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# RETRACK

**REorganization of Transport networks by advanced RAIL freight Concepts**

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## TABLE OF CONTENTS

<b>1 Introduction</b> .....	<b>4</b>
1.1 Objective: .....	4
1.2 Methodology: .....	4
1.3 Introduction to European Freight Transport System .....	5
1.4 RETRACK Rail Freight Service and EU Freight Policy .....	5
<b>2 RETRACK Pilot Freight Train Service</b> .....	<b>8</b>
2.1 RETRACK Operation Partners and Their Roles .....	10
2.2 RETRACK Freight Train Operation Model.....	13
<b>3 Main Operational and Commercial Issues</b> .....	<b>17</b>
3.1 Progress towards competitiveness and profitability.....	18
3.2 Lessons Learned from the RETRACK Rail Freight Service .....	20
3.3 Summary of Interviews .....	21
3.4 Has RETRACK established itself as 'As a commercial service?' .....	21
3.5 Is RETRACK service reliable? .....	22
3.6 Is RETRACK service competitive? .....	22
3.7 Has RETRACK developed long-term relationship with customers?.....	22
3.8 Has RETRACK developed long-term relationship among the RETRACK partners? .....	22
3.9 Is the loading factor and/or utilisation on the rise? .....	23
3.10 Please explain the status of RETRACK in regard of profitability.....	23
3.11 Is RETRACK service flexible/pragmatic/adaptive enough to cope with the different market demand/situation circumstances? .....	23
3.12 Is RETRACK able to contribute to the development of sustainable transport policy?.....	23
3.13 Has RETRACK been able to develop a cross-country pan-European operation of commercial rail freight service? .....	24
3.14 Has RETRACK been able to divert or shift cargo from road, waterways and rail to RETRACK freight service? .....	24
3.15 Did EU open non- discriminatory access freight transport policy helpful to the running of RETRACK as a commercial service?.....	24
3.16 What further needs to be done by EU/Member state to make effective? Please explain/elaborate.....	25
3.17 Has RETRACK contributed to make the EU open non-discriminatory access policy effective? .....	25
<b>4 Conclusions and Recommendations</b> .....	<b>26</b>
<b>5 References</b> .....	<b>27</b>

## TABLES

<b>Table 1: Modal share of total international freight movement in the EU27 (in %)</b> .....	<b>6</b>
<b>Table 2: Modal share (in per cent) of freight transport performance in EU27 countries</b> .....	<b>6</b>

**Table 3: Number of round trips of RETRACK service .....9**

**Table 4: westbound Traffic .....11**

**Table 5: eastbound Traffic .....12**

**Table 6: The growth of number of RETRACK service customers.....14**

**Table 7: The use of transport modes on the RETRACK corridor (answers in %) .....17**

**Table 8: Competing services compared (in %) to RETRACK service quality in the corridor .....19**



## 2 Introduction

### 2.1 Objective:

The overall objectives of the RETRACK project were: to conduct research, develop, commission and implement pan-European privately operated rail freight services (to achieve the EU key objective: modal shift rail) between Rotterdam, The Netherlands and Constanza, Romania through Germany, Austria and Hungary (see map 1). This implied at least four border crossings if the entire route was to be used. The route serves major port and industrial complexes in Belgium, Luxembourg and The Netherlands (together with options to North German ports), major industrial areas in Germany and Austria and links to major cities in Hungary and Romania with new port potential in the latter as a long term source of traffic.

The RETRACK pilot rail freight service has operated since February 2010 with demonstration costs partially supported (under FP6) from the EU. It will continue until February 2012. The objective of Work Package 9 is to evaluate the RETRACK pilot freight train service from the degree of attainment of business and EU-policy objectives.. The business and policy objectives include whether or not:

- ⤴ the RETRACK rail freight service has established itself as 'As a Commercial Service;
- ⤴ the RETRACK service is offering reliable and competitive services;
- ⤴ the RETRACK service is competitive;
- ⤴ the RETRACK service has established long-term collaborative relationship among partners and also with customers;
- ⤴ the asset utilisation of RETRACK service is on the rise;
- ⤴ the RETRACK service is flexible/pragmatic/adaptive enough to cope with the different market demand/situation circumstances;
- ⤴ the RETRACK service contributes to the development of the EU sustainable transport policy;
- ⤴ the extent to which EU open non- discriminatory access freight transport policies contributed or was helpful to RETRACK as a commercial service;
- ⤴ the extent to which the RETRACK service has been able to divert or shift cargo from other modes, in particular from road to rail;
- ⤴ and the extent to which the RETRACK service is profitable.

The report will analyse the degree of attainment of these policies.

The intention of the project was to demonstrate that private rail operators would be able to collaborate and co-operate in the development of new services that would be competitive, reliable and attractive compared with the existing rail freight services provided by incumbents or new entrants on national railways. The new services would exploit the freedoms made available through the railway reform packages established by the EU to open up the rail market to competition between the incumbents and new rail operators.

### 2.2 Methodology:

This report has been researched and prepared using a qualitative research method. The original evaluation methodology was changed since the SOPTIM ICT system "RMS" has not been adopted by all operators and the quantitative data collected manually is less substantive. We have collected data from the pilot diary excel sheet from the offices of TransPetrol, LTE, various sub contractors and CER.

To supplement this we conducted a customer survey and then held interviews with the RETRACK operators. This report covers the period from the start up of the service in February 2010 to June 2011. RETRACK has successfully operated with a small customer base and small numbers of operators so the interviews and surveys reflect that position.

### **2.3 Introduction to European Freight Transport System**

This section gives an overall context background to the development of freight transport activities in the EU and to the emergence of the RETRACK project.

In EU27 countries, the GDP and freight transport movement grew annually at 2.3% over the period of 1995-2008. Freight transport enables economic growth and job creation. For example, in 2007, the transport services sector in the EU27 employed more than 9.2 million persons, some 4.4% of the total workforce. Almost two thirds (63%) of them worked in land transport (road, rail, inland waterways), 2% in sea transport, 5% in air transport and 30% in supporting and auxiliary transport activities (such as cargo handling, storage and warehousing, travel and transport agencies, tour operators). In 2008, total goods transport activities in the EU27 were estimated to have amounted to 4 091 billion tkm. This figure includes intra-EU air and sea transport but not transport activities between the EU and the rest of the world. Road transport accounted for 45.9% of this total, rail for 10.8%, inland waterways for 3.6% and oil pipelines for 3.0%. Intra-EU maritime transport was the second most important mode with a share of 36.6% while intra-EU air transport only accounted for 0.1% of the total.

The prosperity of the European continent depends on the ability of all countries or regions to remain fully and competitively interconnected themselves by alternative transport modes and as well as integrated to the world economy and transport system. An efficient and competitive transport system (that includes road, rail, and waterways transport modes) is vital for a prosperous EU.

However transport activities generate negative impacts (for example, CO2 emission, noise) on the society as well and it is policy that freight transport activities should be sustainable to reduce or eliminate such negative impacts. The transport infrastructure has been unequally developed in the eastern and western parts of the EU. Therefore the freight transport system in Europe must aim to fully utilise all available modes and their capacities in a competitive, sustainable and co-operative fashion.

