

“Block Train System을 통한
국제복합운송추진 사례”
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POLZUG

- An Example for Integrated Intermodal Logistics Transport -

by

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The following observations, remarks and assessments concerning a privately run block train system are derived from more than a decade of experience. Certainly, we think that **POLZUG intermodal** is unique in some essential aspects. But on the other hand, set-up and operation of our company may serve to a certain extent as an example with transferable features. To be quite exact from the beginning: this example is not confined to just operating block trains. What **POLZUG** stands for is an integrated logistic service based on container block trains. It provides elaborated transport opportunities between the German Seaports Hamburg and Bremerhaven to Poland, Ukraine, Lithuania, Latvia, Estonia, Russia, Belarus as well as countries of the Caucasus and Central Asia. Expressed in figures: **POLZUG** operates about 1000 trains per year or 60,000 TEU only between Germany and Poland, which is more than 5 % of the overall intermodal traffic on rail in the Port of Hamburg. Particularly for this relation we are regarded as market leaders in intermodal transport. Thus, we can present you an instrument within modern intermodal logistics that has proved to be successful both in economical terms *and* in future-oriented traffic policy.

In order to facilitate the understanding of the matter of my lecture, I will concentrate on four aspects. Hence, the first part will deal with the concept of private run block trains. The second one shall throw some light of this instrument for seaports, especially Hamburg and Bremerhaven. The third part is to elaborate on some details of the **POLZUG** system structure and the fourth one will discuss some conclusions and prospects.

1. Privately run Block Trains – how and why?

An overall idea of what the term block train means in general might be existing in the mind of every transport expert. However, a short definition of what we understand by *block train* will be helpful in this context to avoid confusion.

In our understanding a block train means a train of up to 600 m length, composed of wagons for standardized cargo, mainly containers. The block train operates according to its own schedule, independently from the usual goods trains of the national railway organisations. In

our case, we have bought or rented the rolling stock for long term. Only the driving units and the access to the tracks is rented from the national operators, as is would be uneconomic to provide own locomotives or even an own railway network. In addition, *POLZUG* has decided to operate own terminals for handling the containers on and off the railway wagons. This measure proved to be more reliable than falling back on third parties services. In consequence, *POLZUG* runs an own, more or less independent transport system, partly imbedded in the respective national railway systems, partly operating on company owned ground with company-owned equipment, facilities and staff. Details of this structure will be regarded later.

Theoretically, a block trains system could be operated by traditional national railway organisations as well. Some attempts have been made, but failed in most of the cases. The reasons are easy to be found out if you talk to forwarders or other possible clients. Their complaints would sound more or less equal: the national railway companies are too slow, they are not flexible enough, be it in schedules or in tariffs, how can I get the containers from the railway station to the client's yard ...

This is, where the little word 'private' comes in. A private company, especially if not oversized, can act and react much closer to market demands. Decision lines are much shorter, the organisation of work flow is usually more effective, the client is served much more individually and comprehensively. In other words: an instrument might be perfectly designed, but if not treated and used with the necessary skills it will fail in the end yet.

'Private' organisation also means to work under the law of achieving profit. Especially on the hardly contested transport market a service provider has to be on constant alert in terms of watching the market, anticipating tomorrow's trends or trying new offers. Without appropriate management and marketing skills a provider even technically most versatile is doomed to disappear from the scene.

Part of these skills, of course, is to find the right area or application for your instrument. In the case of *POLZUG* the selection of the right place is closely connected to the German seaports of Hamburg and Bremerhaven.

2. Container Block Trains and Seaports – a Mutual Relation

A black train system as such may be established anywhere to connect point A with point B. Actually, that has been the case more than once if sufficient transport demand is available. But a specific situation emerges, if one of the points to be connected is a port, particularly a major seaport with immediate links to the intercontinental trades flows.

