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DEVELOPING THE LOGISTICS OPERATOR FUNCTION IN PKP CARGO GROUP STRATEGY

Abstract

The aim of this article is to present the possibilities of developing logistics services by the PKP CARGO S.A. Group which is the largest rail freight operator in Poland and one of the largest in Europe. PKP CARGO S.A. wishes to enhance its market position, and one of the strategic goals of the company is to take up the function of a logistics operator. The company is predisposed to play this role due to its position in the market and the opportunities for its development. Moreover, it is the economy and the changing freight structure as well as the EU policy in the field of sustainable transport that are conducive to developing the function of a logistics partner.

Nevertheless, PKP CARGO is operating in specific business, legal, infrastructural and rolling-stock conditions. This environment is not easy, in certain situations it is even a hindrance, an obstacle to the development of logistics services, nonetheless, the company can see wide prospects for such business. Moreover, analysis of the European market shows that rail operators on these markets have been developing in the direction of a logistics partner.

Keywords: railway, freight transport, intermodal transport, logistics, logistics operator, third party logistics partner

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Introduction

Every purposeful activity, each economic process requires logistics support whereby adequate resources will be provided for a given process in the right quantity, to the right place, at the right time and at the right price.

The welfare of the society depends to a large extent on the condition of the economy and its competitiveness. In the era of globalization, it is more and more often not only enterprises, but whole sectors of the economy and the state that compete with one another. This competitiveness depends on the system efficiency in a given country, the availability of resources, human resources in particular, the legal system friendliness for business and the transport system efficiency. It is for this reason that the economic situation in freight transport is regarded as a barometer of the economic situation in the whole economy and there is a feedback here whereby an increase in the freight transport pinpoints economic development, and economic development triggers an increase in the freight transport.

Nowadays, trying to find competitive advantages in the market, PKP CARGO has to head towards the role of a logistics operator. Why is it just the role of a logistics operator that is growing in importance in today's economy? Explanations can be found in the literature on the subject indicating the competition and customer requirements that drive the demand for logistics services. It is therefore that "enterprises determined to meet the growing customer requirements and expectations, being at the same time focused on cost optimization, stimulated by economic considerations, decide to commission logistics services to carry out modern business processes to specialized logistics enterprises called 3PL (Third Party Logistics Provider)" (Wasielewska-Marszałkowska, 2017, p. 126).

It should be remembered that the function of a logistics operator in this approach is very broad-scoped, as it integrates transport, transshipping, storage, packaging, marking, handling of returned shipments and waste collection, customs and other services, depending on the needs of customers. There are several factors at the core of the integrating function of logistics which are described by, *inter alia*, Chaberek who claims that the functions of logistics include but are not limited to "better planning of investments to better handle the flow of materials and products" and the "integration processes lead to unifying the objectives of distribution, production and procurement activities whereby suboptimization of activities can be avoided" (Chaberek, 2002, p. 33). Furthermore, the professor indicates that by integration of logistics processes "the activities performed can be better controlled; risk can be reduced by limiting anticipatory activities (such as manufacturing whole ranges of product varieties in anticipation of the future demand) to be replaced by the concept of delayed final picking (until customer needs are known)" (Chaberek, 2002, p. 33). What is more, this market segment is a source of innovation. Kempny (2001) pointed out that logistics would be affected by the changing customer service strategies and changes in the organizational structure of enterprises. Many of such analyses were later confirmed in the following years, when the logistics sector underwent many changes and experienced intensive development.

One of such trends is also the development of the "Third Party Logistics Partner", which is associated with massive changes in the world economy as well as in the Polish economy. Generally speaking, it can be said that the 3PL is a response to the changes taking place in modern supply chains and nobody is questioning any longer the need for logistics companies to develop and take over new functions (Chaberek, Trzuskawska-Grzesińska, 2011). This trend results also from the fact that outsourced services have become a very important cost reduction measure

in the enterprise, which can be clearly seen in logistics. The fact that many enterprises resign from maintaining their own transport or storage operations may serve as an example here. One of the reasons why this is happening is that owing to the operation of logistics companies there are no problems with shipping even large quantities of goods to any region of Poland, Europe or the world at any time. PKP CARGO can see this trend, therefore, the aim of this article is to show the development of the function of a logistics operator in the PKP CARGO Group strategy.

