintained an increase in volumes of 12.3 per cent if measured in TEU, or as high as 15 per cent if measured in tonnage (cf. **Figure 13** and **Figure 14**).

The cutbacks in intermodal rail/road movements in 2009 were the first for over a decade, the last having been in the second half of the 1990s when increased operational problems, the gradual slowing of the economic and transport boom which had followed the fall of the Iron Curtain, and a re-structuring of commercial relations between many railway undertakings and intermodal service providers induced reduced volumes at major intermodal operators. The 2009 decline, however, is likely to be the strongest-ever Europe-wide downturn in the intermodal sector.

It mainly resulted from the impacts of the global financial and economic crisis on the transport and logistics industry, though idiosyncratic factors superimposed this development on some international corridors and domestic markets. Virtually all intermodal services and intermodal service providers throughout Europe were faced with a sharp decline in demand for intermodal transport capacity. The findings of the 2010 survey – in conjunction with our continuously-acquired market intelligence - now allow us to write a brief history of the evolution of intermodal transport during the crisis, as well as for the pre- and post-crisis periods, as follows.

Figure 13: Unaccompanied intermodal rail/road transport: goods moved in 2009, 2007, 2005

Intermodal market segment	Transport volume (Tonnes)			Percentage change	
	2005	2007	2009	2009/2007	2009/2005
Domestic services	80.813.500	99.362.200	91.512.300	-7,9%	13,2%
International services	53.614.000	73.590.960	63.029.800	-14,4%	17,6%
All services	134.427.500	172.953.160	154.542.100	-10,6%	15,0%

Source: KombiConsult analysis

Figure 14: Unaccompanied intermodal rail/road transport: TEU carried in 2009, 2007, 2005

Intermodal market segment	Transport volume (TEU)			Percentage change	
	2005	2007	2009	2009/2007	2009/2005
Domestic services	8.374.630	10.360.920	9.325.590	-10,0%	11,4%
International services	5.378.880	7.007.250	6.123.280	-12,6%	13,8%
All services	13.753.510	17.368.170	15.448.870	-11,1%	12,3%

Source: KombiConsult analysis

In the first six months of **2008**, the boom in the intermodal business recorded since around mid-2006 continued, though growth rates gradually slowed. Indeed, capacity bottlenecks concerning terminals, wagons, locomotives and the rail network even increased. But, since the road haulage industry's capacity was also saturated, forwarders, shippers and steam ship lines could almost count themselves lucky if their shipments were moved by an intermodal train at all.

Then suddenly during the summer, expansion came to a halt and demand for intermodal services started to crumble. Since the downturn did not initially affect the entire intermodal industry, but rather varied in intensity from one market segment, country, or corridor being served by a company to another, it was not as readily observable as it now seems that the sector – just like the global economy as a whole – would be confronted with an unprecedented economic challenge.

Intermodal transport volumes fell first in the maritime business and on continental services shipping large amounts of bulk chemicals, steel and other inputs for the manufacturing industry. Both developments indicated a loss of confidence in further growth of the global and European economy on the part of wholesale and retail traders, large parts of the manufacturing industry and investors.

During the first half year of 2008 the so-called subprime crisis in the U.S. had spread from the financial system to the American "real economy". American consumers who lost their houses or were unable to pay the interest on their mortgages – let alone service the repayment commitments - were forced to cut back on their spending. This produced a vicious circle of economic reservations and market caution. The U.S. reduced its imports of both consumer and industrial goods supplied by China, other South-East Asian states and European manufacturers. European importers, uncertain as to whether the U.S. economy might be sliding into a recession and dragging the rest of the world with it, reduced or even stopped orders for consumer goods, primarily those manufactured in the Far East. Instead they served demand from warehouse stocks in order to prevent being left with high stocks of produce and running into financial constraints. As a result, the export and import of marine containers via European sea ports, which had previously driven the growth of intermodal hinterland transport, slumped dramatically within a few weeks.

Pessimism was growing amongst the directors of European corporations. Since most wholesalers and manufacturers expected demand to decline further, they increasingly reduced both the total amount of orders and the size of every single order. It became common for companies to run according to "immediate visibility". Though this behaviour was undoubtedly reasonable from a micro-economic perspective, it was a disaster on the macro-economic level since it further fuelled the spiralling economic downturn.

The first industries affected by growing tension in the market were those supplying basic inputs for the manufacturers of semi-finished and finished products and for the construction sector. As far as demand in the intermodal business was concerned, these were essentially the chemical and the steel industries. These industries had provided the base volumes or even accounted for the majority of shipments for a large number of trans-European and domestic intermodal services, which now fell short of the usual demand levels by 20 per cent or more. The cutback in output particularly affected intermodal trade lanes between the major manufacturing locations in Belgium, the Netherlands, Germany, Italy, and Spain and their products' destinations.

The situation worsened in September 2008, especially after investment bank Lehman Brothers went bankrupt. In particular, this period witnessed the collapse of the European car manufacturing industry, which resulted - industry-internal structural problems aside – from consumers' caution in assuming a greater burden of financial risk in view of the looming global recession. Over the following months, the intermodal operators specializing in forwarding automotive components suffered from a dramatic downturn in their volumes of often more than 50 per cent compared to previous levels.

As of November 2008, the economic crisis had spread to almost every other sector as well. As a consequence, those few European intermodal corridors which had maintained growth in shipments compared to the same period in 2007 owing to their lesser dependency on bulk chemicals and other basic inputs, such as the Brenner axis, were now confronted with a slowdown in demand. At the end of 2008 virtually no intermodal service provider was unaffected by the crisis.

In spite of the downturn in volumes, particularly in the last quarter of 2008, the European intermodal industry is likely to have achieved a slightly better consolidated result than in 2007. Our 2010 survey delivers evidence that a majority of intermodal operators, including nearly all market-leading companies, has achieved an increase in intermodal volumes – though mostly moderate. An analysis of the available national statistics essentially confirms this finding. An all-time high of intermodal shipments was recorded in high-volume countries such as Germany, Sweden and the United Kingdom.

Against this backdrop, we consider that the European intermodal industry achieved its baseline record year in 2008. Even though (unlike for 2009) we do not provide detailed 2008 statistical data for every intermodal service operator, which would allow all double counts to be eliminated, we assume that total unaccompanied intermodal transport in Europe grew by 2 to 3 per cent in the period from 2007 to 2008. This was a product of strong growth in the first half of 2008 and the fact that the economic crisis did not hit intermodal companies simultaneously but only gradually over the second six months of that year.

The overall result for the year 2009 is, as explained earlier, a tremendous fall in intermodal shipments, circa 11 per cent compared to 2007. Taking into account our assessment of the evolution of intermodal transport in 2008, the fall might even total 13 per cent when compared with this year. This bleak consolidated figure, however, hides the fact that 2009 – to a greater degree even more 2008 - was not a year of homogeneous development, but that each individual intermodal service provider's situation was distinctive.

The year 2009 was exceptional. This was not only due to an overall decline in volumes, since there have always been years where European intermodal transport has experienced ups and downs. However, in those instances the entire industry has usually undergone more or less uniform changes. For 2009, however, the transport statistics of the surviving operators report an extreme range of results. Very few operators actually escaped the slump in the total transport demand, let alone achieved an increase of volume. This said, it makes a considerable economic difference whether a company was able to maintain the same level of shipments as in the preceding year or whether it recorded a 3 to 4 per cent decrease, lost 10 to 15 per cent or even over 50 per cent of its volume. How did this happen?

The downturn in intermodal transport accelerated during the first few months of 2009. If volumes had continued to fall at those rates, the whole sector would have suffered a loss of 20 to 25 per cent at the end of that year. Now that the crisis is over, it should be recognized that these rate at which business slowed was partly owing to a statistical effect, since most operators had recorded comparatively strong growth in volumes in the first few months of 2008.

At any rate the intermodal industry, industrial organizations and transport administrations were all deeply worried about the potential impacts. Concerns ranged from heavy cutbacks to the network of services, which had been established through perseverance and cooperative efforts between intermodal operators and railway undertakings, to the financial failure of, especially, small- and medium-sized service providers, even the collapse of the entire intermodal industry.

In the second quarter of 2009, however, the first signs of a recovery of both the economy and previous transport volumes appeared. These impressions were reinforced in the following weeks as recovery spread to various freight markets and affected more and more intermodal service providers.

From today's point of view the following measures primarily contributed to the stabilization and gradual upswing in the demand for goods and intermodal logistics:

- The stabilization of the financial sector in the U.S. and Europe.
- The state aid provided by some European governments for consumers who purchased new cars and scrapped their old ones.

- The stabilization of labour markets in Europe through financial support for short-time working and similar actions.
- The large and emerging economies of Brazil and India escaped virtually unscathed from the global crisis. In conjunction with the swift recovery of China and other East Asian countries, which also strengthened their domestic markets, this generated considerable demand for imports from European manufacturers, boosting the marine container market segment.
- Countries such as Belgium, the U.K. and Switzerland implemented measures to support intermodal services financially.

The first industries affected by the economic downturn were also the first to record a recovery of demand in their order books. Among them were the chemical and metal industries. As mentioned above, these are key intermodal customers. Accordingly, intermodal services for both continental and maritime loads, which had suffered first, now found themselves at the forefront of an "intermodal rejuvenation". The recovery in the production and the shipping of industrial goods regained momentum around mid-2009, i.e. around one year after volumes first tumbled.

The European car manufacturing industry's output of passenger cars bottomed out and returned to growth much sooner than expected.

The producers of small and compact cars, in particular, benefited from the subsidy schemes implemented, while the manufacturers of larger and more expensive cars were able to raise their output owing to increased intercontinental demand. Both effects also boosted intermodal transport services, though not all car production sites and concomitantly not all intermodal services and intermodal operators were able to benefit equally from the recovery. In fact, some highly specialized operators lost 50 or more per cent of their volume owing to the distinctive nature of this development.

In contrast to intermodal services overwhelmingly shipping industrial goods, the operators of intermodal services more geared to the carriage of consumer goods (other than cars, semi-finished products and general cargo) had to wait much longer until volumes recovered noticeably. Obviously, wholesalers and retailers – following the prevailing market psychology - remained cautious about whether the economic recovery would be sustainable. During the whole of 2009 they kept their stocks at low levels and continued to order goods on a short-term basis.

This behaviour was essentially maintained by most of these companies well into 2010. Only in late spring 2010, when the order books across all industries were full again and the industrial index of confidence in the leading European economies climbed to a value close to or even above the pre-crisis level, did wholesalers and retailers renounce their "conservative" strategies and order goods to build up warehouse stocks. Since this turnaround coincided with general growth in transport volumes and reduced capacity on the supply side – insolvent road operators,

shipping lines which had meanwhile adopted cost-saving and rate-optimizing measures such as slow steaming or "optimized" container management – capacity constraints along the entire intermodal supply chain re- appeared.