In a very simple model, the relevance of such a seaport may be described by three aspects. Firstly, there is the quality of ship-shore handling, most of all the speed. Speed in this context may be achieved by the implementation of highly effective technology. The second aspect is the level of terminal organisation. This is a bundle of problems in itself and beyond our current subject. The third aspect, however, consists in the various ways cargo may leave (or enter) the port and this is, where the container block is beginning to play an ever important role. Feeder vessels connecting major ports to minor usually create no problems as they would use the waterway. But to provide appropriate overland transport opportunities under given geographic, economic and ecological conditions is one of the main challenges for a modern seaport. Often contradicting requirements have to be dealt with. Any increase in traffic usually means an increased emission of noise and dirt, or consumption of area in an already densely settled region. Depending on the political situation in a country, ecologically motivated protest may have essential influence on planning and implementation of new communication lines. Thus, for instance, the extension of road networks in agglomeration areas may easily find its limits. On the other hand, road traffic in those areas is permanently threatened by jams or even total collapses. Rail-based traffic, however, is much less vulnerable to such impacts.

Certainly, the truck has the undisputable advantage of flexibility. Yet, hundreds and hundreds of trucks are needed to cope with the number of containers delivered by just one Post-Panamax container vessel. Even large terminals are requested to develop more and more sophisticated solutions to manage the sheer amount of moving units. Additionally, once luckily out of the terminal, the truck driver in Germany will be faced with other problems. He will find a motorway system, which, world-wide famous for its lacking speed limits for personal cars, is heavily overstrained. On the political level, the implementation of a road toll system is decided since long and only waits for eventual technical realisation. The possible short and long term effects of road traffic on the forwarding business are discussed controversially among experts. However, some providers of intermodal services have already realized a considerable increase in demand in the second half of 2003, obviously due to the current development.

Under those circumstances, any attempt to make rail transport more attractive in the era of just-in-time delivery must draw the attention of liner agents and forwarders to this opportunity. Particularly, if a seamless integration into the existing intercontinental chains of intermodal transport is part of the offer. For seaports like Hamburg and Bremerhaven with their two-digit rates of increase in container throughput, there is a mutual interest between port operators and

block train providers. The port is profiting from an additional and high performing instrument of transport to and from the hinterland, whereas the block train provider can see the increasing generation of transport demands in his immediate vicinity.

And not to forget, Hamburg has a railway-network which delivers 70% of all long distance dispatches (> 300 km) by rail whereas Rotterdam only 5% the dominant volumes are moved by barges on the river Rhine.

Thus, **POLZUG** and the German seaports live in an economic symbiosis, a way of life which generally might be transferable to other seaports with extended hinterlands and developed railway systems.

Whereas **POLZUG** is specialized on relations to Poland, and other East European countries and since recently to Central Asia, our company is not the only one to provide this future-oriented kind of intermodal services. Another example of a provider operating from Hamburg is METRANS, serving relations to the Czech Republic, Slovak Republic and Hungary or TFG Transfracht International, Frankfurt/Main, serving mainly domestic relations in Germany and further on to Austria and Switzerland. The biggest provider of block train services is Kombiverkehr, based in Frankfurt with a turnover of 2.2 Mio TEU in 2003 and an extraordinary extended network of different block trains reaching from Scandinavia in the North to Italy in the South of Europe.

As the advantages of intermodal transport are so obvious, it is not only the Ports of Hamburg and Bremerhaven who have directed their interests to improve their hinterland communication by this means of transport. Rotterdam and Antwerp are, for example, connected by the services of Conliner, a Stinnes AG affiliate, to Germany, Scandinavia, Italy, Austria and Southern East Europe and ICF (Intercontainer - Interfrigo) to all major western European destinations. Although the competition is heavy, cooperation between providers sometimes occur, mainly to create synergetic effects by combining different strengths of providers. Generally speaking, the market is divided into geographic relations. One of the reasons is that particularly for Eastern Europe the differently accumulated familiarity with local conditions are vital for long term success. A lack of those familiarities has more than once forced a provider to cease his services.

But, frankly speaking, it is not only a question of being familiar with the local condition. Some other factors were involved in the build-up of our company, too. In order to explain those, we have to look into details of the **POLZUG** system.

3. Identifying and Seizing upon a Market Opportunity – POLZUG from inside

An abstract formulation of those factors might be called a solid analysis of market conditions, innovative planning and implementation of appropriate logistic components at given moments. A more graphic description would state that the fall of the Iron Curtain 15 years ago created a type of unique historic moment. Such situations cannot not be calculated in advance, but may be exploited in consequence. The foundation of **POLZUG** as a provider of combined transport services is directly linked to that historic change.