1. The role of a logistics operator in the strategy of PKP CARGO

The rapid growth of intermodal transport in Poland over the last five years is impressive. This has resulted primarily from the economic growth in Poland which implies greater activity of enterprises. It is also their needs, i.e. “door-to-door” services and containerization of deliveries that create additional market demand for intermodal transport as an important part of the logistics process. Poland is part of the global economy, our plants and factories have business relations with enterprises in Europe, Asia, North America and other continents, and these relations and exchange are characterized by the fact that freight is carried primarily in containers. The use of logistics services is a must for many enterprises as they do not have their own resources to deliver freight to a customer located hundreds or even thousands kilometres away. Goods destined for other European countries are transported via our country which unfolds opportunities for logistics operators to extend their business. The trend of containerization of cargo will intensify in the forthcoming years in both road and railway transport.

These factors have had an impact on the PKP CARGO Group Strategy for 2019–2023 with a view to 2038, which was adopted in late 2018. This document sets out the goal to be attained by the PKP CARGO Group, namely, reach the position of a Central European leader in rail transport by way of gaining a dominant position in the “Three Seas” region and on the New Silk Road. This can be achieved by implementing a comprehensive logistics service on the rail freight market and intermodal services which would give the position of the first choice supplier.

The concept of integration, intermodality and interoperability is strongly emphasized as early as at the strategy definition stage. Moreover, the highlighted component are comprehensive logistics services laying out the directions for the company’s development in the forthcoming years in line with the market trend. This obviously does not mean any departure from the basic transport mode offered by the company, namely, bulk goods, principally coal and aggregates. This market will be very important for PKP CARGO for many years to come, nonetheless, the importance of the logistics partner will be certainly growing.

The transformation of PKP CARGO towards a logistics operator will not be possible without implementing the process of the company’s digitization and computerization which is strongly highlighted in the new strategy. It is important for the quality of services to provide the customer with online information on the cargo location and the expected delivery time. PKP CARGO wants to launch a service

called “Customer Portal”, where the customer will be able to access the system 24 hours a day and 7 days a week and check the location of their container(s).

In practice such a system becomes a standard in the world, the timeliness of intact cargo deliveries is a determinant of the market success of enterprises operating in a complex logistics chain comprising dozens, hundreds, and often as many as thousands of entities. Manufacturers, assemblers, distributors have a detailed schedule of deliveries of parts, subassemblies or finished products, prepared for many weeks, months ahead, which is to guarantee continuous manufacture and constant availability of goods for customers and consumers. The customer wants to have control over the cargo shipped or awaited and this is not going to be provided by telephone or email contact with the logistics operator.

In previous years, the development of the logistics operator function at PKP CARGO was neglected, which, on the one hand, means that it is necessary to catch up with the West, however, on the other hand, the company may now skip some stages of development, entering higher levels instantly. An example of the practical implementation of the task to transform PKP CARGO into a logistics operator is opening a terminal company which will be integrating the operations of 27 different terminals within the PKP CARGO Group. Such coordination will bring great benefits, as PKP CARGO will be able to prepare a better offer for customers. Following the solutions applied in Germany, France and the Netherlands, it will be possible to use terminals to optimize transshipment, transport and warehousing processes. This concerns, for example, “transferring” goods between terminals to fill trains with goods where there are fewer shipments at a given time, thus limiting empty runs.

Another example of capitalizing on the Western experience is the organization of transport. Jointly with the Italian carrier Mercitalia Rail, PKP CARGO intends to launch a shuttle train service between the Treviso terminal on the Adriatic, the Czech Republic and Poland. A regular rail connection is a condition for acquiring large clients, and the benefits that can be gained from this are shown on the example of a regular railway connection between the port of Hamburg and Berlin.