In addition to those differences in the recent development of European economies which in 2009 mainly determined demand for each intermodal service provider and its transport volume, we would like to highlight the following further aspects:

(1) The downturn of global container flows since around mid-2008 considerably reduced the seaborne throughput of every major European sea port. However, the extent of the downturn and the period until container volumes rose again proved to be extremely variable. The ports of Rotterdam and Antwerp lost much fewer TEU than the German sea ports of Hamburg and Bremerhaven or the main Spanish and Italian ports of Valencia, Barcelona and Genoa. And Antwerp and Rotterdam also recovered much faster. Intermodal volumes in the UK even increased slightly despite the crisis. As a result of all this, intermodal operators focusing on container services with the "underperforming" sea ports had to cope with three challenges: decreased hinterland volumes; reduced point-to-point container numbers; and increased competition with trucking companies. These factors are reflected in the 2009 results, as compared to the previous years' results, for almost all container hinterland operators.

(2) However, there are also a few exceptions. First of all, some operators seem able to produce more efficiently or better manage customer relations. These successfully increased their intra-modal market share and thus boosted or maintained their total volume, or at least suffered a disproportionately low decline in container shipments. Second, newcomers to this market segment in recent years have obviously identified and developed market niches ignored by "incumbent" operators. They have built up strong links with their pilot customers and even managed to extend their customer base during the year of the crisis. Due to state subsidies, a third category of operators succeeded in competing more efficiently with road for container volumes.

(3) In countries such as Spain, Hungary and Romania, domestic economic problems superimposed and aggravated the impacts of the global crisis. This is the reason why container hinterland transport volumes fell disproportionately (cf. **Figure 15** and **Figure 16**). This was particularly owing to the fact that consumers faced with a bleak social and economic outlook were forced to shift their spending from "fancy" goods to foodstuffs and similar basic supplies. In Hungary the total fall was little in TEU or tonnage terms but very high when measured in per cent. However, the drop of almost 75 per cent has to be seen in relation to these low volumes.

(4) In Italy, all providers of domestic intermodal services were confronted with a considerable increase in traction prices which, compared to the rest of Europe, had previously been extraordinarily low –and perhaps still are. In conjunction with fiercer competition from road operators following the decline in transport volumes, intermodal operators lost orders to road haulage companies and were also unable to maintain the entire national network of services. Thus the domestic intermodal volume fell by about 40 per cent in 2009 compared to 2007 (cf. **Figure 15** and **Figure 16**).

Figure 15: Domestic intermodal transport in Europe by country: 2005, 2007, 2009 (in tonnes)

Country	Transport volume (Tonnes)			Percentage change	
	2005	2007	2009	2009/2007	2009/2005
Austria	3.120.000	4.893.100	4.596.400	-6,1%	47,3%
Belgium	4.429.000	5.860.000	7.760.400	32,4%	75,2%
Czech Republic	465.000	913.000	1.145.000	25,4%	146,2%
Finland	2.569.000	656.800	981.000	49,4%	-61,8%
France	5.637.000	4.924.000	4.537.500	-7,8%	-19,5%
Germany	19.652.000	26.665.000	25.368.000	-4,9%	29,1%
Hungary	107.500	50.100	12.750	-74,6%	-88,1%
Ireland	-	-	70.000	n.a.	n.a.
Italy	13.197.000	15.281.000	9.753.700	-36,2%	-26,1%
Netherlands	2.450.000	3.540.400	3.551.000	0,3%	44,9%
Norway	3.885.000	4.462.000	5.411.000	21,3%	39,3%
Poland	1.310.000	669.700	528.300	-21,1%	-59,7%
Portugal	1.545.000	1.703.300	1.509.000	-11,4%	-2,3%
Romania	3.805.000	2.966.000	1.602.000	-46,0%	-57,9%
Slovakia	28.000	44.100	73.850	67,5%	163,8%
Slovenia	149.000	348.700	360.400	3,4%	141,9%
Spain	1.100.000	5.218.000	4.098.150	-21,5%	272,6%
Sweden	5.475.000	6.047.000	5.441.000	-10,0%	-0,6%
Switzerland	3.122.000	3.180.000	3.130.000	-1,6%	0,3%
Turkey	-	-	18.900	n.a.	n.a.
United Kingdom	8.768.000	11.940.000	12.778.950	7,0%	45,7%
Total	**80.813.500**	**99.362.200**	**92.727.300**	**-6,7%**	**14,7%**

Source: KombiConsult analysis based on railway statistics and data from national offices for statistics, partly estimated figures

Figure 16: Domestic intermodal transport in Europe by country: 2005, 2007, 2009 (in TEU)

Country	Transport volume (TEU)			Percentage change	
	2005	2007	2009	2009/2007	2009/2005
Austria	361.200	551.870	468.210	-15,2%	29,6%
Belgium	428.200	601.000	543.910	-9,5%	27,0%
Czech Republic	66.450	76.000	98.370	29,4%	48,0%
Finland	247.000	91.570	109.000	19,0%	-55,9%
France	560.000	592.000	591.730	0,0%	5,7%
Germany	1.903.000	2.699.000	2.554.000	-5,4%	34,2%
Hungary	23.560	15.320	2.990	-80,5%	-87,3%
Ireland	-	-	6.000	n.a.	n.a.
Italy	1.432.000	1.575.000	918.910	-41,7%	-35,8%
Netherlands	223.000	334.000	335.000	0,3%	50,2%
Norway	370.000	425.000	515.360	21,3%	39,3%
Poland	153.000	80.100	70.800	-11,6%	-53,7%
Portugal	150.000	168.300	157.700	-6,3%	5,1%
Romania	217.000	247.500	131.690	-46,8%	-39,3%
Slovakia	2.920	5.560	8.060	45,0%	176,0%
Slovenia	24.800	44.500	67.220	51,1%	171,0%
Spain	105.400	412.500	323.970	-21,5%	207,4%
Sweden	644.100	711.400	640.100	-10,0%	-0,6%
Switzerland	446.000	458.300	440.000	-4,0%	-1,3%
Turkey	-	-	1.720	n.a.	n.a.
United Kingdom	1.017.000	1.272.000	1.340.850	5,4%	31,8%
Total	**8.374.630**	**10.360.920**	**9.325.590**	**-10,0%**	**11,4%**

Source: KombiConsult analysis based on railway statistics and data from national offices for statistics, partly estimated figures

3.5 - International unaccompanied intermodal rail/road transport

Many intermodal service providers did not supply detailed data on where their intermodal shipments originated and terminated. For this reason we were unable to determine the exact volumes on each trans-European trade lane or corridor, especially for O/D lanes offering various routing alternatives such as in transalpine transport. In this light, we have estimated the distribution of transport volumes over certain corridors.

According to the 2010 survey, the transalpine corridors between Germany and Italy have maintained their leading roles in trans-European intermodal transport. However, it seems that the transit corridors through Austria – the Brenner as the primary axis, and the Tauern line – have for the first time superseded the Swiss corridors via the Gotthard and Lötschberg lines.

More than 600,000 TEU were moved via Austria. This may have three explanations: first, compared to previous years more companies now supply intermodal services on the Brenner corridor, and have also captured new markets and trade lanes. Second, the Brenner corridor provides for a large 4m (P 400) loading gauge, which makes it highly attractive for routing semi-trailer shipments instead of through Switzerland, where the 4m capacities are extremely restricted. Third, the scope of unaccompanied services on the Tauern corridor have also been enhanced considerably during the past two years.

The second largest trans-European corridor was transit via Switzerland with some 500,000 TEU and the third greatest flow between Belgium and Italy via Switzerland.

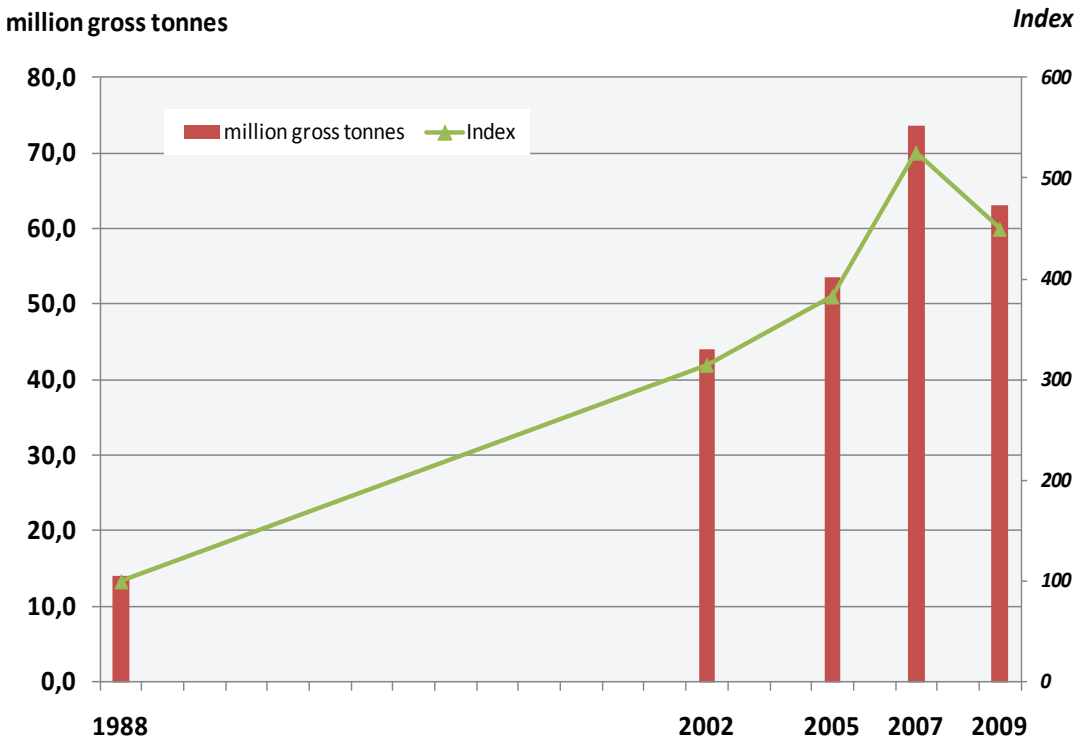
The ranking of the corridors is as follows:

- Germany – Italy via Austria
- Germany – Italy via Switzerland
- Belgium – Italy via Switzerland
- Germany - Austria
- Germany – Czech Republic
- Netherlands – Germany
- Germany – Switzerland
- Netherlands – Italy via Switzerland
- Netherlands – Austria
- Belgium - France

Since official European statistics on intermodal transport have not yet been established, for many years the only reliable source of intermodal transportation has been UIRR, the association of intermodal operators. It has provided a time-series of statistical data on its members' transport services since 1970. Due to these records' necessarily being restricted to the UIRR membership, they cannot provide an entirely true image of the European intermodal industry.