### **2.4 RETRACK Rail Freight Service and EU Freight Policy**

From Tables 1 and 2 (below) we can see that road freight transport Europe has been on a sustained rise in terms of international freight market share. The share of road freight transport is also rising and even more dominant in domestic freight market (see Table 4) in EU27 countries. Many European roads are highly congested. In contrast many rail networks are underutilised. Thus modal-shift, even under the new EU co-modal policy, from road to rail was, is, and will remain a key EU policy objective. Despite many measures from the EU and national governments in Member States, over the years the share of rail freight has declined (see Table 3 and 4). One of many important reasons derives from the fact that the national railways in Europe were traditionally government owned and operated. Their operation was aligned according to national necessity, regional products and services and boundary.

Different EU directives (since 1991) and Railway Reform Packages (in particular the First and the Second) have made European rail freight operation open and non-discriminatory access strictly on a competitive and commercial basis. Under this open and non-discriminatory regime the incumbent and new rail freight operators are required to operate under a competitive European market environment. This regime also facilitates the development of cross-country pan-European rail freight services which was not always possible before the Railway Reforms. The current RETRACK project is a test case for this open non-discriminatory access policy and market environment.

This focus on modal-shift for long haul railfreight is reconfirmed in the 2011 White Paper, where the goals are:

**Optimising the performance of multi-modal logistic chains, including by making greater use of more energy-efficient modes:** 30% of road freight over 300 km should shift to other modes such as rail or water-borne transport by 2030, and more than 50% by 2050, facilitated by efficient and green freight corridors. [EC,2011]

Until relatively recently all international rail freight services in Europe were handled by the incumbent national rail operator primarily on the national railways. RETRACK service is, in contrast, a wholly privately operated (initially part-funded by EU) pan-European rail freight operation. The transit times of previously operated rail freight services were not ambitious and were generally matched or bettered by road transport. The ability to offer a service based on reduced transit times, higher flexibility and with prevailing cargo prices has developed into a key plank in the development of the RETRACK pilot demonstration.

**Table 1: Modal share of total international freight movement in the EU27 (in %)**

Year /Mode	Road	Rail	Inland Water ways	Pipe lines	Sea	Air
1995	42.1	12.6	4.0	3.8	37.5	0.1
1996	42.1	12.7	3.9	3.9	37.5	0.1
1997	42.2	12.8	4.0	3.7	37.3	0.1
1998	42.9	11.9	4.0	3.8	37.4	0.1
1999	43.5	11.4	3.8	3.7	37.6	0.1
2000	43.4	11.5	3.8	3.6	37.5	0.1
2001	43.9	10.9	3.7	3.8	37.6	0.1
2002	44.5	10.6	3.7	3.6	37.6	0.1
2003	44.5	10.7	3.4	3.6	37.7	0.1
2004	45.2	10.8	3.5	3.4	37.0	0.1
2005	45.5	10.5	3.5	3.4	37.0	0.1
2006	45.5	10.8	3.4	3.3	36.9	0.1
2007	45.8	10.8	3.5	3.0	36.7	0.1
2008	45.9	10.8	3.6	3.0	36.6	0.1

Source: EU27 Energy and transport in figures: statistical pocketbook 2010 part 3-transport

**Table 2: Modal share (in per cent) of freight transport performance in EU27 countries**

Year/ Mode	Road	Rail	Inland Waterways	Pipe lines
1995	67.4	20.2	6.4	6.0
1996	67.4	20.3	6.2	6.2
1997	67.3	20.4	6.4	5.9
1998	68.5	19.0	6.4	6.1

1999	69.8	18.2	6.1	5.9
2000	69.6	18.5	6.1	5.8
2001	70.5	17.5	6.0	6.0
2002	71.4	17.1	5.9	5.7
2003	71.6	17.3	5.4	5.7
2004	71.8	17.1	5.6	5.4
2005	72.3	16.6	5.6	5.5
2006	72.2	17.1	5.4	5.3
2007	72.5	17.1	5.6	4.8
2008	72.5	17.1	5.6	4.8

Source: EU27 Energy and transport in figures: statistical pocketbook 2010 part 3-transport

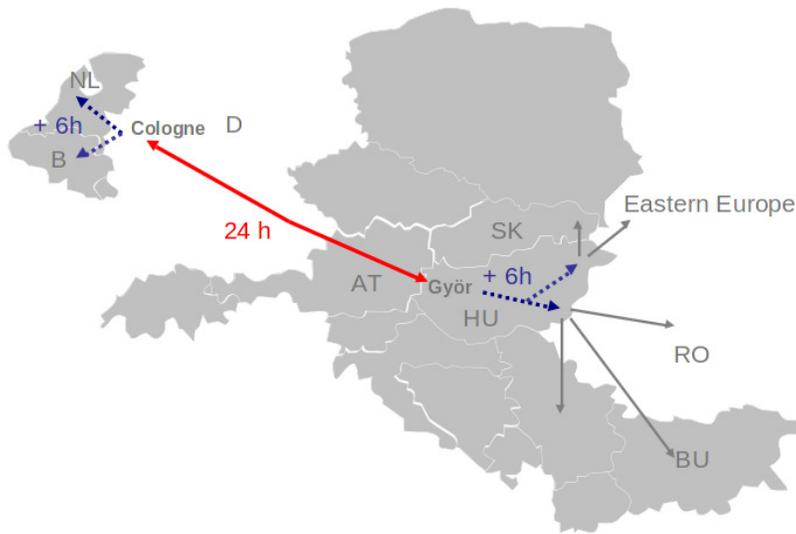
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## 4 ETRACK Pilot Freight Train Service

The original RETRACK pilot demonstration was scheduled to be run in January 2008 to December 2010. But that did not happen for the following reasons: the European countries (along with other major Western economies) faced recession during 2008/2009. It was not the best time to be developing and starting up a new rail freight service. As RETRACK was getting into a position to launch services, rail freight traffic was falling off in response to the international economic recession and a significant investment and effort in such time in developing shipper contacts was effectively rendered useless as traffic volumes withered. Existing train service providers were already cutting back on the provision of services. The timing for a wholly new entrant was not good. The start up of RETRACK demonstration was delayed and it was started in February 2010 with the acceptance and realisation of low paying volume based cargo (grain) and the need to get a demonstration pilot operation into service.

The original Retrack market research had identified a diverse range of potential commodities and shippers for whom the availability of a new service appeared to be of interest. These were primarily manufactured and consumer goods including inter-modal traffic with the balance of traffic presumed to be dominantly eastbound. westbound flows were less readily identifiable through market research so there were inherent concerns about round trip load factors at the start of operations. The reality was that the initial dominant flow was primarily westbound commodity based traffic (grain) which provided the underpinning revenue support as other traffic was induced onto the service. This had its own inherent problems of empty return wagons and the low freight rates applied to grain but it did allow the service to be operated and sustained..

The use of the Retrack service by single wagon load shipments, particularly chemicals and hazardous material has proved to be one of the strongest and most valuable traffic streams. The ability to capitalise on weight has been a primary commercial advantage for this type of commodity movement. Inter-modal traffic has not figured as prominently as was anticipated in the earlier phases of the project.