The function of a logistics operator is supposed to be a tool for the PKP CARGO Group to win a leading position on the market of the Three Seas countries and on the EU section of the New Silk Road. Foreign acquisitions or opening offices abroad would be needed to take over as many of such shipments as possible. PKP CARGO plans to open such an office in China to handle cargo shipped from the Middle Kingdom to Europe, both by sea, air and land, and ship containers with goods from Poland and Europe to China.

The company has also high hopes related to the plans of the Ministry of Maritime Economy and Inland Navigation to develop the inland waterway transport. This is primarily related to the Oder river, and the role of rivers in logistics is very well illustrated on the example of Germany and the Netherlands, where river ports are conducive to the development of the trade exchange and the transport of goods also by rail and road. The largest river port in the world is operated on the Rhine in Duisburg. In 2018 the port handled containers with a volume of over 4 million TEUs – which is more than that was transhipped by all the Polish seaports within the same period. Duisburg works closely with the port of Hamburg,

while the Dutch use river ports for handling freight delivered to ports in Rotterdam and Amsterdam. Already at the present time the role of PKP CARGO in this European system is important enough for the company to work with the port of Duisburg in the development of logistics services.

2. Place of PKP CARGO on the Polish intermodal market

A considerable increase in the rail intermodal transport has been observed in Poland for several years now – it is worth a dozen or so percent per year. It is higher than the growth of the entire railway market the transport structure of which continues to be predominated by coal, aggregates, ores and other bulk commodities, nonetheless, the share of the intermodal transport is also steadily growing.

Table 1. Intermodal transport in rail transport structure

Million tons / Year	2003	2005	2010	2015	2017	2018
Total rail transport	241.5	269.4	235.5	224.8	239.9	250.2
Intermodal transport	2.3	2.2	4.4	10.4	14.7	17.0
Intermodal share	0.94%	0.81%	1.87%	4.62%	6.12%	6.80%

Source: (The Office of Rail Transport, 2017)

In 2018, the mass of intermodal shipments was 17 million tonnes, i.e. it was higher by 15.6% than in 2017. And in the period 2015–2018, this increase amounted to almost 70%. The transport performance indicators are also sharply growing: where it was 6.2 billion tkm in 2018, i.e. by 0.8 billion tkm more than in 2017 (14.8%). It should be also noted that although intermodal shipments accounted for 6.8% of the railway market in the previous year in terms of mass, it was as much as over 10% in terms of transport performance.

In 2018 the railway carriers could pride themselves on a record result of unit loads handled with over 1.2 million units (increase by 16.4% compared to 2017). This translated into almost 1.9 million TEUs (more by 13.6% compared to 2017).

This trend has also been noticed by carriers, as the number of companies operating in the intermodal railway transport is growing year by year. While there were six enterprises operating in this area in 2007, there were as many as twenty of them in 2018.

The market leader is incessantly PKP CARGO, both in terms of the mass of transported cargo and in terms of transport performance: the company carries more than 46% of the cargo mass while the five other carriers control 41% of the market. Thus, we can talk about a certain concentration as six companies carry more than 87% of freight while the fourteen next operators – 13% only. A similar division can also be observed in other European countries, where the leading player controls at least about 50% of the intermodal transport. In terms of the transport performance the situation is very similar, while the position of PKP CARGO is even stronger – the company controls 52% of the market.

Attention should be also paid to the strong position of foreign operators on the Polish market. Captrain is the Polish branch of Captrain Deutschland controlled by the French railways SNCF. DB Cargo Polska is a part of German-based DB Cargo. Poland is an attractive location for Western operators, as international transport is predominated by intermodal freight transport – almost 70%, of which 30%, 25% and 15% are accounted for by imports exports and transit, respectively, while domestic transport covers only 30% of the market. For this reason, the average freight transport distance in the intermodal sector is around 360–370 km.

Increasing competition can be observed in the market. Enterprises are trying to acquire the largest possible share in the market by improving the quality of services offered and offering prices which would be attractive to customers. Strong competition is the reason why PKP CARGO – so as not only to maintain, but also to strengthen its leading position – has to improve the processes wherefore the company strives to develop the role of a logistics operator.