After 1989 the economies of Middle East European and former Soviet Union countries were to be integrated step by step into the world market. Among other gigantic challenges this also meant the integration of these countries into the international transport networks. And these networks were all but prepared for this. The state-owned railway companies were simply overstrained with this sudden change in demand. The road-based forwarding business reacted more flexible, but with very questionable results. When **POLZUG** was founded in December 1991, the traffic situation particularly on the border between Germany and Poland was chaotic. Thousands and thousands of trucks jammed the few existing checkpoints, rendering organised transport literally into a hazard gamble. Some of the most impeding bottle-necks have been widened by now. But the recent extension of the European Union by ten new countries will not diminish the transport demands. And the problems of politically paving new networks in the first place, then financing and implementing them are known to everybody concerned.

In 1991, the problems of a newcomer on the logistic market could be outlined rather easily against the geographical, economical and political background. He had to minimize the acknowledged weaknesses of the existing transport systems *and* he had to maximize the obvious strengths. In practical terms: he had to avoid the slowness and inflexibility of the big state-owned railway organisations, while profiting from their physical transport capacity. On the other hand, the unreliability of the truck, particularly in cross- border and long distance transport, had to be excluded. However, its flexibility in short range services could not be denied and should be used.

Hence, the idea of **POLZUG** was to enter the market with a logistic product featuring the criteria *efficient, reliable, fast and safe*. A product of this calibre could distinguish itself from conventional rail transport, which was neither efficient nor fast, as well as from the truck, which was neither reliable nor safe. Additionally, this product should fit into the predictable development of European Union transport policy, which meant it had to be principally rail-based. And, after all, this product was planned as a premium offer. In other words, it was aimed at a special sector of clients with high demands on transport standards. This type of client would not intend to cut back the level of quality in his East European transports he was

used to elsewhere. Or he simply could not do so because of his specific patterns of production or distribution. Numerous studies on possible demands gave enough reasons to expect a more than sufficient generation of cargo in both directions.

The eventually concluded practical solution consisted in privately run container block trains, operating between the German seaports and company-owned, fully equipped terminals on location in Poland's main industrial areas. With today's vast number of private rail operators both on the freight and the passenger sector in mind the decision for a privately organised company might appear only natural. But 13 years ago it was an unusual step, to say the least.

The legal basis was just recently provided by the decision of the European Union to give private companies free access to the railway networks. The advantages of private companies in terms of flexibility and efficiency have been mentioned already. Awareness of these features was growing in the early nineties in the respective headquarters of the national railway organisations.

Consequently, an initiative by the main port operator in Hamburg HHLA (Hamburg Port and Warehousing Company) to found a privately organised block train provider was answered positively by the PKP (Polish State Railways) and later the cargo section of the German Federal Railway Stinnes AG. *POLZUG* is a joint venture of these three companies. But it is not only a question of pure shareholdership. The founding of the company also opened the opportunity to form a pool of expertise from both rail and port operators. Thus, the experience of two important contributors to intermodal transport chains is linked.

The interests of railway companies in increasing the profit drawn from their equipment are clear. But what were and are the particular intentions of a Hamburg-based port operator in this business? Some general advantages for ports with functioning hinterland communications have been mentioned already. The situation of Hamburg (and Bremerhaven), however, is different in some aspects. Due to the results of the Second World War, these ports have been separated from their traditional hinterland for more than half a century. Until then, Hamburg was sited a mere 50 kilometers away from the border which cut the whole continent of Europe into. Nearly overnight, the conditions changed: the serious handicap of the location turned into a remarkable advantage. Recent figures have shown the overwhelming importance the ports of Hamburg and Bremerhaven have obtained from the political and economical changes within the last 15 years. Compared, for instance, with Rotterdam the Port of Hamburg lies some 350 kilometers closer to the borders of Middle East European and CIS-Countries. In spite of the critical situation of the European economy in general, the favours of their geographical situation have left the German seaports clear winners of the developments since

1989. Especially Hamburg with its traditional links to Scandinavia is turning to gain an comprehensive hub function in Central European traffic. One figure may prove the economic relevance of the mentioned developments. Since 1988 Hamburg has increases its container throughput by more than 300 %, whereas Rotterdam could double its amount only. As one consequence, Hamburg has recently opened one of the most modern container terminals of the world, with almost fully automated handling procedures on the quayside.