Pilot Route

Illustration 1: RETRACK

**Table 3: Number of round trips of RETRACK service**

Month	Planned trip	Actual trip
February 2010	1	1
March 2010	1	0.75
April 2010	1	0.8
May 2010	1	0.75
June 2010	1	1
July 2010	1	0.4
August 2010	1	0.3
September 2010	1	0.6
October 2010	1	0.5
November 2010	2	2
December 2010	3	2.1
January 2011	2	2
February 2011	3	2.25
March 2011	3	2.6
April 2011	3	2.8
May 2011	3.2	2.5
June 2011	3.2	2.9

Source: Data collected from the RETRACK pilot diary

The RETRACK pilot demonstration train services began operation on a single rotation per week basis. Table 3 displays the number of round trips over the period from February 2010 to

June 2011. This has now been increased to three rotations per week and gives high asset (locomotive and equipment) utilization particularly for the base load traffic flows. RETRACK has to overcome some difficulties (noted in the next subsection) and has been sustained and in fact is now recognised by shippers (and competitors) as a credible service option along the primary corridor and with the added flexibility of being able to serve traffic along the satellite branches. The core shippers have provided a basis upon which the service is developed and is now moving towards becoming a profitable entity. The operating ratio (the proportion of direct operating costs excluding debt divided by net revenue) has been improving and the service could potentially be profitable by the end of the RETRACK project in 2012.

Despite concerns that wagon load traffic as an entity is not attractive to rail freight service providers, wagon load traffic has been a major source of profitable business for the RETRACK pilot demonstration. Much of this type of traffic is heavy and hazardous and RETRACK train operators have been able to exploit the weight advantage. The RETRACK train services offered a lower or equal transit time than existing rail services which has been a major issue to achieve success. It can be noted that the preparatory research was only able to identify a generalised view on traffic potential and opportunities. Traffic has been brought to the service through orthodox marketing and selling to cargo principals and forwarders. Core traffic to support the service (westbound grain from Hungary to The Netherlands) has provided the base traffic and revenue to allow the development of the service into a mixed traffic configuration. The grain traffic allows flexibility in the accommodation of other (more remunerative) traffic and has been a major factor in the development of the project.

Whilst the project was conceived as operating on a core corridor or route the pragmatic approach adopted since the beginning of operations has led to the development of satellite services feeding from the main line. One of these has been a sizeable transfer of traffic from road to rail. In addition the use of Köln (Cologne) and Győr as major concentration points (instead of Rotterdam and Constanza) for the assembly of individual wagons and wagon blocks has also been beneficial. Traffic is moving in and out of Köln to destinations elsewhere in Germany, Belgium and The Netherlands. The sizeable grain traffic is fed to Győr from a number of loading points for concentration and assembly into a train formation.

The train management process is focused on dealing with the basics of train path requests (normally sanctioned), the build up of the wagons and account activity including short notice traffic, crew allocation and planning and allocation of cargo volume whilst balancing wagon fleets to maximise availability and productivity. Connecting traction for movements to/from Benelux is covered in this process. TransPetrol uses intra-company links through connected and owned businesses to plan shunting operations and train assembly/dispersal. The schedule is established and the faster reliable transit has been a key selling point. The planning cycle is approximately 14 days before live operations.

The RETRACK operation is being driven by a competent and knowledgeable team including personnel based near Köln TransPetrol has put its own stamp on the service model as it exists at present and it reflects the TransPetrol perspective and initiative particularly in relation to control and communications issues. Within TransPetrol the status and understanding of the project has grown as the operation has stabilised and the revenue growth has become evident. The pilot is now viewed more as a genuine commercial business opportunity than hitherto.

Each train operation has its own working file detailing the commercial and operational activities and any incidents or other noteworthy items. These are all retained by TransPetrol and provide the basis for the apportionment of costs and revenue from the train activities. The trains were formerly recorded as round trips but are now identified as individual directional sectors as a better measure of the increased traffic activity.

The train operations are a mix of wagon sets allocated specific accounts and commodities together with SWL traffic which is concentrated/ distributed at Köln and Győr. This model has

proved to be a useful and cost effective means of handling wagon load traffic and is against the grain of perceived wisdom in the rail sector that is intent on writing off wagon load as a source of revenue and traffic. The revenue for this type of cargo has been strong based on a mix of considerations including the directional balance, cargo mix and higher payload compared to road based operations, the hazardous nature of the cargo and the competitive transit times on the RETRACK service. The further development of the chemical sector and the establishment of new international flows particularly involving Hungary and Romania suggest that this could develop in a further very positive way.

#### **4.1 RETRACK Operation Partners and Their Roles**

The key initial commercial and operational partners of the RETRACK pilot rail freight service were:

- European Bulls (Netherlands) (no longer involved)
- TransPetrol GmbH (Germany) (joined later on);
- Rail4Chem (Germany); (no longer involved)
- LTE (Austria);
- CER (Hungary); and
- Servtrans (Romania) (dormant).

The Romanian partner (Servtrans) in the RETRACK project effectively left (or became inactive) the project. Rail4Chem left the consortium when it was bought by another company (Veolia). European Bulls disappeared from the market due to the fact that the project went through several changes including partner composition. Finally the following key commercial and operational partners are involved in the pilot rail freight operations:

- TransPetrol GmbH (TransPetrol)
- LTE; and
- CER.

TransPetrol now leads the commercial and operational planning of the RETRACK train services including shipper contacts and pricing. LTE (Austria) provides traction (dedicated locomotive) that is capable of operating across international (pan-European) borders and this eliminates one of the main stumbling blocks (multiple power supply systems) to rail freight's generic competitiveness. Shunting services and local traction services are provided by the incumbent rail operator CER (Hungary). Specific traffic destined to Austrian receivers is also moved by the national incumbent to/from the RETRACK train when in transit. The concentration and distribution of wagons to/from Köln is now performed by a railway undertaking owned by TransPetrol/VTG and provides a greater measure of flexibility and control of this activity than that formerly provided by contractors.

TransPetrol have established a lead position within the project consortium in particular for the pilot train operation. There is very limited commercial involvement from LTE & CER. CER acts as a traditional railway with the principal focus on operational matters within Hungary. TransPetrol had and maintains a strategic position to become a major rail freight player in the emergent liberalised market beyond the traditional role of the parent company as a wagon supplier. TransPetrol is completely involved in the operational control and management of the RETRACK train including the build up of wagon load offerings and pricing, in transit monitoring, disruption and delay response. TransPetrol is also involved in the arrangement of personnel (train crews) and shunting. It is largely dealing with known operational and technical issues on train length, weight, hazardous cargo rules and cargo priorities. Cargo pricing is fully within TransPetrol's remit.

TransPetrol has established a small RETRACK project office to plan and operate the train services on the new higher level of intensity. The office has access to the DB system to identify real time the location of the RETRACK train within Germany (and Austria). With this

information system, the shippers and receivers can be readily advised of any changes in rail freight operation such as delays or disruptions and this information point acts as reinforcement to shipper confidence on the service. For this, TransPetrol uses a simple board based system to plan train loading profiles around the three trains per week schedule on the main corridor with details of any satellite traffic able to be easily identified. The current plan uses the assigned traction resource intensively. There is an emergent need for direct identification of wagon location and cargo condition in transit. A number of cargoes have been constrained by temperature rises to near critical levels in transit. Other considerations in the management of the operation include the maintenance of the grain wagons, wagon and traction maintenance, crew availability to allow the train to be operated at the booked timings and shunting space and shunting crew availability in Köln & Győr.

