DERIVING BENEFIT FROM INTERMODALITY

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1. THE SUCCESS OF COMBINED TRANSPORT

Transport is a key factor for the economic growth. In the last ten years rail freight achieved a growth rate of 10% in EU-25, road transport 38% and the combined transport of the UIRR companies a growth of 48%. In international traffic, the UIRR companies were particularly successful in transferring road traffic to rail. The 19 full members of UIRR are forwarding 2.5 million truckloads yearly, an equivalent of 5.6 Mill. TEU. This means 10.000 truckloads daily on 500 complete long distance trains. UIRR stands for about two thirds of Combined Transport brought to rail by operators.

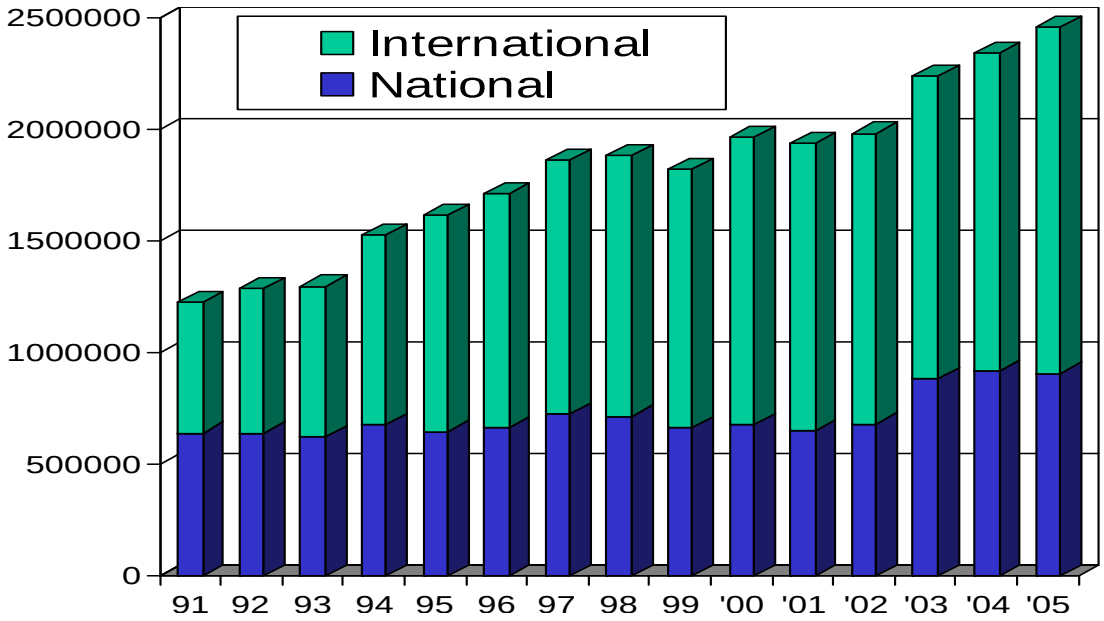

Figure 1 - Evolution of UIRR Combined Traffic in consignments (lorry equivalents)

Combined transport is representing a more and more important part of rail freight, even for large railways like SNCF or DB, up to 20% of the transported tonnekilometres. On some international relations between major industrial centres, Combined Transport already represents between 10 and 30 percent of the total volume transported, for example between Cologne (D) and Milan (I).

2. CT SUCCESSFUL WHERE POSITIVE FRAMEWORK CONDITIONS APPLY

Combined traffic is especially successful on long distances and where geographical and administrative obstacles complicate road transport. About two thirds of the continental traffic is transalpine. All transit roads are congested and the alpine countries are charging high road tolls. Reasons to that are the more costly infrastructure investments but also the environmental sensitivity of the population in the transit countries, which feels bothered with noise and air pollution and with the cutting into pieces of the landscape by roads

draining so much traffic that it is often difficult to get across. So the alpine transit countries, mainly Switzerland and Austria use high road tolls, night traffic bans and other measures to limit road traffic on one side, but they also invest in rail infrastructure and grant financial help for rail on the other side. With the enlargement of the European Union traffic is still rising over-proportionally and other countries like Germany, France, Hungary, and the Czech Republic are likewise confronted with additional transit traffic. These countries will introduce or raise road tolls and will use a number of instruments to limit road traffic and ensure road safety.

Those instruments are week-end and night traffic bans and more severe controls of the technical conditions of trucks, of licences, of rest times, of speed limits etc. All this, together with the saturation of roads will ameliorate the competitive position of Combined Transport as a more secure, reliable and environmentally friendly alternative, cutting for example CO_2 emissions by half compared to road transport.

Logistic companies can save personnel costs, especially when they have regular traffic. With the same investment, they can handle much more traffic, as a given number of motor vehicles enables to carry out much more transports by using containers, swap bodies or cranable trailers.

3. NEUTRAL COMBINED TRANSPORT OPERATORS

In European countries like France, Germany, the alpine countries and Italy the saturation of the road, the environmental and safety problems had already led 35 years ago to the creation of Combined Transport operators and to the foundation of their umbrella association, the International Union of combined Road-Rail transport companies. UIRR has a decentralised structure, with a liaison office in Brussels and member companies which organise the combined transport as operators.

The task of the liaison office is the overall promotion of Combined Transport in close collaboration with the European Institutions and other international associations and the coordination, harmonisation and standardisation of its members' activities. The liaison office is also a service centre in special fields like distribution of codes for telecommunication and project management for research and traffic shift actions.
Most of the member companies were founded on a common initiative of road and rail and with the political support of the transport ministries. As road and rail are competing modes, the basic philosophy was to create operators with a majority of shares held by road hauliers or logistic companies but with a participation of the railways. In this way, neutral operators were created with the active participation of interested customers, in view of managing the Combined Transport in the latter's interest and with the guarantee that these operators would never try to directly intervene in the relations between shipper and logistic company. So profit making is not the principal objective. Combined Transport operators fulfil best their task when organising a fast and reliable service at reasonable prices for their customers of which more than a thousand are also shareholders. This is also in the very interest of the railway companies which are benefiting from increasing freight traffic. Rail is a transport system with high fixed costs and additional traffic means raising productivity.