Thus, the Western ends of the *POLZUG* communication lines are sited right in the middle of these booming ports, next door to the global players in international container shipping business. According to the different situation in Poland and other countries another solution has been found for the East. The block trains end at various company-owned terminals in economically important regions – as close to the client as possible. The terminals are equipped to provide all sorts of services which are demanded in modern container handling.

This means, the containers are loaded off and on the train, stored – be it full or empty – and even repaired, if necessary. The terminals also provide slots for reefer containers in order not to break the cooling chain for refrigerated cargo. Of course, the terminal areas are highly secured against theft and pilferage. Final truck delivery – on company-owned chassis and with truckers under exclusive contract – completes the full door-to-door service.

Next to the physical operation facilities the terminals provide cargo documentation including customs clearance. All of them have customs agencies and customs offices on site. This reduces the otherwise often time-consuming clearance procedures to a minimum. As many of the new members of the European Union – and certainly the non-members – still have not succeeded in cutting down the amount of paperwork in connection with customs clearances, this is a definite asset for the overall speed of our terminals.

On the other hand, it is probably just a question of time until these procedures are assimilated to international standards. As far as the remaining documentation is concerned, our terminals are connected to the international and national data networks. They provide today nearly 100 per cent transparency as to the actual status of the single container. Hence, the client may be informed on-line on the progress of his containers on their way to their final destination. This is certainly a considerable advantage over the truck and its often uncertain present position.

The market opportunity was there – we have seized it and turned it into a Full-Service-Solution. This means, for example, once a container has crossed the rails of an ocean going-vessel in the Port of Hamburg, the exporter has only one counterpart to deal with in order to get his goods to the final customer. This counterpart would provide him with the certainty that his containers will reach their destination safely in the contracted time, that he would not run

into troubles with customs officers acting according to unknown rules and that he would know always the present whereabouts of his containers. In special cases, even re-directing the container, while on the train, may be possible.

4. Conclusions and Prospects

What does the **POLZUG** example teach for integrated intermodal transport provision?

First of all, a private container block train system is competitive against truck transport, once the market conditions have been analysed properly and the appropriate conclusions for the lay-out have been drawn. Due to the increasing integration of national economies the demand for high-quality transport will increase, too. Particularly, if the trading routes extend from continent to continent. Exporters from South East Asia are used to the high standards of delivery in Central Europe. They will certainly appreciate a similar system in the Eastern parts of Europe, when they decide to extend their commercial activities to these new markets. **POLZUG** and other providers of intermodal block train services provide such reliable systems, which guarantee the delivery of cargo almost to the hour and controlled by appropriated IT-Systems.

Secondly, due to its modular lay-out with own rolling stock and terminals, such a system is expandable, as our activities in the Baltic republics and other countries of the former Soviet Union prove. Other relations are worth discussing. Any extension, however, has to be analysed closely in advance. If one of the product features *efficient, reliable, fast and safe* cannot be guaranteed due to factors out of control of the provider, its market position becomes difficult. This is the reason why we have decided to use the train ferry on the Black Sea and the Caspian Sea in our **SILK ROAD EXPRESS** to Central Asia. Usually, a ferry would slow down the rail transport considerably, due to time-consuming loading and unloading operations and the low speed of ferry ships. Unless dictated by unavoidable geographic reasons, train ferries are usually not competitive in intermodal transport. But in this particular case we have chosen the slower, but safer way in order to bypass the politically unreliable areas north of this route. But not to forget the development of internal costs of CIS-railways, are they able to compete against Liner Shipping as their system (railways) has higher investment costs on long terms.

Thirdly, it is certainly one of the most future-orientated systems, as it combines economical profit with ecological requirements. As these requirements are probably a political factor in a growing number of countries, this aspect will be of increasing importance.

Fourthly, there are limits to the implementation of this system. For instance, in relations of trans- or intercontinental distances rail transport simply may not be competitive compared to transport by ship.

All in all, however, we believe that there is still a vast range of market opportunities worldwide, where integrated intermodal services are the better alternative for the existing systems. Requested are an eye for the situation, initiative and cooperating partners.