**Table 4: Westbound Traffic**

Month	Wagons	Net weight	Gross weight	Wagon/cargo description
Feb-10	23	1306	1726	grain
Mar-10	76	3927	5671	grain
Apr-10	100	5208	7540	grain
May-10	75	3932	5662	grain
June-10	121	3880	6763	grain, empty tanker, empty wagons for car parts
July-10	53	1271	2458	grain, empty tankers, empty wagons for car parts
Aug-10	44		1119	empty wagons for car parts
Sept-10	43		1140	empty tanker, empty wagons for car parts
Oct-10	50	2820	3839	grain (2436t), containers (284t)
Nov-10	210	10445	15084	grain (9433t), containers (1012t)
Dec-10	216	6455	11512	grain (6325t), empty tankers, empty wagons for car parts, containers (130t)
Jan-11	244	9612	15242	grain (9553t), empty tankers, empty wagons for aluminium-oxide, containers (59t)
Feb-11	201	8512	13250	grain (8454t), empty tankers, empty wagons for aluminium-oxide, containers (58t)
Mar-11	245	10993	16723	grain (10936t), empty tankers, empty wagons for aluminium-oxide, containers (57t)
Apr-11	323	9696	17375	grain, empty tankers, empty wagons for car parts, empty wagons for aluminium-oxide
May-11	290	8353	15394	grain (8296t), empty tankers, empty wagons for car parts, empty wagons for aluminium-oxide, containers (57t)
June-11	249	3450	9611	grain, empty tankers, empty wagons for car parts, empty wagons for aluminium-oxide

*Source: Data collected from the RETRACK pilot diary*

From Table 4 it can be noted that the present cargo balance is biased to westbound (WB) traffic and this is largely accounted for by the grain traffic from Hungary to the Benelux countries. From Table 5 it can be seen that the balance is becoming better as additional eastbound (EB) traffic is secured. There is a measure of empty running but this is accounted for by the need to re-position the grain wagons back to the loading points to maintain the westbound loaded traffic. The case for a hub for operational concentration of loaded traffic flows in Hungary is being considered to stabilise operations. There are issues in Hungary in securing dedicated siding space from the incumbent operator for RETRACK services.

**Table 5: Eastbound Traffic**

Month	Wagons	Net weight	Gross weight	Wagon/cargo description
Feb-10	0	0	0	
Mar-10	85	0	1952	empty grain wagons
Apr-10	71	57	1546	empty grain wagons, chemical product
May-10	87	56	2060	empty grain wagons, chemical product
June-10	107	1119	3792	empty grain wagons, chemical product (112t), car parts (1007t)
July-10	31	674	1353	chemical product (111t), car parts (563t)
Aug-10	52	442	1699	empty grain wagons, car parts
Sept-10	64	1820	3458	chemical product (55t), car parts (1765t)
Oct-10	29	230	841	empty grain wagons, containers
Nov-10	202	2224	6745	empty grain wagons, chemical product (1365t), containers (859t)
Dec-10	267	3160	9365	empty grain wagons, chemical product (223t), cars parts (1138t), containers (649t), soy (1150t)
Jan-11	208	3353	8275	empty grain wagons, chemical product (257t), cars parts (542t), containers (560t), aluminium-oxide (694t), aluminium blocks (1300t)
Feb-11	171	2938	6980	empty grain wagons, chemical product (365t), aluminium-oxide (1421t), soy (1152t)
Mar-11	298	3407	10396	empty grain wagons, chemical product (982t), containers (10t), aluminium-oxide (1509t), soy (906t)
Apr-11	276	3229	9762	empty grain wagons, chemical product (1051t), car parts (488t), aluminium-oxide (1596t), soy (94t)
May-11	245	5575	11588	empty grain wagons, chemical product (1293t), car parts (1507t), aluminium-oxide (1637t), soy (1138t)
June-11	289	7235	14173	empty grain wagons, chemical product (947t), car parts (2919t), aluminium-oxide (727t), soy (2042t), aluminium blocks (600t)

*Source: Data collected from the RETRACK diary*

The lead time to secure drivers is +7 days prior to departure and a minimum of 5-6 drivers is required to sustain services. Driver performance and competence have been generally acceptable. Locomotive reliability has been somewhat problematic and the failure rate has been mildly disappointing. Problems were encountered with the receipt by train crews of electronic schedules. LTE has the responsibility and liability for the provision of traction and replacements in the event of failure and this arrangement appears to have worked adequately. Dedicated stock has been available for crew training. A tolerance of three hours is granted if required in the event of operational issues. The train path is retained in Germany in the event of this sort of delay but not automatically sanctioned on other parts of the route. Changes to schedule and routing are advised to the other operational partners as a matter of course.

#### **4.2 RETRACK Freight Train Operation Model**

The model of operation adopted with two core hubs for the assembly and dispersal of traffic (Köln in Germany and Győr in Hungary) and the operation on demand of satellite operations has proven to be a flexible option to demonstrate the potential capabilities of rail freight

operation. The majority of rolling stock used in the operation is provided by the shipper either as owned or leased equipment.

Full operational and commercial integration has been achieved through the initiative of TransPetrol as the key partner. This has included equipment sourcing, pricing enquiry responses and operational intervention and planning. The relatively small TransPetrol operations and commercial activity has allowed rapid decision taking and intervention as required to sustain and plan train services. Access to the DB infrastructure information system on train location, schedule performance and delays has proved to be of significant value.

There does appear to be a divergence of view as to the type of ICT systems required to support the service and whether the ICT solution developed by SOPTIM, a key partner of the RETRACK consortium, is wholly appropriate to the emergent service needs. This system has been used by LTE during the whole of the pilot and before, but as TransPetrol adopted the role of a train operator, as opposed to a freight forwarder, it became clear that a comprehensive ICT solution will be needed. Whether this will be the SOPTIM RMS solution, or a bespoke solution, will be resolved outside the time frame of the project. For a full evaluation of the SOPTIM RMS solution please refer to D4.4, Evaluation of ICT system.

The need for complete control of the entire RETRACK operation including commercial planning, operational planning, train build up and cargo allocation, train path requests and monitoring and shipper contact was identified as a vital necessity to ensure the service was adequately managed and directed. This key finding could be usefully transferred to other new start up operations in the future. The diffusion of these responsibilities could potentially have weakened the effective operation of RETRACK rail freight service.

The forward planning of individual trains based on known cargo offers and the requirements to maintain wagon circulation for the grain business together with the recognition of the locomotive's availability profile and intervention on individual wagon issues presents a high and continuous workload to support the train plan. In relation to pricing there is the ever present risk and vulnerability to price competition from the incumbent rail service providers.

The move to a raised frequency of three trains a week (see table 5) with a dedicated locomotive is a potential constraint. Significant additional traffic secured for RETRACK implies the use of more hired traction and the identification of train paths or the allocation of traffic to existing competing services but possibly marketed under the RETRACK banner. Securing traffic to fully employ another locomotive on a cost effective basis implies a major marketing and selling push to achieve the necessary cargo volume to justify this. Spot traction hire may be an option but growth beyond the present service level has inherent complications if competitive advantage is to be retained. The use of a dedicated locomotive for the existing RETRACK service rotations recognises the need for statutory maintenance windows to be complied with but this also puts pressure on the planning process to ensure the service integrity is maintained.