The increasingly growing volumes in railway intermodal freight transport should not be surprising to anyone, mainly due to the fact that we can notice increasing mass of freight carried in containers around the world. Containers make it easier to carry out logistics processes and standardize production. The railways also take advantage of the popularity of Polish ports, where a rapid development of transshipments has been seen for years, and Gdańsk has reached the position of the largest maritime container terminal on the Baltic Sea. The ports expect to increase container transshipments, and furthermore, we can count on increasing transport volumes on the New Silk Road and in the North-South Corridor. China forecasts that the number of trains crossing the NSR will exceed 10,000 per year before 2030 (there were more than 6,000 trains in 2018). Most of these trains are supposed to cross Poland.

It should be noted that the development of the intermodal sector on the Polish railways is in line with the idea of sustainable transport. Therefore, we are heading in the right direction so that the railway should take over as much as possible of the goods transported by lorries now, although we have to be aware that Poland still has a number of restrictions, which are somewhat hindering this trend. If the freight transport structure is to change, these conditions have to be changed as well.

3. Sustainable transport as an opportunity for the development of rail transport

3.1. Introduction

The main goal of economic activity is to ensure sustainable development that would take into account human activity while respecting the environmental principles. Therefore, the international community, and especially the European Union countries are supporting solutions with the least adverse impact on the natural environment. In this respect, the EU is promoting low-carbon modes of transport wherein the rail transport is included. For this reason, it is important to fully calculate

the cost of transport operations taking into account external costs (alternative costs interchangeably) as an element of social costs (Bał, 2009).

When implementing a responsible policy, firstly it is necessary to create comparable conditions for competing between rail and road transport, and secondly, rail should be preferred by reason of lower external costs in terms of social and environmental costs. From this perspective, one of the elements of improving the competitiveness of rail transport is its intermodality.

Table 2. Freight transport structure in Poland

Million tons / Year	2017	2016	2015	2014	2013	2012	2011	2010
Total transport	2 053.2	1 836.7	1 803.8	1 840.0	1 848.3	1 844.1	1 912.2	1 795.6
Rail transport	239.5	222.5	224.3	227.8	232.6	230.9	248.6	234.5
Share of rail transport	11.66%	12.10%	12.43%	12.38%	12.58%	12.52%	13.00%	13.05%

Source: (The Central Office of Statistics, www.stat.gov.pl)

An analysis of freight transport shows a falling share of rail transport in the total transport from 14% in 2010 down to 12.1% in 2017. A decrease by almost 2% points is very large and shows the problem of railway competitiveness in relation to other modes of transport, road transport in particular. This unfavourable trend for the railways has been seen for many years, and there were periods when this decline was even deeper and, for example, in 2005, the share of rail transport in the entire market was 19.0%.

The main objective of the Community Transport Policy of the EU is to ensure free and fair competition. Such “healthy” competition is intended to lead in a straight line to the efficiency of the transport industry. A basic measure to attain this objective is structural harmonization (balancing/unification of the conditions of competition). Most of all, identical legal environment and economic conditions of operation have to be provided to all modes of transport. If any sector enjoys preferences or amenities that are not available to other sectors, then it has a competitive advantage at the onset. In the case of rail and road transport this means most of all equal access to the infrastructure. There is no such equality at the moment, as the cost of transporting a tonne of cargo is definitely in favour of the road transport. Under these conditions, it is very difficult, if not impossible, to implement a sustainable transport model in Poland, as the basic indicator for most companies is the price which is the determinant for them to choose the transport service provider. And as long as rail transport is relatively more expensive than road transport, the rail transport growth will be lower than the road transport.

Attention should be also paid to the market conditions and the rolling stock organization. These are obviously only the most important factors, since their list is much longer, and includes, but is not limited to, the level of technological and scientific development of the country and the scale of digitization of the economy.

3.2. External conditions

According to The Office of Rail Transport (2017) the track system in Poland is 19,291.3 km long. Most of the rail routes are electrified lines (11,864.3 km). An important problem which causes a limited capacity of the tracks is the fact that only 8,740 km of them are two-way lines of which 90% are electrified. In the case of monorail routes, the electrification level is only 62%, so the need to replace locomotives limits the throughput still to a larger extent. The average density of railway routes in Poland is 6.17 km/100 km², the highest being in the Silesian Voivodeship (15.8 km).