Especially in the last decade most of the continental European intermodal traffic is transported in complete trains which are directly linking major terminals without passing through marshalling yards. This operational scheme has reduced costs and led to higher commercial speeds. On short and medium distance relations most companies offer the

“night jump”, meaning that units delivered in the late afternoon to the departure terminal will reach their destination early in the next morning.

The success of continental Combined Transport is based on the good cooperation and trust between road and rail and has always shown the best results when both are in the same boat and benefit from the transport policy taking care of favourable framework conditions.

4. COMBINED TRANSPORT TECHNIQUES

Combined Transport is based on two different techniques:

- the unaccompanied transport of swap bodies, containers and cranable semi-trailers, representing 87% of UIRR traffic and

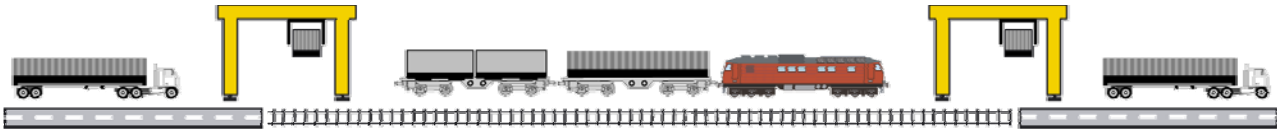

Figure 2 – Unaccompanied transport with intermodal loading units

- the accompanied transport or Rolling Motorway where the whole road vehicle is transported on special flat wagons and the driver is accompanying his truck during the rail transport in a sleeping car; this represents 13% of UIRR traffic.

Figure 3 – Accompanied transport of complete trucks (Rolling Motorway)

These two techniques are serving specific markets.

The unaccompanied transport of loading units, in the long run the most economical form of Combined Transport, is minimising the dead weight to be transported on rail. But this technique requires long term collaboration between road and rail. The road hauliers and logistic companies should have regular traffic possibly with backload, to achieve maximum benefits. Personnel needs are lower and work mainly takes place during day hours. And with a given number of trucks, a multiplied number of shipments can be handled, as rail is transporting them on the long distance and the logistic company must only organise the terminal haulage at both ends of the rail link. This is either done by establishing own branch offices abroad or by collaborating with local haulage companies.

The use of the accompanied transport requires on the contrary no special investment or organisation and Rolling Motorways may also be used occasionally, or only in one direction. Often Rolling Motorways present a part of a long international journey to overcome an obstacle like the Alps or just to move forward while sleeping, so during the resting time. This may accelerate the whole international round trip. Another motivation, mainly for third countries may be to cross a EU-country with limited road permits.
If using Rolling Motorways regularly, the logistic companies should consider whether they cannot switch to unaccompanied Combined Transport with loading units, to further increase their productivity.

5. STANDARDISATION TO DEVELOP INTERMODAL TRAFFIC

The basis for intermodal traffic is standardisation. The best known units are the ISO containers which have since 50 years revolutionized the world trade and of which several millions are used in maritime transport. In Europe the industrial production is based on the pallet, which unfortunately does not fit optimally into ISO containers. Due to the road dimensions swap bodies which are larger and longer than 20 and 40 foot containers are the dominant loading units in Europe. Nevertheless most swap bodies are normalised by the European Standardisation Committee CEN with bottom corner fittings and handling devices etc. This means ISO and CEN units have common elements so that they may be transported with the same wagons and be transhipped with universal portal or mobile cranes. In this way Combined Transport offers today a wide variety of loading units and flexibility to serve different customers' needs so that nearly all goods which are transported by road vehicles may also be transported in intermodal loading units. The transfer to rail is especially attractive for heavy goods and in countries which have maximum truck weights below 44 tons (in A 38, D and F 40 t) but allow this gross weight in the short terminal haulage. Moreover, a lot of heavy units carry liquids sometimes dangerous goods and for the chemical industry the much higher safety of rail traffic is an additional argument.

6. INFORMATION OF THE CUSTOMERS

In road traffic or on the Rolling Motorway the accompanying driver is able to directly inform his company in cases of delay or problems. To ensure the same information level in unaccompanied traffic most Combined Transport operators are offering EDI tools for customers. The most important is the CESAR system. Under a single internet address (www.cesar-online.com) the customer can track and trace all his loading units regardless of the country where they are transported and independently of the CT-operator where it was booked. The customer can query the status of all his loading units. Cesar also offers timetables, a common booking interface and irregularity messages in case of delays. CESAR has been developed under a European project and has been commercially running for three years now, to the increasing satisfaction of the customers. Today two thirds of all UIRR traffic is already treated by CESAR.

7. CONCLUSIONS

On medium and long distances and therefore especially in international traffic, intermodal transport already plays an important role today. Standardised loading units allow shifting nearly all types of goods to rail. Combined transport develops particularly well where governments support intermodality through favourable framework conditions and are supporting investment in railway lines and terminals. The most important factor to encourage Intermodality is to raise the productivity of rail by favouring European technical interoperability and introducing competition. This process has just begun in Europe. In other sectors like energy, air transport and telecommunication we have seen how much free market forces drive innovation and lead to productivity gains and better service for the customer. This is more than ever important for the society as intermodality will contribute to solve the problems of limited resources, climate change and will contribute to more safety and sustainability of transport.