The grain traffic serviced through the Győr hub potentially offers an opportunity to develop a more structured network of services and this initiative has been proposed. The ability to pre-block wagons and run these to/from Győr may prove a more efficient and effective way of servicing this traffic. A key to the retention of this traffic on rail is the replacement of the existing wagons (20+ years old and a cause of major service failures in 2010). Commercial options for this have met with little success and other options possibly including support from national governments or the EU to provide this equipment may need to be considered. (This model was used in North America).

Systems have been developed to record train performance in terms of weight, length, payload, revenue, allocated costs with an indicative out-turn result that is able to be tracked. These are at present spread sheet based reports. Individual train and account record files are compiled in a format set by TransPetrol. There does not appear to have been a formal

budget plan for the operation of the pilot with forecasts of volume and revenue and with means of identifying variances.

Pricing is a known entity in terms of prevailing competing rail, road and water served traffic. The key unique selling proposition has been the retention of price levels with higher flexibility of services for the shippers. Margins for single wagon traffic have proved to be a very significant prop to revenue streams and demonstrate that rail can compete with other modes for this type of traffic if the operational and commercial aspects are attractive. The benefit of the additional weight rail vehicles can support compared with road operations has proved to be significant. Inter-modal traffic commands a much lesser margin and has been a much lower proportion of traffic carried.

The model of commercial and operational measures that was adopted to support the pilot project could be extended into other lines or routes which may, or may not, connect with the core pilot route. The use of satellite operations to service traffic away from the main axis also offers a measure of flexibility to accommodate intermittent traffic. The key to the success of the pilot project has been to develop a common purpose amongst different rail freight industry actors and the allocation of specific areas of activity and responsibility amongst the RETRACK partners.

**Table 6: The growth of number of RETRACK service customers**

Month	Nominal	Active	Comments
Feb-10	1	1	
Mar-10	1	1	
Apr-10	2	2	
May-10	2	2	
June-10	3	3	
July-10	3	3	
Aug-10	3	2	no grain
Sept-10	3	2	no grain
Oct-10	5	3	regular traffic re-launched
Nov-10	5	3	
Dec-10	8	7	
Jan-11	10	8	
Feb-11	11	7	
Mar-11	11	8	
Apr-11	13	8	
May-11	14	11	
June-11	14	10	no containers

*Source: Data collected from the RETRACK pilot diary*

The route model adopted has been driven by cargo and commodity flows which are able to use the service and secure benefits by so doing. The actual traffic carried has been different to that which was envisaged at earlier stages in the project and perhaps indicates that the research effort should have been more closely focused on real traffic opportunities and accounts that were capable of being secured. The impact of the world wide recession in 2008-2009 should not be underestimated. The core grain traffic has been an essential base traffic flow which has underpinned the development of the RETRACK operation and allowed the service to become established and recognised as a credible service option. The core

business flow is still predominantly W/B and raises issues of the need to re-position wagons back for re-loading to sustain the flows.

The core number of shippers amount to 9-10 at this stage in the pilot operation. Some traffic has been intermittent and some has been lost (see Table 6). The competitive response has been largely muted as the price for transport has not been predatory to secure traffic. The RETRACK service model represents a challenge to the orthodox ones and is seen as a competitive alternative within the market. TransPetrol reported interest and comparisons being made by price sensitive cargo interests and this may indicate further potential to be secured. Marketing the service to date has not been a major focus and could be ramped up to secure greater cargo volumes and revenues. A key consideration will be the handling of the core grain business and the accommodation of better paying traffic in the future. There is an underlying mercenary position to be recognised that in the absence of financial start up support new fledgling rail services are unlikely to succeed en masse.

The case for strategic support to new rail operators and operations to secure modal shift and wider environmental benefits was made by the partners. The retro-fitting of energy consumption meters onto the assigned locomotive for the pilot has allowed greater precision in the monitoring of power used to move the train although this did cause some problems.

A survey among the RETRACK service users reveals (see Table 7 below) that *some* modal shift from road has been achieved.

The flexible response to traffic generation in the build up phase has been characterised by:

- The use of the traction for single wagons to maintain the round trip capability of the service;
- A willingness to refuse, defer or cancel services if required;
- A preparedness to use other existing train services if needed to maintain service integrity rather than lose the traffic or service round trip capability.
- Use of the EU status of the train as a measure of protection against immediate predation by the incumbent train service providers such as DB.
- Decision to maintain a minimal service profile until the grain wagon situation was resolved.
- Maintenance of services despite issues such as weather delays, varying responses to national and public holidays along the line of route.
- Flexible responses to varying crew availability together with traction and rolling stock.
- Train monitoring in real time with the identification of problems and the ability to intervene to resolve disruption.
- One partner (TransPetrol) is recognised as a railway undertaking.
- Development of a range of shunting and feeder options.
- The retro-fitting of energy consumption meters onto the assigned locomotive for the pilot has allowed greater precision in the monitoring of power used to move the train.

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## 6 Main Operational and Commercial Issues

The RETRACK train faced a number of key issues that have constrained the performance of rail in freight services in multi-lateral operations.

**Problematic Initial stage of the Pilot:** The start of the RETRACK pilot was constrained by a lengthy and complex period when the respective roles, responsibilities of the operational and commercial partners were unclear and raised the doubt of the pilot service. There were a number of meetings to spell out these issues. The traction suppliers appeared in the service development phase to be reluctant to the adoption of structures and defined roles that are commonplace in other transport domains. The use of a consortium agreement governing roles, responsibilities, commercial returns and costs was discussed but not adopted or accepted by the operating partners and this (along with the recession problem) contributed to the delay in the start up of services. The project also experienced the volatility in partner participation in the project, the changing role of staffs and representatives within the partner organizations and the complex politics of railway activity in Europe conspired to constrain the start up of the project.

**Crossing borders:** As RETRACK is a pan-European service, it has to cross a number of borders. From the operation experiences of RETRACK we can say that it has been an endemic problem for rail freight operation due to multiple issues of documentation scrutiny, data entry into national systems, technical inspections, checks, differing national technical rulings, train weight and length limits.

**Table 7: The use of transport modes on the RETRACK corridor (answers in %)**

Questions	Competing transport modes					
	Rail	Road	IWW <sup>1</sup>	SSS <sup>2</sup>	Inter-modal services	Total
What mode did you normally use before the offer from RETRACK?	57,0	29,0	0	0	14,0	100,0
What are the alternative modes to RETRACK today?	50,0	25,0	0	12,5	12,5	100,0

*Source: Survey conducted among the RETRACK service users*

**Multiple power supply systems:** During the research phase of the project we identified that the RETRACK corridor has multiple power supply systems. This implied a need to switch locomotives at certain borders with the likelihood of delay. The availability of multi-voltage locomotives has mitigated this problem for RETRACK service.

**Driver issue:** There were and still are driver related issues including language, interoperability and cross border driver skill and competence recognition.

**Wagon issues:** There have been issues with some individual wagon failures that have exposed problems of responsibility for technical defects when and where located and for

<sup>1</sup> IWW= inland waterways

<sup>2</sup> SSS= short sea shipping

their redemption. The shipper-owned or leased equipment has to be compliant with industry inspections in transit. There have been concerns that some of the wagon inspection regimes are not consistent.