Although we are among countries with the longest railway network, nonetheless, at the same time its saturation places us within the European average, as for example in Belgium, there are almost 12 km of railway lines on 100 km², and almost 11 km in Germany. The Hungarians, Austrians and Italians have a denser railway network than us, as well.

As can be seen, the saturation of the railway network in Poland is not high. A positive fact is that the technical condition of the infrastructure is improving owing to the investments of PKP PLK. Although passenger trains can still travel at speeds of up to 80 km/h on more than 40% of the lines, however, there are gradually more routes, where trains can travel at speeds of up to 120 km/h (43%) and 120 km/h to 160 km/h (14.8%). We also have short sections of routes with speeds above 160 km/h (1%).

As far as freight transport is concerned an important parameter of the railway network is the permissible axle load. At the present time, an axle load of more than 221 kN is allowed on almost 58% of the lines. Nonetheless, still almost as much as 25% of the network is suited for train sets with an axle load smaller than 200 kN. Hence, carriers can dispatch less loaded trains to these sections, which increases the operating costs and lowers the competitiveness of the railway industry.

The current condition of the railway network in Poland can unfortunately be a factor hampering the pace of development of intermodal transport. All the more due to the fact that railways lose much of their competitiveness by reason of the low commercial speed of freight trains, which is slightly over 22 km/h on average and unfortunately it has a decreasing tendency, which also applies to intermodal trains (speeds of less than 30 km/h). The situation is bad compared to the Western countries, where trains run twice as fast on average. Moreover, e.g. in the Netherlands or Germany, intermodal trains can travel at average speeds exceeding 70 km/h as separate routes have been set for some of such trains.

The challenge is the poor condition of the infrastructure and the organization of repairs and investments translating into problems with transport by rail, particularly in view of the constantly improving quality of Polish roads, where it is not only the growing network of motorways and expressways, but also an increasingly better standard of regional, district and municipality roads that may serve as an example here. In several years' time, when the implementation of the National Railway Program is completed, the commercial speed is supposed to exceed 40 km/h, however, until that time railway carriers have to deal with this problem on their own which affects the timely delivery of freight, thus affecting the competitiveness of railways.

A very important issue in the state policy is to ensure comparable conditions of competition between sectors, and the tool to achieve this purpose are the rates of access to the infrastructure. In Poland, the fees paid by road carriers are lower than charges imposed on operators on the rail market. Moreover, charges for access to the rail track infrastructure for carriers are higher than the cost of purchasing traction energy and fuels.

Discussion on the prospects and directions of the development of rail freight transport has been held in the public space for over two decades. One of the main strategic problems surrounding this debate is whether rail transport, compared to road transport, should be competitive or substitutable. The author is closer to the thesis advocating a substitutive nature of transport modes with respect to each other. Obviously the best verifier will be the market, however, for this to happen, comparable operating conditions for rail and road transport should be created.

It is not only the condition of the track system that influences the prospects for the development of rail intermodal transport. The network of terminals and logistics centres in Poland is also poorly developed. There are around 30 state-of-the-art land terminals which can handle trains up to 750 m long. According to experts, there should be at least about 100 such facilities operating. Then, we will achieve a similar saturation with terminals as in the economically developed western countries (1.5–2.5 terminals per 1000 km of railway lines). Another issue is a more balanced distribution of such terminals country-wide, as at the moment, most of these facilities are located in central Poland, and in Silesia and Wielkopolska (Greater Poland) regions.

Another challenge is to extend railway border crossings to handle trains travelling between China and the EU. The most attractive corridor goes through Małaszewicze and it is in the interest of Poland to increase its capacity which is the objective of the investment program implemented by PKP CARGO Małaszewicze Logistics Centre. At the same time, it is necessary to improve the procedures related to customs control and services of warehouses, so that trains should be leaving the Polish-Belarusian border crossing faster.