Prior to the two pioneering projects commissioned by UIC, namely the Capacity Study and the DIOMIS project, the last extensive survey on combined transport dates back to 1988, where the focus was on international transport. We can thus compare the evolution of this market segment. It shows that, within 20 years, the volume of unaccompanied combined transport on cross-border services grew from 14 to 75 million gross tonnes in 2007, but fell back to 63 million tonnes in 2009 (cf. **Figure 17***).*

Figure 17: International intermodal rail/road transport in Europe: goods moved in 1988, 2002, 2005, 2007 and 2009



Source: AT Kearney (1989); UIC: Capacity Study (2004); UIC: Report on CT in Europe 2005 (2006); KombiConsult data base

4. Accompanied intermodal rail/road transport in 2009

4.1 - Size of market

The following seven companies supplied accompanied intermodal services in Europe in 2009:

- Adria Kombi
- Alpe Adria
- Autoroute Ferroviaire Alpine
- Hungarokombi
- Hupac
- Ökombi
- RAlpin

As in 2007, all companies except for Autoroute Ferroviaire Alpine (AFA) operated "conventional" accompanied services (also known under the trademark "rolling road") employing shuttle sets of short-coupled low-bed wagons. Lorry drivers move their road vehicles onto the train from one end at the departure terminal and, at the arrival station, leave the train from the other end. By contrast, AFA is the first operator applying the Modalohr technology featuring a horizontal side-loading system of both road vehicles and semi-trailers. The so-called experimental service is performed over a fairly short distance between Aiton, France, and Orbassano, Italy, on the Modane corridor. Though AFA operates both accompanied and unaccompanied transport services, we have decided to allocate its volume entirely to the accompanied market, especially since the precise break-down between the two types of traffic was not indicated.

4.2 - Transport volume

In 2009, European intermodal accompanied transport operators carried approximately 438,600 road vehicles (shipments). Assuming an average ratio of 2.33 TEU per truck the total volume amounted to about 1 million TEU (see **Figure 18**). In 2007, about 75 per cent of all accompanied shipments were carried by Ökombi and RAlpin. Together, the two companies were able to enhance their consolidated market share to over 83 per cent by 2009.

Almost 252,000 road vehicles were conveyed on international accompanied services in 2009, accounting for a share of 57 per cent. In the accompanied market segment, 43 per cent of all road vehicles, representing 435,000 TEU, were moved on domestic services.

This represents an increase of 16 percentage-points compared to 2007. The growth must be exclusively attributed to Ökombi's short-distance Wörgl-Brennersee service. Here Ökombi recorded an increase from 115,000 vehicles in 2007 to 176,700 shipments in 2009. In fact, this service ranks first amongst all rolling road services.

In terms of the tonnage shipped the proportion of domestic services was even slightly higher (48 per cent) than in terms of shipments. The total volume of European accompanied transport amounted to 15.1 million gross tonnes in 2009 (cf **Figure 18**). On average the road vehicles carried by rail had a gross weight of 36 tonnes on domestic and 33 tonnes on international accompanied services.

Figure 18: Accompanied intermodal rail/road transport by market segment: 2009

Market segment	Gross tonnes	Shipments (n° of trucks)	TEU
Domestic services	6.766.143	186.704	435.020
International services	8.350.757	251.892	586.908
Total services	**15.116.900**	**438.596**	**1.021.929**

Source: Intermodal service providers, UIRR, SNCF-AFA website, KombiConsult calculations

Until now, accompanied intermodal transport in Europe had likely seen its best years during the late 1990s and the beginning of this century. The 2002 survey commissioned by UIC as part of the *Capacity Study (2004)* recorded almost 550,000 road vehicles moved on domestic and cross-border services. This was most likely the all-time high for rolling road transport. No comprehensive survey was carried out for 2003. According to UIRR statistics, the UIRR member companies representing a large proportion of this market segment suffered slight reductions in volume. The decline of accompanied transport accelerated dramatically in 2004 and bottomed out in 2005 when a volume of just 323,050 shipments was recorded.

Since then, accompanied transport has substantially recovered and achieved a growth rate of 27 per cent (in vehicles) and 33 per cent (in tonnage) respectively from 2005 to 2007. Between 2007 and 2009, accompanied traffic achieved an annual growth rate of 7 per cent (in vehicles) and 11 per cent (in tonnage). Interestingly, the entire increase from 2007 to 2009 was generated by domestic services, whereas the international volume fell by 11 per cent.

If the transport volume were indexed using the 2002 result as a baseline of 100, accompanied intermodal transport would have exceeded this value in 2009 if measured in tonnes, though it would have remained significantly below the 2002 result if measured by the number of road vehicles (see **Figure 19**).

Figure 19: Accompanied intermodal transport by volume and index: 2002 to 2009

	2002	2005	2007	2009
Mill. tonnes	**14,6**	**10,2**	**13,6**	**15,1**
Index	*100*	*70*	*93*	*104*
Road vehicles	**546.850**	**323.050**	**410.303**	**438.596**
Index	***100***	***59***	***75***	*80*

Source: UIC: Capacity Study (2004); UIC: Report on CT in Europe 2005 (2006) and 2007 (2009); KombiConsult analysis

Accompanied transport in Europe is very much concentrated on trade lanes involving Austria and Switzerland (cf. **Figure 20**). This concentration highlights these countries' distinctive transport policies promoting this specific form of transport, in addition to those promoting unaccompanied intermodal transport. In 2009, the largest volume of road vehicles was moved on Ökombi's domestic service between Wörgl and the Brenner Pass. The most important international market is the transit corridor through Switzerland connecting terminals in southern Germany and northern Italy. Here RAlpin alone carried around 92,000 trucks in 2009. More than 60,000 road vehicles used rolling road trains operated by Alpe Adria or Ökombi between Austria and Italy. Adria Kombi, Hungarokombi and Ökombi also achieved high volumes on services between Austrian terminals and Hungary and Slovenia respectively.

In 2009, only approximately 5 per cent of all accompanied intermodal shipments were moved on services *not* affecting Austria or Switzerland. This 5 per cent consists entirely of AFA's service operated on the transalpine corridor between France and Italy. The intermodal operator publicly reported that it shipped 17,400 vehicles in 2005 and 19,000 trucks in 2006. Because no exact data were available for 2007, we estimated that, owing to infrastructure constraints on the route, volume would not have grown to more than 20,000 shipments. With the benefit of hindsight and additional data to hand, we know today that in fact about 20,418 were carried in 2007. Volume increased to 22,632 shipments in 2009.

Analyzing the overall results (see **Figure 20)** it becomes clear that the loss in international volumes was more than compensated for by an increase in domestic volumes, mainly due to growth on the Wörgl-Brennersee service.

Figure 20: Accompanied intermodal rail/road transport by market segment and corridor: road vehicles moved 2005, 2007, 2009

Market segment / corridor			Shipments (n° of trucks)			2009/2007
			2005	2007	2009	% change
Domestic	Austria		32.353	115.776	176.706	52,6%
	Switzerland		12.200	11.852	9.998	-15,6%
Total domestic services			**44.553**	**127.628**	**186.704**	**46,3%**
International	Austria	- Germany	519	5.085	-	-100,0%
		- Hungary	51.008	33.373	26.432	-20,8%
		- Italy	53.981	72.006	60.483	-16,0%
		- Romania	11.549	-	-	n.a.
		- Slovenia	49.811	53.869	30.420	-43,5%
	Croatia	- Slovenia	-	27	-	-100,0%
	France	- Italy	17.300	20.418	22.632	10,8%
	Germany	- Italy	87.974	97.776	111.925	14,5%
		- Switzerland	2.575	121	-	-100,0%
	Hungary	- Slovenia	3.788	-	-	n.a.
Total international services			**278.505**	**282.675**	**251.892**	**-10,9%**
Total accompanied services			**323.058**	**410.303**	**438.596**	**6,9%**

Source: Intermodal service providers, UIRR, AFA website, KombiConsult calculations

5. Total intermodal rail/road transport in 2009

5.1 - Intermodal transport volume in 2009

In 2009, European intermodal service providers achieved a consolidated volume of unaccompanied and accompanied services of 169.7 million gross tonnes (2007: 185.8) and 16.5 million TEU (2007: 18.1) respectively (cf. **Figure 21** and **Figure 22**). Unaccompanied services accounted for 93 per cent of the domestic volume, totalling 98.3 million tonnes, and more than 88 per cent of the international volume of 71.4 million tonnes. The unaccompanied transport shares were even higher in both markets when measured in TEU, topping 95 per cent on domestic services and 91 per cent on international corridors.

Figure 21: Total intermodal rail/road transport: goods moved by mode in 2009

Intermodal market segment	Gross tonnes		
	Unaccompanied transport	Accompanied transport	Total intermodal transport
Domestic services	91.512.300	6.766.143	98.278.443
International services	63.029.800	8.350.757	71.380.557
All intermodal services	**154.542.100**	**15.116.900**	**169.659.000**

Source: Intermodal service providers, UIRR, AFA website, KombiConsult calculations

Figure 22: Total intermodal rail/road transport: TEU carried by mode in 2009

Intermodal market segment	TEU		
	Unaccompanied transport	Accompanied transport	Total intermodal transport
Domestic services	9.325.590	435.020	9.760.610
International services	6.123.280	586.908	6.710.188
All intermodal services	**15.448.870**	**1.021.929**	**16.470.799**

Source: Intermodal service providers, UIRR, AFA website, KombiConsult calculations

5.2 - Intermodal transport volumes from 2005-2009

The previous survey conducted in 2008 showed almost 30 per cent growth in total intermodal volumes between 2005 and 2007. Owing to the impacts of the extraordinary economic crisis, the 2010 survey was always likely to produce a less rosy result. Compared to 2007, the survey records a 9.1 per cent decline in total intermodal rail/road transport when measured in tonnage, and 10.1 per cent in terms of TEU. Interestingly, domestic services came off much better than international transport, which in previous years had contributed the largest share of combined transport growth in Europe (see **Figure 23** and **Figure 24**). Compared to 2007, unaccompanied transport's share of the total intermodal volume increased slightly; to 93.1 per cent in terms of tonnes, and 95.5 per cent when measured in TEU.