**Discrimination from the incumbent:** There are concerns over the preponderant power of the rail incumbent in Germany where the acquisition of private rail operators is in effect the reverse of the liberalization proposed by the EU. This trend in effect reduces incentives to compete on price and service levels and reduces competition.

**The inconsistency of the wagon inspection regime** at border crossings is a key issue and thus presents a real block to competitive, fast and effective transits. Lengthy inspection and compliance processes and transcription of data need to be reduced to one.

**Securing train paths** have not been a significant problem and most bids have normally been accepted.

**Infrastructure upgrades:** There have been problems of large scale infrastructure upgrades in Germany and these have been a limitation at times.

**Train length** has normally been less than the 750m maximum allowed on the main operational axis. Very heavy trains have been routinely operated between Köln & Rotterdam as required without major difficulties.

**Grain wagon issues:** The core business of grain shipments from Hungary to the Benelux area (see table 6) had provided the basis for the start up of the RETRACK pilot operations and underpinned wider commercial activities to secure other traffic on the main route and developing satellites. The grain traffic was being carried in older wagons that had not been used intensively on long haul applications. These were recognised as contributing to train delays. The key issue centred on the inadequate lubrication of the axle boxes leading to the complete withdrawal of the wagons used for this traffic until an adequate remedy was in place. Other problems that have beset this traffic have centred on problems with the locking of the doors on the wagons.

In contrast, the road based operation faces a minimal of such issues and commands a significant share of the international market. Greater flexibility, availability, rapid and secure transits have also contributed to road transport's competitive position.

## 6.1 Progress towards competitiveness and profitability

The progressive move from one to two and then to three train rotations per week has established a commercial schedule which has appealed to shippers. A survey amongst the RETRACK service users reveals (see Table 10) that the maintenance of prevailing or lower prices but with the incentive of the flexible schedule compared to the competing services offered by incumbent operators has proved to be attractive. The competitors are providing more frequent service than RETRACK. They are also ahead of RETRACK in terms of aggregate available capacity. There is an operational need within RETRACK to maintain the wagon rotation and schedule integrity. The RETRACK service also needs to improve transshipment time, handling time and information systems (for example tracking cargo location). The survey reveals that the shipper's positions on trans-shipment time appear to be divided. The RETRACK service does offer a reduced transit time compared to other similar services but this appears to be accepted as a significant benefit by only part of the current shipper base. This component of the marketing mix advantages may need to be made more clearly in future marketing and selling of the service to other new shippers.

Despite some initial internal and external scepticism RETRACK train service is now seen as a credible commercial case. It is an opportunity to develop further with an independent wagon load service on a trans-national route structure and demonstrate this with EU support during the life of the RETRACK project. Sales revenue has been secured on the basis of competitive market bids and service offers and is now well on towards the achievement of break-even point and is moving towards profitability. This may well have been achieved at an

even faster rate than that had the major service issues with grain wagons not occurred in 2010.

The base cargo (grain) carried in the early phase of the pilot operation has provided a flexible but consistent source of revenue and volume and this allowed the ability to attract other higher value traffic as this was identified and attracted to the service. The grain traffic provided a base for an operation but was a very different concept to that envisaged in earlier phases of the project. The development of wagon load traffic, particularly hazardous and liquid tanker traffic, has secured premium revenue and has demonstrated that wagon load traffic can be carried profitably.

Key issues have arisen as the service has developed and increased the frequency. As additional traffic is attracted the relative share (in volume and revenue terms) of the base load (grain) business is decreased. Although this (higher value cargo attraction) could be good news, the policy of reducing the proportion of lower value cargo (grain) needs to be examined carefully, not only in relation to immediate train profitability but also long-term commercial relationships with the shippers.

**Table 8: Competing services compared (in %) to RETRACK service quality in the corridor**

Service type	Service level		
	Higher than RETRACK	Lower than RETRACK	Approximately the same as RETRACK
Level of price	75	0	25
Reliability of transport	0	0	100
Available capacity	25	0	75
Information management	0	50	50
Transshipment time	0	50	50
Handling time	0	50	50
Frequency of transport	75	0	25
Flexibility	0	66,7	33,3

*Source: Survey conducted among the RETRACK service users*

Currently revenue is recovering about 70% of total costs plus overhead. The revenue-cost performance has been improving since early 2011. The trend may have been significantly improved if the core grain traffic had not been hit by wagon unavailability and wagon failure in mid 2010; severe weather conditions in the last winter; and some other operational problems encountered. It can be noted here that this level of cost recovery has been achieved with a minimal marketing and sales effort. Recently (from May 2011) there has been an enhancement in the marketing and sales effort and thus the financial out turn is expected to improve further. The higher revenue was achieved for individual wagon load tank traffic and this has been a key commercial plank in the commercial continuation of the RETRACK service and verifies earlier research on the potential for this sort of business.

The revenue share and cost recovery position is something the partners have developed and this remains within their commercial confidentiality. This evaluation report does include details of cost and revenue. It does point to the need for any future projects of a similar nature to have an appropriate operational, marketing and financial structure in place at the outset together with some form of consortium agreement between the partners.

## **6.2 Lessons Learned from the RETRACK Rail Freight Service**

The RETRACK project has experienced in different phases (research, preparation of the pilot, recession and customer volatility, pilot service, introduction of satellite service etc.) of the implementation a number of issues that can be lessons for other existing or future new rail freight services:

- Relative positioning of new operators in relation to the market dominance (capacity, access to train paths in volume, opaque commercial practices and accounting) of existing operators.
- Market response (i.e. from the existing operators) to the pilot project is very important for any new service. In the case of RETRACK this has been muted to date but could be predatory if key relationships on traffic were threatened by the new competitive services (e.g. automotive traffic) on price, for example.
- The RETRACK pilot did not undercut prices in the market but has been able to offer better flexibility than the incumbents and this has induced traffic interest. Other existing or new services may take this as an important lesson.
- There was some naivety in the project proposal and at the start of the RETRACK pilot in the sense that the market strength of the incumbent operators along the corridor was not correctly assessed in particular in relation to the movement of inter-modal traffic. The project came to life in response to real time cargo opportunities and commercial potential to start up a wholly new service on the corridor with flexible satellite options.
- Exposure of the dominating role of the national incumbent (e.g. DB in Germany). The reality of the regulatory regime and its effectiveness in Germany is still questionable. The position appears to be less extreme in Austria and Hungary.
- Intra-sector rivalries and positioning at a commercial and technical level still favour the incumbent rail operators despite the pressure from EU rail reforms. Developing cross border relationships, alliances, allegiances for train operations and ownership of railway companies further complicates the position. There has been some evidence of discrimination against the RETRACK new service (e.g. for allocating siding space) and this has led to the use of the parallel rail system to the incumbent that straddles the Austrian/Hungarian border.
- Access to train tracking systems on an unrestricted basis to monitor train activities in transit. TransPetrol's position of being a railway undertaking through acquisition made this process somewhat easier but could be seen as a barrier to effective market entry if this facility is not freely available to new service operators on pan-European cross-country routes.
- Access to sufficient specialist rolling stock fit for purpose on a sustained basis (a minimum number to be there for the duration of the pilot).
- Retention or displacement of lower paying traffic/commodity flows (for example grain in the case RETRACK) that underpinned the start up operation.
- The need for a clear equitable basis for cost and revenue sharing agreement in a consortium or the identification of specific contracted partner roles to be remunerated from train revenue. This should include locomotive and rolling stock re-positioning.