In the Polish conditions a major factor for the intermodal sector to be successful is the accessibility to the Baltic ports by rail. Most of containers in domestic and international transport are carried to and from the ports in Gdańsk, Gdynia, Szczecin and Świnoujście. Ports are expanding their container wharfs, nevertheless, railway lines running from the inland to the coast are not upgraded at a sufficient pace. Despite that fact PKP PLK announced an ambitious investment programme, which was supposed to improve the accessibility of railways to ports, however, bidding procedures for these works had to be cancelled as the submitted bids significantly exceeded the investment budget. Fortunately, the case is not lost, as the government passed a resolution to increase the funds for this programme by PLN 3.2 billion.

The rail freight transport in Poland is mostly based on the transport of bulk goods, primarily coal and aggregates. It is therefore that these two sectors have the greatest impact on the railway freight, and the demand for services presented by mines, power plants and construction companies to the largest degree determines

the revenues generated by carriers. Which does not mean that this market is not changing.

In 2018, the transport of such freight as hard coal, metal ores, mining and quarrying products, accounted for 64.9% of the mass and 53.6% of the transport performance. Hard coal had the largest share in the market in terms of mass – 40.8% (90.6 million tonnes). Nevertheless, at the same time it should be noted that the volume of transport by rail is declining. In the years 2007–2015 it decreased by more than 37.0% (53.9 million tonnes). This is caused by, *inter alia*, a change in the structure of the demand for energy raw materials, and the factor that has the greatest impact on the transport of coal is the level of electricity generated by coal-fired power plants. And although hard coal is our main energy raw material, the technological progress, implementation of more economical methods of production is the reason why the demand for Polish “black gold” is declining. Smaller quantities of coal are also purchased by municipal heating plants and individual customers.

The transport of aggregate is supposed to grow owing to large infrastructural investments included in the current financial perspective of the EU, and in the future, this segment will be fuelled by the construction of the Central Transport Hub and the 1,600 km of new railway lines needed to serve it.

In the next few years, the market growth in the intermodal segment of at least a dozen or so percent per annum is expected. What is more, the pace should be maintained or decline slightly in the long run (15–20 years) as intermodal transport will be consistently increasing its share in the rail transport – a similar process was seen some years ago in the West and now it is also happening in Poland.

The plans of PKP CARGO are not unique in the market, since actions leading to the creation of specialized logistics operators on the basis of railway undertakings were implemented in many European countries a long time ago.

It is best seen on the example of Germany-based DB Schenker, belonging to the Deutsche Bahn German railways. Currently, it is one of the world’s largest logistics operators, with road and rail fleets, also using inland waterways, sea navigation and aircraft in its operations. The concern also has warehouses and logistics centres with an area of 8 million m² in about 750 locations around the world. Nonetheless, the company also uses foreign resources, moreover, it integrates logistics operations of various entities unrelated to the German railways.

At this point it should be emphasized that this structure has been built for decades as it was as early as in 1931 that DB bought the shipping company DB Schenker and has been developing it under their wings ever since. During this time DB Schenker has worked up to the role of a logistics partner for many companies from different regions of the world, providing cargo handling at all stages “from the first to the last mile”, and performing a number of other services, including the recycling of packaging and post-sales activities.

It is also the Austrian Railways (ÖBB) that have had their logistics company since 2005 when they established a subsidiary, Rail Cargo Group (RCG). RCG is a conglomerate of freight forwarding and cargo handling companies which also provide technical services. RCG has gradually expanded their business operations to include Hungary, the Czech Republic, Slovakia, Turkey, Greece and Italy. The Rail

Cargo Group provides logistics services for goods received mainly at the Adriatic ports (Trieste, Venice, Koper, Rijeka) also trying to develop connections between China and Austria via Ukraine and Slovakia. Another direction of RCG's expansion is the Baltic Sea owing to the launch of a direct Wels–Luebeck container route.

The Austrian Railways are engaged in the development of a logistics base for RCG – warehouses, storage yards are located at the most important points of the country and an example of such a project is the Vienna South main railway freight station with an area of 55 hectares. It is located at a strategic point at the intersection of trade routes linking rail and road transport lines.