Figure 23: Total intermodal rail/road transport: goods moved in 2005, 2007, 2009

Intermodal market segment	million gross tonnes			Percentage change	
	2005	2007	2009	2009/2007	2009/2005
Domestic services	82,36	103,95	98,28	-5,5%	19,3%
International services	62,28	82,62	71,38	-13,6%	14,6%
Total intermodal services	**144,63**	**186,58**	**169,66**	**-9,1%**	**17,3%**

Source: Report on CT in Europe 2005; Report on Intermodal Rail/road transport in Europe 2007; KombiConsult analysis

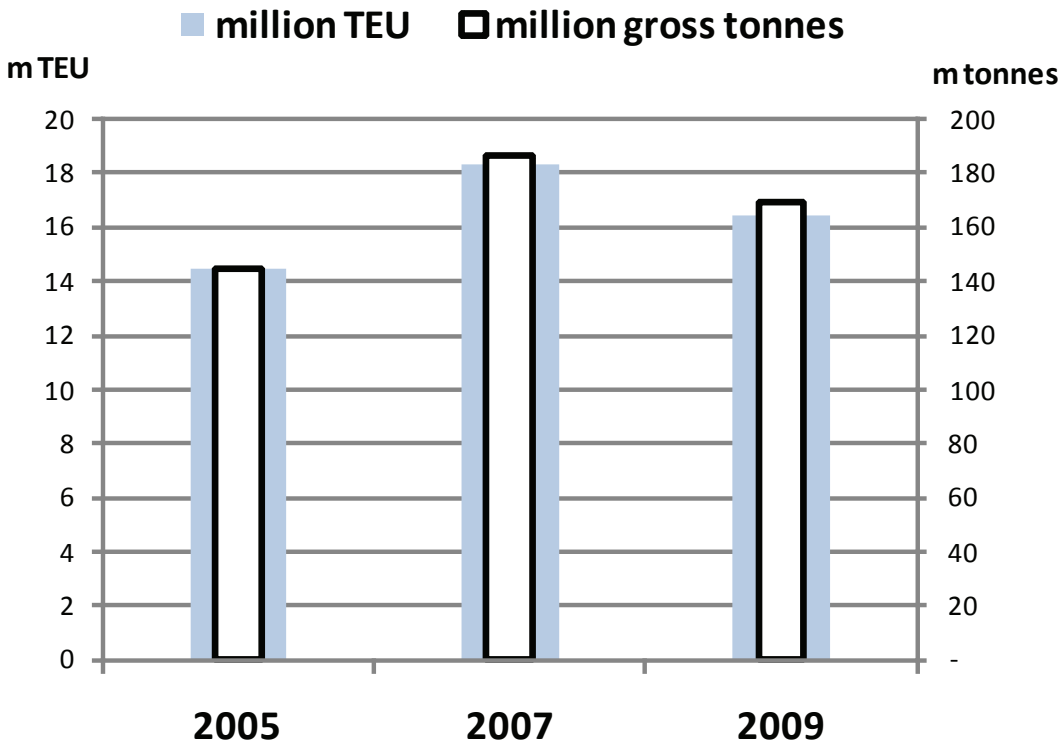
Figure 24: Total intermodal rail/road transport: TEU carried in 2005, 2007, 2009

Intermodal market segment	million TEU			Percentage change	
	2005	2007	2009	2009/2007	2009/2005
Domestic services	8,48	10,66	9,76	-8,4%	15,1%
International services	6,03	7,67	6,71	-12,5%	11,3%
Total intermodal services	**14,51**	**18,32**	**16,47**	**-10,1%**	**13,5%**

Source: Report on CT in Europe 2005; Report on Intermodal Rail/road transport in Europe 2007; KombiConsult analysis

Despite the drop in volumes from the 2007 high, the 2009 results are considerably better than those in 2005. At approximately 170 million tonnes, the volume of total European intermodal transport in 2009 was over 17 per cent higher than four years earlier. And operators of intermodal services shipped 13.5 per cent more TEU in 2009 than in 2005 (see also **Figure 25**).

Figure 25: Total intermodal rail/road transport: 2005, 2007, 2009



Source: Report on CT in Europe 2005; Report on Intermodal Rail/road transport in Europe 2007; KombiConsult analysis

5.3 - Impact of intermodal traffic on rail infrastructure

Based on the findings of our survey, we estimate that around 308,000 intermodal block trains operated over the European rail network in 2009. This represents a drop of 7.4 per cent compared to 2007, when 333,000 block trains were recorded (see **Figure 26).** Accompanied transport services moving road vehicles accounted for 26,300 trains. The 2.5 per cent increase in trains was considerably smaller than the growth of this market, which accounted for 6.9 per cent. There was thus a corresponding increase in the overall capacity load factor between 2007 and 2009.

282,000 block trains, corresponding to a share of 91.5 per cent, were deployed to carry unaccompanied intermodal units. Hence, the total number of unaccompanied trains decreased by slightly less than the total volume: 8 % as opposed to 11 %. As a result, the average load factor of an intermodal block train also declined, to approximately 55 TEU. When analyzing this figure it should be taken into account that European rail infrastructure is extremely heterogeneous from one country to another. This particularly applies to the maximum train capacities, which are mainly determined by the permitted axle load and the length and gross weight of trains.

Depending on the infrastructure conditions in question, maximum train capacities range from about 40 to 100 TEU across Europe.

Figure 26: Intermodal block trains by market segment, 2009 vs. 2007

Intermodal market segment	Intermodal block trains		% change 2009/2007
	2007	2009	
Unaccompanied transport			
Domestic services	171.020	166.600	-2,6%
International services	136.350	115.500	-15,3%
Total unaccompanied	**307.370**	**282.100**	**-8,2%**
Accompanied transport	**25.665**	**26.300**	**2,5%**
Total intermodal transport	**333.035**	**308.400**	**-7,4%**

Source: KombiConsult calculation based on railway and operator indications

5.4 - Revenues from unaccompanied intermodal rail/road services in 2009

We obtained revenue data from 54 companies operating unaccompanied intermodal services totalling € 3.35bn. In order to avoid double counts, we deducted all revenues reported by railway undertakings which in 2009 supplied exclusively rail traction services to intermodal operators. This said, the revenue (or pro-rata revenue) of railway undertakings which themselves acted as intermodal operator and provided integrated intermodal services, have been retained. This exercise gave a total of € 2.80bn of revenues generated from the movement of unaccompanied intermodal units.

The companies from whose data we derived this result represented nearly 61 per cent of the total unaccompanied intermodal transport volume for 2009, that is 15.45 million TEU. Assuming a linear relationship between revenues and transport volume, i.e. that these intermodal service providers also represent 61 per cent of the total revenues earned by the European intermodal industry in 2009, would result in total revenues of € 4.589bn.

In order to validate this result, we carried out a second exercise. We calculated an average income per TEU based on the revenues of the intermodal companies mentioned above, arriving at € 298 per TEU shipped. This is € 6 less than in 2007. Based on the assumption that what is valid for 61 per cent of European intermodal volume is representative of the entire industry, we multiplied the average price of € 298 per TEU by the total unaccompanied volume of 15.45 million TEU. This resulted in total intermodal revenues of € 4.603bn.

The results of the two methods differ by just € 15m. For the purposes of this report, we selected the slightly higher value. Given that the total revenues generated from unaccompanied intermodal services in 2009 dropped by 11.7 per cent compared to 2007 (see **Figure 27**), this means that revenues declined slightly more strongly than the transport volumes measured in TEU or tonnes.

Figure 27: Revenues from unaccompanied intermodal rail/road services, 2009 vs. 2007

Revenues (€bn)		% change 2009/2007
2007	2009	
5,21	4,60	-11,7%

Source: KombiConsult calculation based on railways and operators indications

5.5 - Employment in unaccompanied intermodal rail/road traffic in 2009

In order to determine the number of staff employed in the European intermodal rail/road industry we investigated the extent of employment at intermodal service providers, train operating companies, infrastructure managers and terminal operators. Based on this analysis we estimate the total workforce dedicated to unaccompanied intermodal movements in Europe, at 44,000 employees in 2009 (see **Figure 29**).

Intermodal service providers

The consolidated workforces of the nearly 60 companies delivering unaccompanied intermodal services which reported data for our survey accounted for 5,820 employees at the end of 2009. These companies represented about 64 per cent of the total TEU volume. Assuming a linear relationship between volume and employment rate, total employment at intermodal companies in Europe amounted to approximately 9,100 people in 2009 (see **Figure 29**).

Employees of train operating companies

Most of the train operating companies replied that they do not have any dedicated staff for intermodal services, though some do to a substantial extent. However, in order to have a common denominator for determining the railway undertaking employees involved in intermodal transport, we adopted a different approach.

We started by estimating the number of staff required to ensure the operation of intermodal services, distinguishing between domestic and international traffic. We assumed that to operate a daily domestic block train service over a mean distance of circa 500 kilometres, an average of 1.5 locomotive drivers are needed, assuming typical shift lengths.

Additional average manpower of 1.5 people per block train is estimated to be required for operational tasks such as wagon inspector, shunting services, or wagon management. Finally, we assumed that 1 person in overhead departments also needs to be calculated for each such convoy. This exercise resulted in an average total of 4 people involved in the operation of a daily domestic block train (see **Figure 28**). Multiplied by the average number of 667 daily domestic block trains in European unaccompanied transport (250 working days p.a.) the work force adds up to 2,670 employees dedicated to domestic intermodal services.

Figure 28: Estimated employee numbers at rail operating companies for unaccompanied intermodal services, 2009

Intermodal market segment	Average number of employees per block train service			
	Loco drivers	Operations	Overhead	Total
Domestic services	1,5	1,5	1,0	4,0
International services	3,5	2,0	1,5	7,0

Source: KombiConsult analysis

The same approach was adopted for international services, proceeding from an average distance of about 950 kilometres. Such a journey will require about 7 full-time-equivalent people. Considering that an average of 462 cross-border intermodal trains operated in 2009, a railway undertaking workforce of 3,235 people was required.

We estimate that, at minimum, a total of around 5,900 railway undertaking employees are dedicated to intermodal services (see **Figure 29**).

Infrastructure manager employees

It is much less easy to precisely allocate infrastructure managers' staff to intermodal transport, since those that are not involved in building and managing intermodal terminals or dealing with intermodal train schedules predominantly work on general matters. Owing to a lack of data on the distribution of infrastructure managers' workforces, we adopted a rather pragmatic approach. Based on RNE data, we concluded that infrastructure managers in Europe employed at least some 300,000 people in 2009.

Unaccompanied intermodal traffic is estimated to account for about 15 to 20 per cent of total European freight traffic, but less than this percentage of infrastructure manager employees are likely to be required for managing intermodal trains since the share of block train services is much higher than in conventional traffic. We therefore estimate that 8 per cent of European infrastructure managers' total personnel can be attributed to unaccompanied intermodal transport, amounting to around 24,000 staff in 2009 (see **Figure 29**).

Terminal operator employees

No survey on European intermodal transport, including the 2010 survey, takes into account the effect of employment at intermodal terminals, although a very few terminal employees are included in data reported by some intermodal service providers. Unfortunately, there were also no statistical sources we could rely on. With this report, therefore, we have undertaken an initial attempt to estimate the number of people working at intermodal rail/road terminals.

For this purpose, we have analyzed statistics from a few dedicated intermodal terminal operating companies in Western Europe. The results are as follows:

- The work force of a terminal transhipping units in unaccompanied intermodal transport amounts to circa 20 people (average of small, medium and large volume facilities).
- A terminal operating company which is "only" involved in the basic functions of a transhipment centre, i.e. handling, clearance of trucks and trains, achieves an annual volume of 5,000 to 6,000 TEU per staff member. A company which supplies additional logistics services such as container depot or trucking, totals 2,000 to 3,000 TEU per employee.

If we apply these values to all European intermodal rail/road terminals, the results in terms of employment are as follows:

- There are at least 450 rail/road terminals in Europe. Assuming an average of 20 people per terminal this gives a total staff of 9,000 employees.
- If we apply the two extremes of the performance indicators calculated above – annual throughput of 2,000 and 6,000 TEU per employee respectively – the total terminal workforce at European intermodal terminals amounts to between 2,600 and 7,750 people.

For this report we have decided to select an average of 5,000 employees (see **Figure 29**).

Figure 29: Employment in unaccompanied intermodal rail/road traffic, 2009

Business area	N° of employees 2009
Intermodal service providers	9.100
Train operating companies	5.900
Infrastructure managers	24.000
Terminal managers	5.000
Total	**44.000**

Source: KombiConsult analysis

5.6 - Modal shift benefits of unaccompanied intermodal rail/road traffic in 2009

For the first time in this series of surveys of European intermodal transport, we have calculated the carbon dioxide reduction effects and the modal shift benefits of unaccompanied services. Modal shift benefits relate to so-called external costs, i.e. social and environmental costs which have been avoided by shifting freight from road to intermodal rail transport. In the same way, greenhouse gas emissions (in particular carbon dioxide) are considerably reduced when cargo is carried by rail instead of road.