- Recognition that short term commercial and marketing positions may have to be adopted as pragmatic measures to formulate, define and support the ultimate emergence of a credible commercial service concept.
- Recognition that RETRACK service now has a strong commercial position to exploit and is approaching a break even position.

### 6.3 Summary of Interviews

To investigate whether or not and to what extent the RETRACK service meets these public and private policy objectives (discussed in section 1) we collected opinions in the form of question and answers from the existing RETRACK operating partners. These interviews were homogeneous in response and therefore this summary has been written synthesising all responses, taking into consideration both the customer survey and the RETRACK operators' opinions in the form of Question and Answers:

#### 1. Has RETRACK contributed to EU sustainable rail policy objectives?

^ Answer: Yes

If yes, please elaborate how

^ Answer: Yes RETRACK has contributed by researching, developing and implementing a scheduled international rail freight service between the Benelux countries, Germany, Austria, and Hungary with links to Romania. As a result a wholly new rail freight service sponsored by private rail entities using the new open access rules is in operation. RETRACK has contributed in an increasing level of service between the Benelux countries and Hungary via Germany & Austria. For this EU is funding the introduction of a new service and underwriting the costs of operation to 2012.

If yes, please explain to what extent?

^ Answer: The RETRACK rail freight service (conforming to the EU co-modal policy) to competes with road to secure a modal shift. The RETRACK service is competing with existing rail and water transport services. The services using rail have a lower carbon footprint compared to road based traffic. The services are operated using electric trains with a key CO<sub>2</sub> advantage together with the ability to use electrical power generated from a variety of inputs.

### 6.4 Has RETRACK established itself as 'As a commercial service?'

^ Answer: Yes

If yes, please explain to what extent and how

^ Answer: The RETRACK project has introduced a new freight service concept based on wagon load groupings between key concentration points. It has secured base load business (grain) and other accounts including single or small wagon groups and has been able to develop the latter in a very positive and profitable way. From the RETRACK pilot operations we can say that SWL traffic can be operated to positive commercial gain and not be dismissed as a commercially unattractive option. RETRACK has worked because of the availability of railway sidings and spurs where rail wagons can be loaded and delivered to maximise payload and minimise any intermediate handling. The evolution of satellite points served from the main network has also been a useful option.

^ The progressive move from one train rotation to three per week on a reliable scheduled basis has given shippers options beyond a reliance on the services provided by the incumbent train operators. The operation is moving towards

commercial viability (cash flow) and would have achieved this earlier without the grain wagon issue in the Summer 2010, winter weather delays, shunting problems in Cologne. It is possible that the project, had it started earlier, would have been in profit by now.

## 6.5 Is RETRACK service reliable?

^ Answer: Yes.

If yes, please explain to what extent and how?

^ Answer: It has grown to three round trips per week with a dedicated loco. The schedule is a good fit to maximise the locomotive's productivity commensurate with requirements for maintenance and servicing. On average RETRACK's on-time service performance is ~90%. Reliability in the delivery of train services has been good and at least comparable to other services provided by other operators. There have been issues of on-time performance and delays induced by winter weather, derailments etc. but this has also applied to other service providers.

## 6.6 Is RETRACK service competitive?

^ Answer: Yes.

If yes, please explain to what extent and how?

^ Answer: The RETRACK service is seen as competitive by customers and other rail operators. RETRACK service is offering higher flexibility to the shippers with equal or lower transit time. Customers value it as a superior service to other offerings and RETRACK service is also seen as a reliable and available service beyond that provided by the incumbent state railways. The move to a three times per week service rotation indicates that there is market demand for this sort of service. Although RETRACK provides a faster transit time for shippers compared to existing services, it does not charge premium cargo rates. Because of this advantage, some road based commodity flows and some water based flows have been switched to RETRACK rail.

## 6.7 Has RETRACK developed long-term relationship with customers?

^ Answer: Yes

If yes, please explain to what extent and how?

^ Answer: Good and long term relationship with customers is very important for rail freight service. This is primarily a TransPetrol role with some limited marketing support from LTE. Some long term business relationships have been developed including Ford for car component business (eastbound) and Glencore for grain traffic (westbound). The core traffic comes from about 10-12 shippers. Some other shippers have also used the train services on a routine basis.

## 6.8 Has RETRACK developed long-term relationship among the RETRACK partners?

^ Answer: Yes

If yes, please explain to what extent and how?

^ Answer: Working in a collaborative and cooperative way is vital for any transport chain operations. RETRACK freight train operates along the transport chains. It has developed long terms relationship among partners in particular the train operators. There is a clear distribution of responsibilities as to who does what. For example LTE provides traction under contract for the trains between Cologne & Győr (the main service axis). CER provides supervision of rail operations in Hungary. TransPetrol

performs the planning, human resources, commercial and marketing aspects of the operation. Neither LTE nor CER conducts major commercial or marketing support. This is largely performed through TransPetrol. According to the agreed roles and responsibilities, the cost and revenues are shared among the operating partners.

### **6.9 Is the loading factor and/or utilisation on the rise?**

- ⤴ Answer: Yes. The move from one round trip per week to three round trips per week has demonstrated the availability of traffic to utilize the train service and capacity. This has resulted in higher asset utilisation (locomotive, crew and other equipment). The base load traffic volume has been westbound grain but is being matched by growing levels of eastbound traffic. But still there are serious operational constraints such as planning the grain wagon round trips and be able to offer space to other type of cargo customers.

If yes, please explain to what extent and how?

- ⤴ Answer: Train planning is undertaken by TransPetrol in terms of the build up of train profiles and the assembly of trains at the key nodes to maximise both revenue and payloads.

### **6.10 Please explain the status of RETRACK in regard of profitability**

- ⤴ Answer: The RETRACK train service is approaching the point of commercial profitability (in terms of operating income exceeding operating costs). The current position suggests RETRACK is at the 75-80% mark of cost recovery stage and could be into profit by early 2012. RETRACK may by now have been in profit had it started earlier and not experienced major technical issues in 2010.
- ⤴ The availability of the EU funding to start up the service is probably best seen as working capital without which the service would probably not have been feasible. The RETRACK model might give support to other private rail operators to secure commercial funds to develop new services.

### **6.11 Is RETRACK service flexible/pragmatic/adaptive enough to cope with the different market demand/situation circumstances?**

- ⤴ Answer: Yes

If yes, please explain to what extent and how?

- ⤴ Answer: The RETRACK pilot train service started with one train rotation per week. Over the months the service developed to gradually higher frequency level to the current three rotations per week which suggests that the RETRACK service is wholly flexible/pragmatic /adaptive. This also suggests that there is market volume that could be attracted to rail on the basis of pragmatic service availability and reliability together with attractive rates for wagon groups and individual wagons. The core concept of operating wagon groups between concentration points is not new and not even cutting edge. It represents a service and business model that has been proven in the context of available traffic, service times and route options. Responding to the market demand, the RETRACK train has been operated at different levels of traffic ranging from very low levels of traffic (single wagon) to full length and weight limits. This business model demonstrates adaptability to accommodate varying loads. The move to three rotations per week generates benefits in terms of asset utilization (locomotive and other equipments).
- ⤴ The adoption of the satellite concept for traffic served to points not directly on the main line also demonstrates some pragmatism, adaptability and flexibility in terms of commercial and operational response.