Logistics functions are developed by French state railways SNCF. Their daughter company, SNCF Logistics (formerly known as SNCF Geodis) is responsible for the transport of goods and full logistics. The functions have been strictly divided between subsidiaries within the company. And thus, for example, Fret SNCF is the company responsible for rail freight in France, and Captrain organizes freight transport by rail abroad (in Poland Captrain is ranked second – following PKP CARGO – in the intermodal transport segment). Other companies of SNCF Logistics take on the task of organizing operation of terminals or transport on short distances using mainly vans and trucks.

The logistics operator is the Lineas railway group operating mainly in Belgium, the Netherlands and northern France, which was established on the basis of the National Railway Company of Belgium SNCB/NMBS. The company specializes in intermodal transport operating mainly on routes connecting inland terminals with the ports of Ghent, Antwerp and Rotterdam. And although Lineas is not a large operator compared with other logistics companies, it is becoming increasingly powerful on its regional market. Thus, as can be seen, the logistics sector creates opportunities for both large and smaller operators. PKP CARGO has the potential and market opportunities to be in the former group.

Poland is located at the intersection of the most important east to west and south to north trade routes. This gives us natural competitive advantages over other countries, but it does not guarantee success. The key factors in this context are the above mentioned infrastructure conditions, nonetheless, a major challenge is also to improve the container train handling organization as well as the development of a specialized rolling stock depot.

Some of our terminals require investments in the purchase of facilities and equipment as their handling capacities are approaching the limits. It is also necessary to invest in digitization, which is a tool for monitoring the transported goods, so that customers should be informed in real time where and in what condition their shipments are. This system is also supposed to protect shipments against theft, damage of freight, and to quicken the circulation of documents and containers. If these objectives are to be accomplished, it would be required that a comprehensive IT system in which all the intermodal market operators are included is prepared and implemented.

Railway carriers surely are concerned about rolling stock shortages. A rapid development of intermodal transport is the reason why the demand for platforms for transporting containers and locomotives to pull such sets is growing. In the latter case, it is necessary to buy, lease or rent also multi-system vehicles, so that

international connections could be made without the need to replace the locomotive at the border crossing of another country. Carriers operating on the Polish market carry out such projects, being one of their priorities and take advantage of the EU co-financing when making such purchases.

Projects carried out by the PKP CARGO Group can serve as an example. One of the tasks concerns the purchase of 936 intermodal platforms that will be used in domestic transport. The investment amounts to more than PLN 451.5 million, of which the EU subsidy exceeds PLN 183 million. Another project of PKP CARGO concerns the purchase of 220 platforms and five multi-system locomotives for operating international trains in the European North-South transport corridor. The investment will cost PLN 227.6 million (PLN 92.4 million coming as support from the EU budget).

Other companies also see the need to invest in intermodal transport. Two locomotives and over 320 platforms will be purchased by Lotos Kolej, which will cost PLN 183 million (74.3 million is an EU subsidy). And Rail Capital Partners will purchase 12 locomotives for intermodal transport, which will be equipped with an in-vehicle exhaust module, so that they can also operate on non-electrified sidings. In this case, the purchaser of locomotives will not be the user, locomotives will be leased to carriers. This case shows that intermodal transport is considered as the future of railways and profitable operations. This is confirmed by the market, as the margins achieved by carriers on container transports are higher than e.g. in transport of bulk goods.

The market tells carriers what type of rolling stock to buy. Approximately 97% of intermodal transport is accounted for chiefly by 20' and 40' containers. On the other hand, semi-trailers and trailers as well as swap bodies account for over 2% of the market only. This is the reason why platforms for carrying containers with shipments most frequently shipped are and will be predominantly purchased by shippers.

Container transport could be improved if the regulatory environment were more favourable. A primary issue is to eliminate bureaucratic barriers which are blocking at the moment e.g. border crossing by trains. All the time we have a situation where the road transport is privileged, even in the form of charges for using the infrastructure. Despite the fact that there are preferential rates for access to rail tracks in the case of intermodal transport, the financial burdens of road carriers are still relatively lower. Moreover, railway carriers are exposed to much more severe financial sanctions for exceeding the axle load limit than road transport operators. Furthermore, the state should promote rail transport as a greener and cheaper mode of transport than transport of containers by trucks. When there are fewer containers on roads the level of safety of road users will also increase.