The calculation of these impacts is based on the following assumptions and data:

- Average transport distance of unaccompanied services:
  - Domestic: 500 km
  - International: 950 km
- CO2 emissions (according to EcoTransIT):
  - Rail : 14.88 g/tonne-km
  - Road : 71.92 g/tonne-km
- Difference in modal shift benefits between rail and road: € 0.02 per tonne-km (according to EU Marco Polo Programme)

Based on these statistical data, we observe that in 2009, shifting road freight traffic to unaccompanied intermodal services transport avoided more than 6 million tonnes of CO_2 emissions. In the same year, the total modal shift benefits of unaccompanied intermodal transport amounted to € 2.1bn. This means that every intermodal unit shifted from end-to-end-road transport to an unaccompanied intermodal service generated a benefit for society and the environment of € 137 per TEU. If these external benefits had a market price, each intermodal TEU could be shipped for € 137 less (see **Figure 30**).

Figure 30: Modal shift benefits of unaccompanied intermodal traffic, 2009

Intermodal market segment	m tonnes	bn tonne-kms	CO_2 savings (m tonnes)	Mode shift benefits (bn)
Domestic services	91,512	45,756	2,610	0,915 €
International services	63,030	59,878	3,415	1,198 €
Total unaccompanied	**154,542**	**105,634**	**6,025**	**2,113 €**

Source: KombiConsult analysis

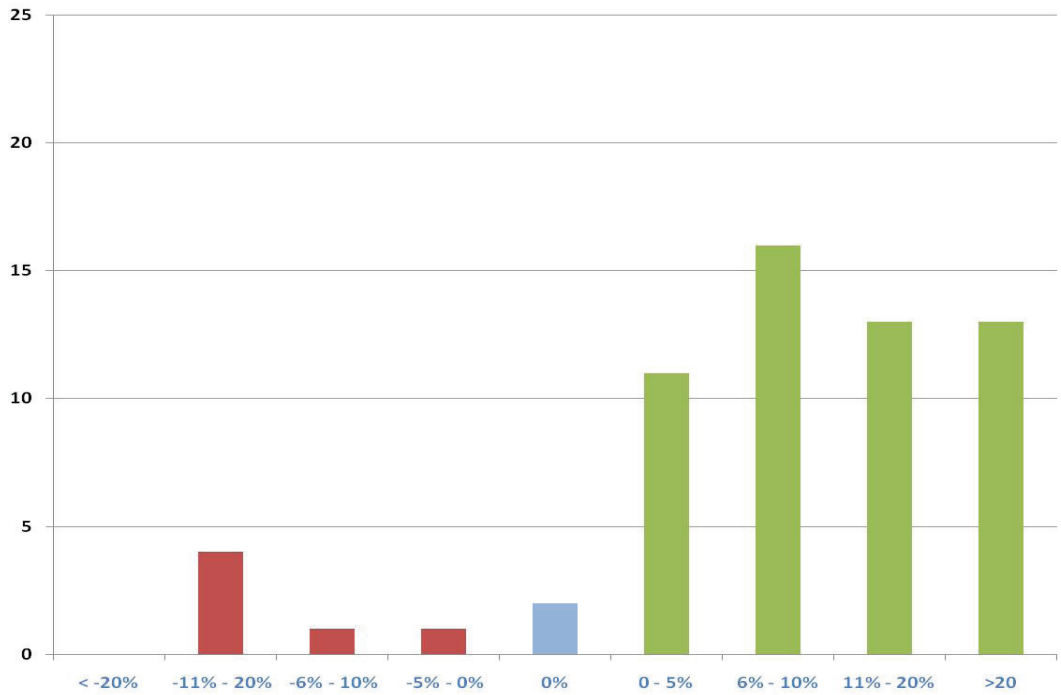
6. Outlook on unaccompanied intermodal transport in 2010-2011

The 2010 survey included a section of questions requesting intermodal service providers' expectations regarding the development of their volumes in 2010 and 2011. Depending on the year, up to 61 companies completed this part of the survey. Additionally, participants were asked to express agreement or disagreement with regards to selected statements describing market conditions and trends in intermodal transport.

6.1 - Intermodal service providers' expectations for 2010

The vast majority of intermodal service providers expect their 2010 volumes to recover substantially from the previous year's decline (see **Figure 31).** 16 companies forecast growth rates of between 6 and 10 per cent, though 26 intermodal operators (42 per cent of all respondents) expect double-digit increases in their number of shipments. Just 8 companies are less optimistic vis-à-vis the future and expect their volumes to decrease or stagnate in 2010 compared to 2009.

Figure 31: Volume expectations of intermodal service providers, 2010 vs. 2009

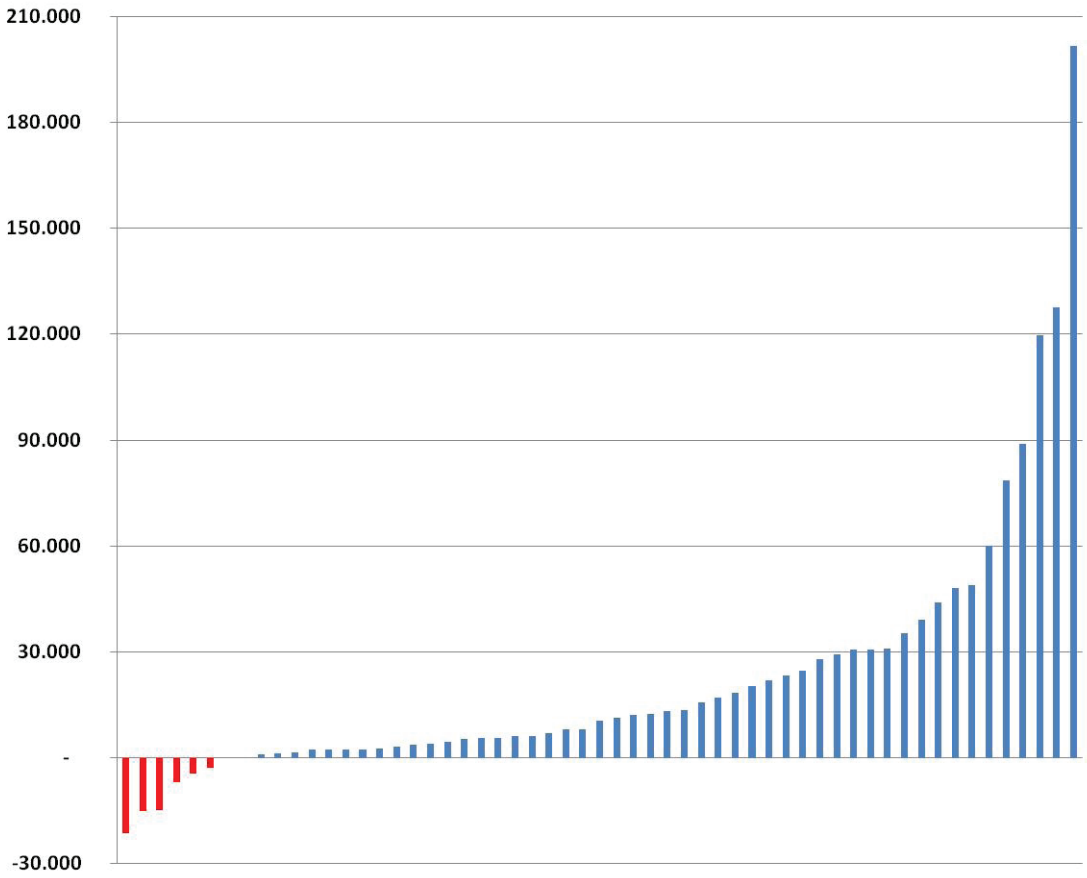


Source: 61 intermodal service providers

These results may appear to be fairly optimistic on first sight, but are not really so surprising. Questionnaires were sent to companies in the second quarter of 2010, and were gradually returned completed. We received the last in early September. This means that virtually every company was already aware of its half-year result and others, the late respondents, could already draw on their transport data for the summer period. The results imply that the vast majority of companies had registered healthy growth in intermodal shipments – in line with the recovery of the economy and demand for logistics services – so that the declared expectations for 2010 as a whole appear reasonable.

Figure 32 shows the estimated absolute volume changes in TEU for each of the respondents. These figures were calculated by multiplying each respondent's estimates by its 2009 volume. The results range from a decrease of some 21,000 TEU to an increase of more than 200,000 TEU.

Figure 32: Growth expectations, 2010 vs. 2009 by participant (in TEU)

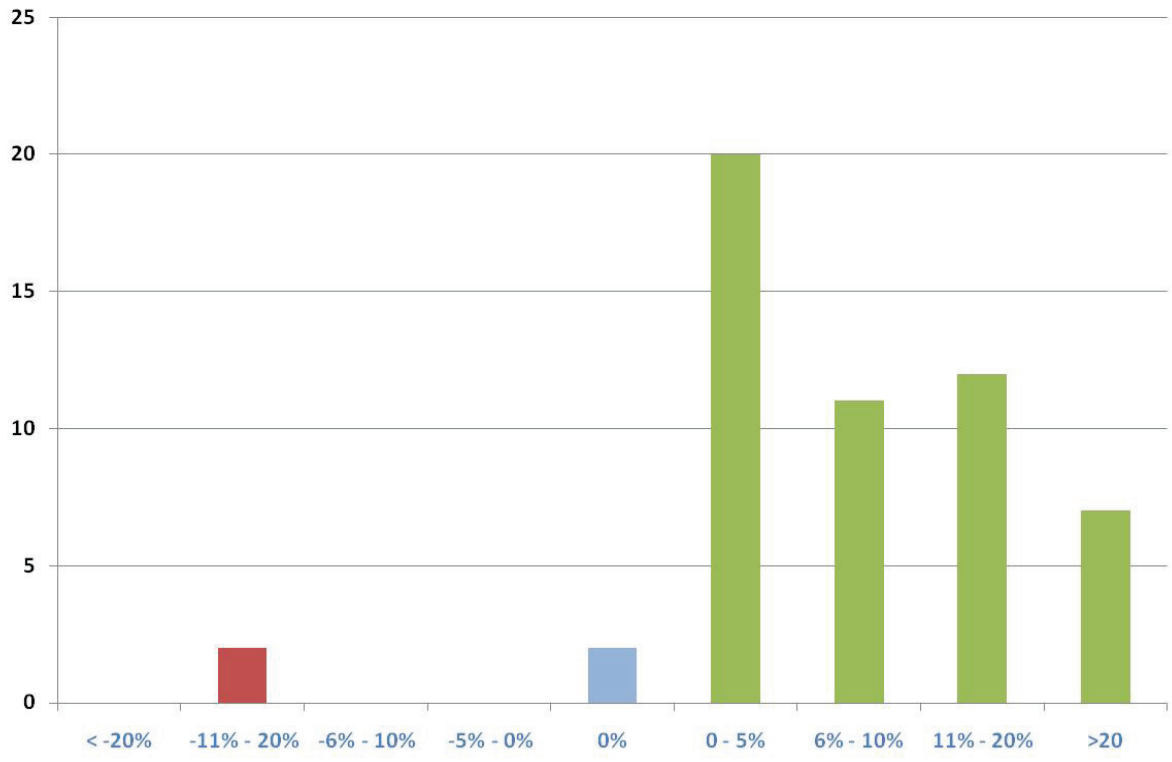


Source: 57 intermodal service providers

6.2 - Intermodal service providers' expectations for 2011

Whereas intermodal service providers' overall expectations of growth (generally estimated at between 5 and 15 per cent) were comprehensible in the light of the recovery following the deep slump in 2009, it may be surprising to learn that the intermodal industry as a whole is just as optimistic for the year 2011 (see **Figure 33**). 93 per cent (52 out of 56) of all companies completing the questionnaire expect an increase in 2011, two expect stagnation and two a decrease in the volume of intermodal movements. 20 companies foresee a moderate growth of between 0 and 5 per cent and 11 between 6 and 10 per cent. 19 intermodal operators, however, expect their business to improve by between 11 and over 20 per cent in 2011 compared to 2010. Hence, most companies expect to outperform the forecast growth of the economy as a whole by significant margins.