## **6.12 Is RETRACK able to contribute to the development of sustainable transport policy?**

If yes, please explain to what extent and how?

- ⤴ Answer: RETRACK has been able to contribute to the development of EU sustainable transport policy by exploiting rail's inherent generic advantages and specifically by the development of a faster competitive service with higher frequency and reliability. The use of rail for freight secures advantages in terms of energy efficiency, GHG and CO2 together with a reduction on inter-urban road congestion by attracting traffic from road, reducing traffic accident potential and minimising the impact of freight traffic on urban and rural domains.

## **6.13 Has RETRACK been able to develop a cross-country pan-European operation of commercial rail freight service?**

- ⤴ Answer: Yes

If yes, please explain to what extent and how?

- ⤴ Answer: The RETRACK service operates along the major West to East corridor connecting ports, industrial conurbations, major cities and agricultural production areas and has been able to tap into traffic. Regular and routine services are operated between the Benelux countries and Hungary with additional satellite services to specific traffic origins/destinations. The services are being operated across multiple international borders from the Benelux countries through Germany, Austria, and Hungary & to and from Romania/Turkey. It has been an attractive service for small wagon groups and single wagon load (SWL) traffic offerings and demonstrated that this traffic type can be accommodated profitably if managed properly.

## **6.14 Has RETRACK been able to divert or shift cargo from road, waterways and rail to RETRACK freight service?**

Answer: Yes

If yes, please explain to what extent (rough percentage of road, rail, and water)?

- ⤴ Answer: The RETRACK freight service has been able to divert or shift cargo from road, waterways to rail. The grain traffic was previously carried in part by water so there is a move to rail for this (>35%). The aluminium oxide traffic for Austria is a direct transfer from road to rail. Other traffic is partly won from other freight train services or is wholly new traffic.
- ⤴ The availability of the EU funding to start up the service is probably best seen as working capital without which the service would probably not have been feasible. The RETRACK model might be an example for support to other private rail operators or such initiatives to secure commercial funds to develop new services.

## **6.15 Did EU open non-discriminatory access freight transport policy helpful to the running of RETRACK as a commercial service?**

- ⤴ Answer: Yes

If yes, please explain to what extent, why, and how?

- ⤴ The EU open non-discriminatory access freight transport policy contributed to run the RETRACK train as a commercial freight service. The new framework provided an opportunity with EU final support to demonstrate the potential viability of a new pan-European rail freight service. It is a significant contextual change in that it supported the development of new commercially provided open services compared to those offered by the incumbents. The model operated is significantly different to that

envisaged at the outset of the project. The current RETRACK freight train operations has been maintained adapting to the changing economic and traffic conditions and the identification of a core traffic base. This can be seen as a positive move (like road hauliers) by the RETRACK operators.

#### **6.16 What further needs to be done by EU/Member state to make effective?**

##### **Please explain/elaborate**

- ⤴ Answer: The Member States need to ensure that the incumbents do not retaliate on pricing (e.g. with zero pricing bids) to drive away the competition out of the market. There are residual issues that constrain the development and implementation of new services. For example, the regulatory regimes are not consistent. There are also technical and driver related issues to do with border crossing protocols/inspections/documentation that need to be resolved.
- ⤴ The Member States need to honour their commitments to the railway reform package and allow new entrants to be able to operate non-discriminatory services on a routine and unrestricted basis. Several have failed to do this but are also failing to modernize their services and systems together with their commercial, operational, technical and managerial models to take full account of the new freedoms.
- ⤴ The Member States need to take proactive actions so that rail operators become efficient in terms of productivity and reducing the unit cost of production by significant amounts to compete with other modes (in particular road).

#### **6.17 Has RETRACK contributed to make the EU open non-discriminatory access policy effective?**

- ⤴ Answer: Yes.

If yes, please explain to what extent, why, and how?

- ⤴ Answer: Through research the RETRACK consortium identified different issues (e.g. direct or indirect discriminatory access, path allocation process, technical issues, driver issues, language issues, multi-electric locomotive issue) that constrain international commercial rail freight service. The research recommended different actions to make the non-discriminatory access policy into reality. As a result RETRACK rail freight service has become a reality despite much scepticism. Now the RETRACK service is up and running as a scheduled international rail freight service between the Benelux countries, Germany, Austria, Hungary and with links to Romania. However there are more issues that should be addressed to make non-discriminatory policy more effective.

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## 8 Conclusions and Recommendations

As this report was compiled in the middle period of the pilot demonstration service, the findings and recommendations of this report should be considered as interim. At this stage, we can conclude that the RETRACK pilot rail freight service has been a success from both business and EU policy point of view. From a business policy point of view the RETRACK rail freight service has established itself as a commercial service. It is offering a reliable and competitive service at a price which has attracted new shippers. So far it is not offering price cuts to secure traffic. The service has established long-term relationships with a few key customers. Also the RETRACK operating partners are now working collaboratively for the long term duration of the project. Since its start up the service has increased its frequency (due to higher demand from increased number of customers) and also has increased its asset utilisation and is offering flexible, pragmatic, adaptive service to cope with the changing market demands and circumstances.

We strongly believe that the RETRACK service needs to be more efficient in terms of productivity to compete with dynamic road hauliers. For this they will have to adopt new operational and technical measures. They need to be proactive to meet changing customer requirements in a similar fashion to the road hauliers. As the RETRACK service is consuming largely electrical energy for the main transit sector this means producing less CO<sub>2</sub> emissions, we believe that the service is contributing towards the EU sustainable transport policy. At the moment the service is reaching towards operational break-even point and we foresee that at the end of the pilot demonstration period the RETRACK service will move to profitability.

We conclude that the service can continue (as in RETRACK or another name) operation provided the operators co-operate each other on a clear roles, responsibilities and cost-revenue sharing basis. For this they have to start planning for the EU post-funding era.

We conclude that the RETRACK service has practised the EU open non-discriminatory open access freight transport policy. Through its development and implementation the RETRACK service is contributing to remove the remaining barriers to the implementation of EU open non-discriminatory open access freight transport policy. (We may note here that the reality of the regulatory regime and its effectiveness in Germany and Austria is still debatable.)

We believe that the RETRACK service has demonstrated that private rail operators are able to collaborate and co-operate in the development of new pan-European cross country services that would be competitive, reliable and attractive compared with the existing rail freight services provided by incumbents or other new entrants operating on national railways. This service has exploited the freedoms made available through the railway reform packages and directives established by the EU to open up the rail market to competition between the incumbents and new rail operators.

In general the rail freight operators need to be much more market driven and proactive and be aware of existing ever-changing customer requirements that are being routinely satisfied by road transport operators. They need to address the whole business model (technical, operational, commercial and managerial), reduce costs, get asset utilization and control to a much higher level, use commercially available technology (equipment and ICT) rather than rely on industry bespoke items. Rail also needs to exploit its energy efficiency and ability to de-couple from hydrocarbon inputs as a stronger commercial selling proposition.

From the experience of RETRACK pilot we conclude that there may be need for future project support by the EU to sponsor new services on other corridor to start ups in the form of repayable working capital or similar facility.

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