Intermodal transport is a great opportunity for the Polish railways. Its share in the transport structure will surely be growing, and in the long run, the situation in Poland will be similar to the markets of developed Western countries, where the intermodal transport accounts for more than 50% of the entire transport (it is more than 70% in some countries). Nevertheless, further development of this sector depends on whether the railways will be well-prepared in terms of organization and technical capacity to receive this stream of freight. Therefore,

the investments that are needed include, but are not limited to, the railway network, construction of terminals and logistics centres, larger capacity at border crossings, as well as implementation of organizational and legal solutions that will shorten the bureaucratic issues related to trains with containers and increase the level of services offered to customers. If the intermodal transport is not growing, it will be impossible to implement the EU recommendations where in the transport plan it is assumed that 30% of freight will be carried by trains by 2030 and that this indicator will exceed 50% by 2050.

Conclusion

As the analysis of the company's operations shows, PKP CARGO has a great potential and capacities to develop the role of a logistics operator and the company has already taken up the first steps to this end. This segment is also playing an increasingly important role in the business structure of PKP CARGO, which is related to the rapidly growing intermodal transport sector in Poland. The prospects for the development of this market are promising mainly due to an increase in transshipments in the ports of Poland and countries of the Three Seas region and due to the fact that a high growth rate of rail freight traffic is supposed to be maintained on the New Silk Road in the forthcoming years.

At the same time, it should be noted that PKP CARGO does not wait passively for the development of events, but it reorganizes its operations, increases its flexibility and takes advantage of the opportunity of integrating various modes of transport. As far as storage and transshipments are concerned, all the terminals of PKP CARGO should be merged into one company operating in Poland and Europe. However, this is only a part of the strategy, as a specialized company will have to be established to organize the logistics process. Using internal and external resources, this company will prepare the best offer for customers to deliver their freight to the right place, in the right quantity, at the right time and at the right price. At the same time, this indicator does not necessarily have to mean the "lowest price" as PKP CARGO is also facing demanding tasks when the most important issue for the customer is prompt and safe delivery of freight wherefore they are willing to pay more for the service.

Focusing on the development of logistics is a well-thought-out strategy of PKP CARGO as the Group's future cannot be mass cargo handling in a long time perspective. Taking up the function of a logistics operator will make it possible for PKP CARGO to earn a higher added value than if the company should remain with the carrier's function only. It can be said that this is a natural path of development for the company and its subsidiaries.

References

- Bąk, M. (2009), *Koszty i opłaty w transporcie*, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk.
Brdulak, H. (2006), Outsourcing w logistyce. Analiza obecnego stanu i kierunki rozwoju. *Logistyka*, 3, pp. 6–9.

- Chaberek, M. (2002), *Makro- i mikroekonomiczne aspekty wsparcia logistycznego*, Wydawnictwo Uniwersytetu Gdańskiego, Gdańsk, p. 33.
- Chaberek, M., Trzuskawska-Grzebińska, A. (2011), Źródła i kierunki rozwoju funkcji trzeciego partnera logistycznego we współczesnych łańcuchach dostaw. *Prace Naukowe Uniwersytetu Ekonomicznego we Wrocławiu*, 35, pp. 96–108.
- Kempny, D. (2001), *Logistyczna obsługa klienta*, Polskie Wydawnictwo Ekonomiczne, Warszawa.
- The Central Office of Statistics, *Roczniki statystyczne 2010–2017*, www.stat.gov.pl.
- The Office of Rail Transport (2017), *Sprawozdanie z funkcjonowania rynku transportowego w 2017 roku*, <https://www.utk.gov.pl/pl/raporty-i-analizy/analizy-i-monitoring/analizy-i-opracowania/14358,Sprawozdanie-z-funkcjonowania-ryнку-transportu-kolejowego-w-2017-r.html> [Accessed 31 July 2018].
- Wasielewska-Marszałkowska, I. (2017), Orchestratorzy współczesnych łańcuchów dostaw. *Prace Naukowe. Uniwersytet Ekonomiczny w Katowicach*, 2017, pp. 126–142.

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