Figure 33: Volume expectations of intermodal service providers, 2011 vs. 2010

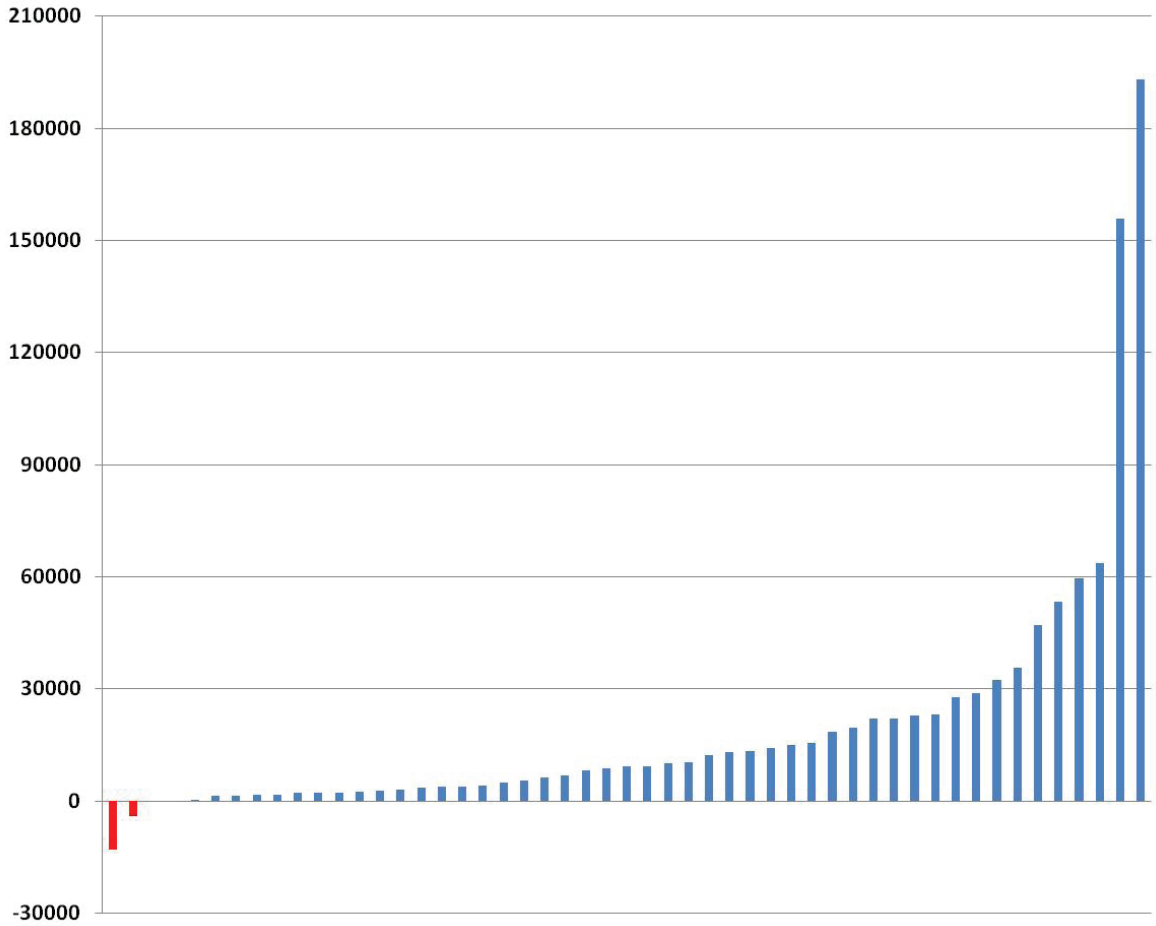


Source: 54 intermodal service providers

Only two respondents expect their volumes to decrease. This forecast can obviously be attributed to the specific framework conditions under which those companies have to operate services. Interestingly the two companies are not the same as those responding to the 2010 question in this way.

Figure 34 again shows the estimated absolute volume changes in TEU for each of the respondents. These figures were calculated by multiplying each respondent's estimates by its expected 2010 volume as this resulted from our survey. The results range from a decrease of almost 15,000 TEU to a growth of circa 195,000 TEU.

Figure 34: Growth expectations, 2011 vs. 2010 in TEU by participant



Source: 51 intermodal service providers

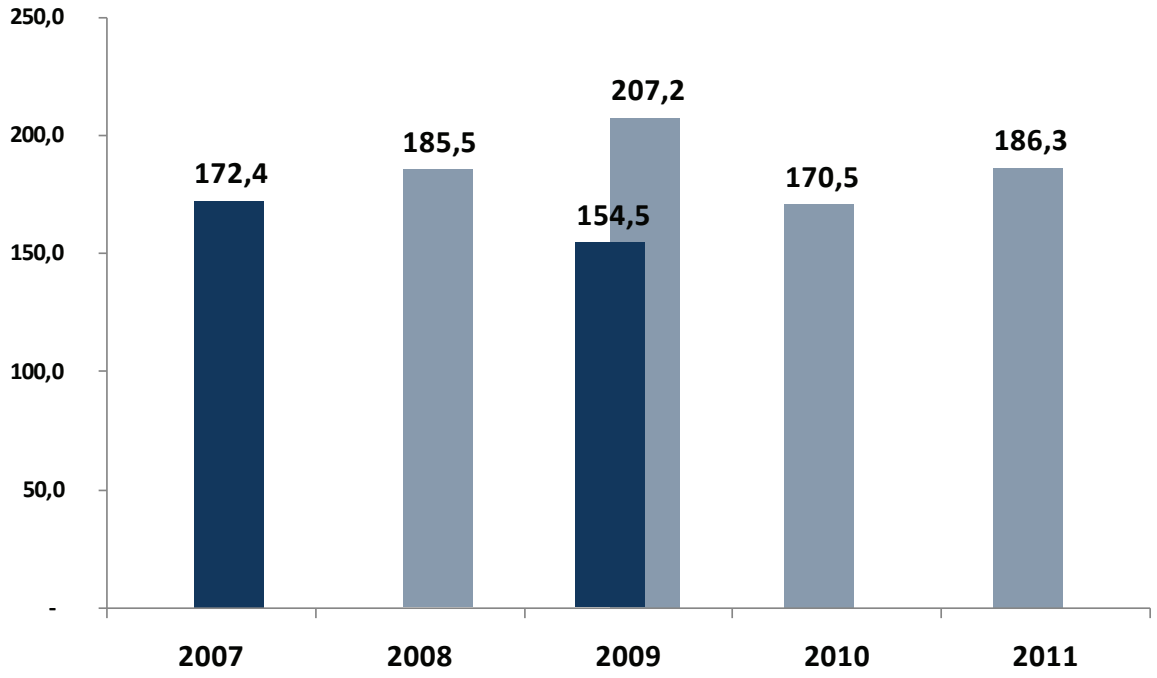
6.3 - Forecast for 2010 and 2011

Based on the expectations of the intermodal companies which participated in the survey and by weighting their forecasts with their total volumes, it was possible to determine the expected average annual growth rates for unaccompanied intermodal transport in Europe as follows:

- Growth rate, 2010 vs. 2009: + 10.3 %
- Growth rate, 2011 vs. 20010: + 10.2 %

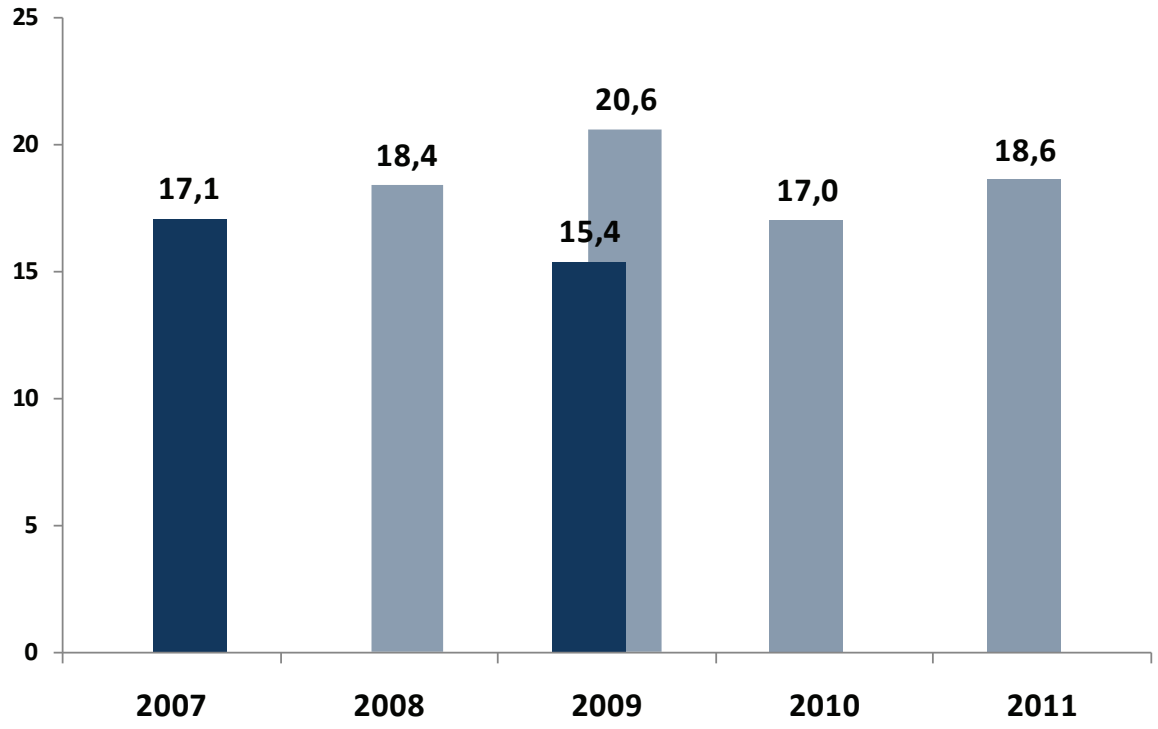
In order to produce a projection of the total intermodal traffic, we assumed that these expected growth rates would be valid for the entire industry. The corresponding forecasts for 2010 and 2011 as concerns the tonnage and the TEU shipped are presented in **Figure 35** and **Figure 36**. Based on this exercise, European intermodal transport would rise from 154.5 million tonnes (15.4 m TEU) in 2009 to 170.5 million tonnes (17.0 m TEU) in 2010 and 186.3 million tonnes (18.6 m TEU) in 2011. If these expectations were realized, the intermodal industry would already have compensated for the decline from the 2007 volumes by 2011.

Figure 35: Expected total volumes, 2010 and 2011 (in million gross tonnes)



Source: KombiConsult analysis

Figure 36: Expected total volumes, 2010 and 2011 (in million TEU)



Source: KombiConsult analysis

For reference purposes, the total volumes actually carried in 2007 and 2009 are presented in the above graphs in dark blue, and the forecasts based upon the intermodal industry's expectations in lighter shades. It becomes evident that, due to the crisis, the expectations expressed in 2007 could not be met. Before the crisis, the participating intermodal service providers expected the volumes for 2009 to be roughly 20 million TEU or 207 million tonnes.

6.4 - Expected market trends and economic environment

In the 2010 survey, the intermodal companies were asked to express their agreement or disagreement with a number of statements regarding the current and future evolution of intermodal transport in Europe, both as concerns the situation of their company and the industry in general. Up to 70 companies responded to the questions and evaluated the statements on a four-point scale ranging from "strongly agree" to "strongly disagree".

The statements can be classified into four areas emphasizing different aspects of intermodal transport. These areas can be summarized under the following headings:

- Framework conditions,
- Marketing initiatives,

- Competition and costs,
- Capacity constraints.

Framework conditions

In this category we asked participants to express their agreement or disagreement with the following statements:

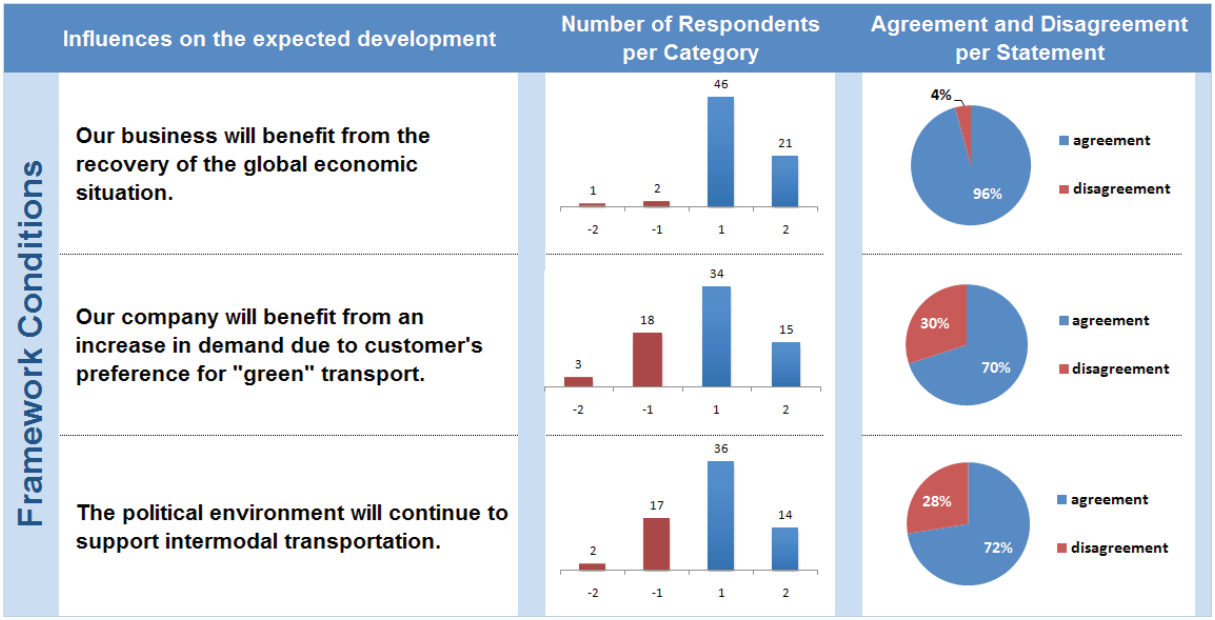
- Our business will benefit from the global economic recovery.
- Our business will benefit from increased demand due to customers' preference for "green" transport.
- The political environment will continue to support intermodal transport.

Considering the nature of these statements and the way they were formulated, expectations were that a large percentage of market actors would agree or agree strongly. Benefitting from global economic recovery, for example, would be something that most of the companies should agree with, even if the statements allow some leeway for interpretation. In this context, the outcome is rather weak since only one third strongly agree and two thirds of the respondents only "agree" with no great conviction (see **Figure 37).** This result, however, could also be interpreted as meaning that a large number of companies are more reliant on European economies' recovery, a factor which unfortunately did not form part of the questioning.

Also, the statement regarding the political environment leaves room for interpretation, though one might expect that the policies promoting intermodal transport on many levels would be acknowledged by the industry. Keeping this in mind, agreement with the statement regarding political support for intermodal transport is again astonishingly feeble, with only 72 per cent. Compared to other categories, this is a very modest agreement. This should be seen as an indicator of growing scepticism as to whether administrations at both EU and national levels will maintain their current course of supporting sustainable modes of transport. This result may also reflect operators' recent experience, whereby the industry had to cope with the economic crisis on its own while those who caused the catastrophe received generous aid packages.

As concerns the question on sustainable logistics, the results in our view reflect an entirely sober and realistic assessment and perception of the situation in logistics. It is a matter of fact that more and more shippers are concerned about their ecological footprint and are therefore attracted by non-road solutions. On the other hand, intermodal operators are also aware of the fact that the growing interest in more sustainable transport concepts is no automatism: shippers are not prepared to pay more for moving freight by environmentally-friendly modes of transport.

Figure 37: Expectations on framework conditions



Source: 70 intermodal service providers

Marketing initiatives

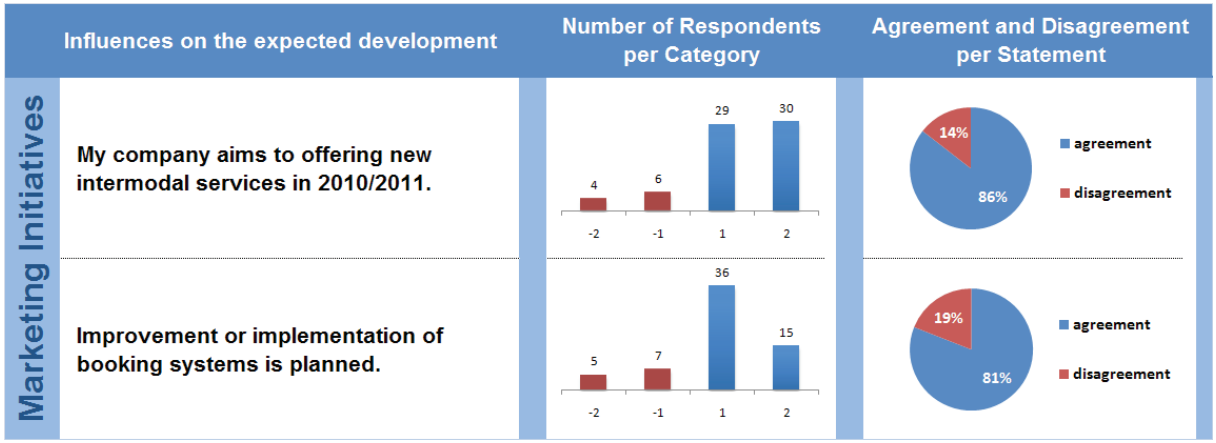
In this area participants were asked to evaluate these statements:

- My company aims to offer new intermodal services in 2010/2011.
- Improvement or implementation of booking systems is planned.

Intermodal service providers are planning to actively pursue marketing activities. Statements focusing on market-oriented measures to be taken by operators achieved very high agreement rates. Well over 80 per cent of the respondents agree or strongly agree with implementing new products in 2010 and 2011 (see **Figure 38).** The number of operators that strongly agree with this statement is the highest in this year's survey. This allows us to conclude that many operators may already have concrete plans to add an additional intermodal service to their portfolio, although for 2010 of course, intermodal companies could draw on what they had already done or planned on a short-term basis. The result of this area of questioning also corresponds to the industry's positive expectations vis-à-vis the evolution of transport volumes as presented earlier.

Agreement on the question of improving or implementing a booking system for customers was less strong. With 61 responses, the feedback for this particular statement was actually the lowest in the entire sample, and the intensity of agreement is also not very strong. The reason for this may be that any operator without an efficient booking system would not survive for long and that such an IT system is such an essential tool that it requires constant attention anyway.

Figure 38: Expectations on market initiatives



Source: 70 intermodal service providers

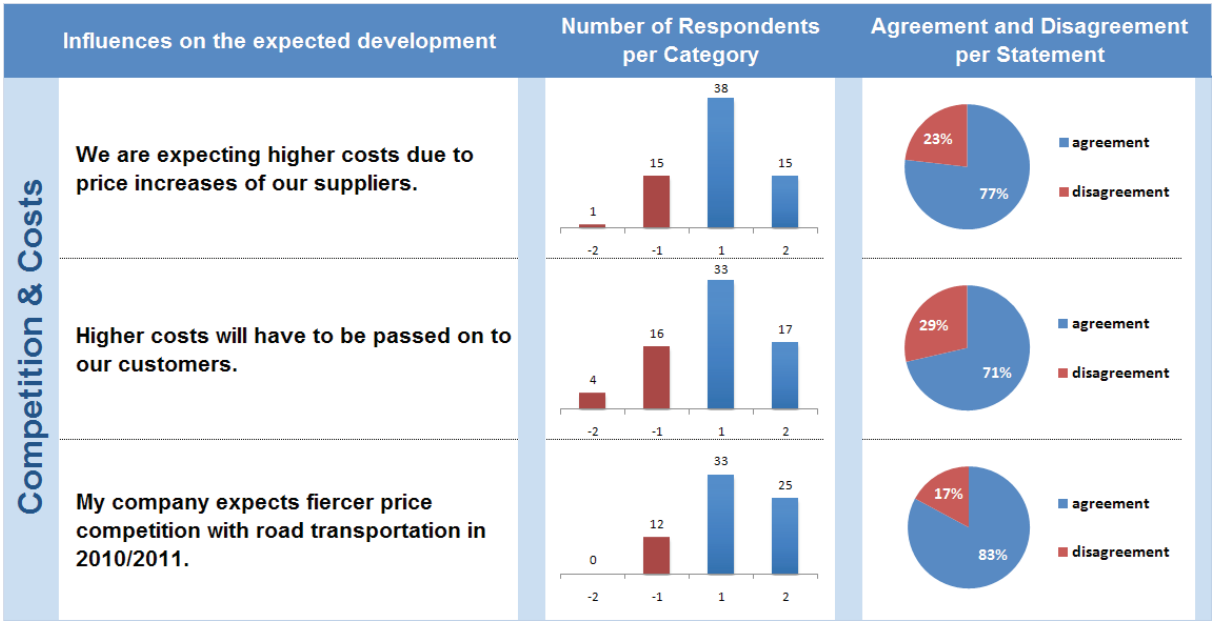
Competition and costs

The statements that the companies were to comment on in this section were:

- We are expecting higher costs due to price increases by our suppliers.
- Higher costs will have to be passed on to our customers.
- My company expects fiercer competition with road transport in 2010/2011

On top of the cautious expectations vis-à-vis the framework conditions governing intermodal transport, most European intermodal operators expect fiercer competition with road transport and higher costs from suppliers. Fiercer competition with road transport received the highest agreement rates in this area, whilst expectations of higher costs and consequently higher prices are a little lower. This result is surely influenced by experience during the crisis, where competition with road transport increased (see **Figure 39).** Operators' willingness to pass on higher costs to customers is slightly lower than their expectation of higher costs. With 29 per cent disagreement, the responses to this statement reveal that intermodal service providers need to be very careful when increasing transport rates. Price remains the primary reason prompting customers to use intermodal transport.

Figure 39: Expected competition



Source: 70 intermodal service providers

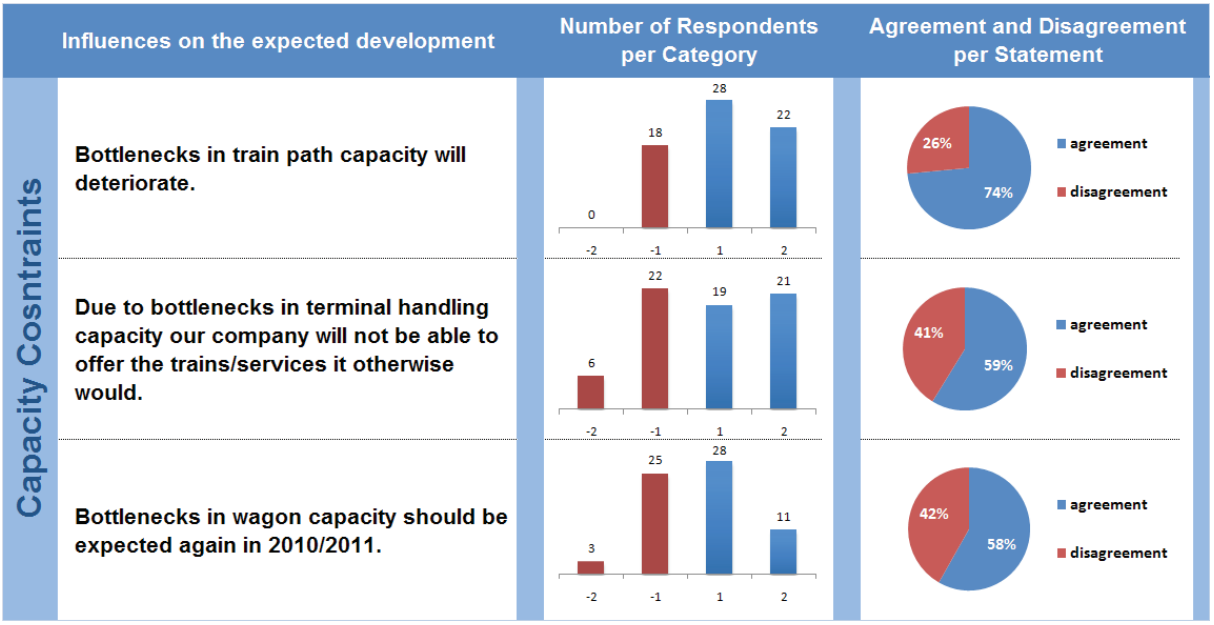
Capacity constraints

Another area of interest is to what extent the market is or will be hampered by capacity constraints which could act as impediments to intermodal transport operations. This area provides additional insight compared to the responses to these statements in the previous report. The capacity constraint section of this part of the survey was composed of the following statements:

- Bottlenecks in train path capacity will worsen.
- Due to bottlenecks in terminal handling capacity, our company will not be able to offer the trains/services it otherwise would.
- Bottlenecks in wagon capacity should be expected again in 2010/2011.

No other area evinced such conflicting assessments of the pros and cons (see **Figure 40)**. Virtually as many intermodal operators anticipate bottlenecks in terminals and wagons as do not. Only if additional background information were available would it be possible to explain this contradiction. However, there are two reasons which might explain at least part of the difference. First, some companies are operating in an environment of zero or little growth such as certain domestic intermodal systems, whereas others are operating in a boom area or international corridor. Second, some intermodal service providers can rely on a fleet of their own wagons and terminals, with which they can cover quite a large percentage of their traffic volume. Those operators are less dependent than those operators which have to source them from suppliers. For this reason, the latter may consider their future situation more prone to capacity bottlenecks.

Figure 40: Expectations on capacity constraints



Source: 70 intermodal service providers

On the other hand, we observed a much greater degree of consensus as concerns the expected constraints on train path capacity. Almost 50 per cent of respondents ticked the "strongly agree" box in the survey. This issue is also regarded as somewhat more critical than two years earlier. This suggests that the vast majority of intermodal operators are very much concerned by infrastructure bottlenecks, likely owing to virtually every operator's experience that this factor had impacted most negatively on their business in recent years.

Annex: Providers of unaccompanied rail/road intermodal services 2009

Intermodal Service Provider	Headquartered in
ACOS Transport GmbH (Necoss, NTT)	Germany
ACTS AG	Switzerland
Adria Kombi	Slovenia
Alpe Adria (Società Alpe Adria S.p.A.)	Italy
Ambrogio Trasporti SPA	Italy
ARGO	Czech Republic
Basel Multi-Terminal AG	Switzerland
BDZ (Bulgarian Railroad)	Bulgaria
Bohemiakombi	Czech Republic
boxXpress	Germany
BTT BahnTank Transport GmbH	Germany
Bucci (Roberto Bucci S.p.A.)	Italy
Bulkhaul UK Ltd	United Kingdom
CargoNet AB	Sweden
CargoNet AS	Norway
CargoSped	Poland
Cemat S.p.A.	Italy
CFR MARFA S.A.	Romania
Combiberia	Spain
Contargo GmbH & Co. KG	Germany
CP Freight	Portugal
Crokombi	Croatia
CSKD Intrans	Czech Republic
CTS Container Terminal Köln	Germany
DB Business Units	Germany
DB Schenker Rail (UK)	United Kingdom
DHL Freight GmbH	Germany
Direct Rail Services (DRS)	United Kingdom
Distri Rail B.V.	Netherlands
Duisport rail GmbH	Germany
Eesti Raudtee	Estonia
Emons Rail Cargo GmbH	Germany
European Rail Shuttle BV (ERS)	Netherlands
EUROGATE Intermodal GmbH	Germany
Ewals Cargo Care B.V.	Netherlands
Fastline freight	United Kingdom
Freightliner Ltd.	United Kingdom
Fremura	Italy
GB Railfreight	United Kingdom
GMC Logistics Group (ex. LSI)	Italy

Intermodal Service Provider	Headquartered in
Greencargo AB	Sweden
GTS	Italy
Hangartner AG - Internationale Spedition	Switzerland
Hannibal (siehe Sogemar)	Italy
Hellmann Worldwide Logistics GmbH & Co. KG	Germany
Hungária Intermodal Kft	Hungary
HUPAC Intermodal NV	Netherlands
HUPAC Intermodal SA	Switzerland
Inter Ferry Boats (IFB)	Belgium
Intercontainer Austria (ICA)	Austria
Intercontainer-Interfrigo S.A. (ICF)	Switzerland
Intercontainer Scandinavia AB (ICS)	Sweden
Intermove Systems (IMS)	Austria
Intermodal Solutions Veendam (IMS)	Netherlands
IGS Intermodal Container Logistics GmbH	Germany
Irish Rail	Ireland
Italcontainer S.p.A.	Italy
JSC Lithuanian Railways (Transocontainer)	Lithuania
Kali-Transport Gesellschaft mbH	Germany
Kombiverkehr KG	Germany
LDZ (Latvijas Dzelzceļš)	Latvia
Liski UKRAINIAN STATE CENTER OF TRANSPORT SERVICE	Ukraine
Logtainer	Italy
Logwin Solutions	Germany
Lorry Rail	Luxemburg
LTE Logistik und Transport GmbH	Austria
Mälarpendeln AB	Sweden
Messina (Ignazio Messina & C. S.p.A. - Compagnia di Navigazione)	Italy
Metrans a.s.	Czech Republic
Metrans Danubia	Slovakia
MidCargo AB	Sweden
Naviland Cargo	France
NAVISMART	Hungary
Nosta Gruppe	Germany
Norfolkline	United Kingdom
Novatrans	France
OPTIMODAL	Netherlands
PCC Intermodal S.A.	Poland
PKP Cargo S.A.	Poland
Pöhland Speditionsgesellschaft mbH	Germany

Intermodal Service Provider	Headquartered in
Polzug Intermodal GmbH	Poland
Rail Link	France
RaiLogistics AG (neuerdings Railcare 2010)	Switzerland
Rail Traction Company S.p.A.	Italy
Rail Cargo Austria	Austria
Rail Cargo Hungaria Zrt	Hungary
RENFE	Spain
Rocombi	Romania
Salzburger Lokalbahn SLB (Salzburg AG)	Austria
SBB Cargo	Switzerland
SCT Transport AB	Sweden
Sogemar S.p.A.	Italy
Spedcont	Poland
Spinelli	Italy
Shuttlewise	Netherlands
Swissterminal AG	Switzerland
SZ - SLOVENSKE ZELEZNICE	Sweden
T.R.W.	Belgium
TIM-Rail Eisenbahngesellschaft	Germany
T3M / TAB	Belgium
TCDD - Turkish State Railways	Turkey
Transfesa Transportes Ferroviarios Especiales S.A.	Spain
Transfracht Internationale Gesellschaft für KV mbH & Co. KG (TFG)	Germany
Trenitalia	Italy
TX Logistik	Germany
Van Dieren Maritime B.V.	Netherlands
Vänerexpressen AB	Sweden
VR Cargo	Finnland
WBT (Weets-Bahn)	Germany
Wenzel Logistics	Austria
Westfälische Landeseisenbahn (WLE)	Germany
Wiener Lokalbahnen Cargo GmbH (WLC)	Austria
Willy Petersen Spedition GmbH	Germany
Wincanton GmbH, Geschäftsbereich Intermodal	Germany
Konrad Zippel Spediteur GmbH	Germany
ZS (SK) Cargo	Slovakia

Editions Techniques Ferroviaires
Railway Technical Publications
Eisenbahntechnische Publikationen

16 rue Jean Rey - F 75015 PARIS
www.uic.org/etf

Printed by

International Union of Railways

16, rue Jean Rey 75015 Paris - France

Cover and layout: Coralie Filippini / © ETF Publication

December 2010

Dépôt légal December 2010

ISBN 978-2-7461-1908-6

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