THE FREIGHT TRANSPORT ACTIVITY OF THE RAIL CARGO HUNGARY CO. WITH PARTICULAR REGARD TO AGRICULTURAL PRODUCTS

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Abstract*:The aim of the work was the study of the domestic and international railway freight transport activity of the Hungarian company of Rail Cargo Group. A general overview of the company is followed by the data of transportation of agricultural goods, and the possible ways of development. RCG invests a lot to digitalization of the administration, development IT technologies and multi-modal transport with the support of European funds.*

Keywords: *logistics, railway freight transport, single wagon load, agricultural products, multi-modal transport*

INTRODUCTION

Thespatio-temporal extension of products movement hasimportant involvement for urban and rural development. Huge technical systems suchas freight transport andlogistics are embedded in a specific spatio-temporalstructure: they need certain objective facilities, infrastructure and "placefor operation" in a comprehensivecontext. Adequate logistics capacity defines accessibility and has an impact on theeconomic perspective of certain places. [7,8]

Single wagonload (SWL) transport is still considered as an important part in several European countriestransport systems [13]. However changing structural conditions and market requirements have led to enormousmarket losses and even to totalclosure of SWL business in some countries. As this business branch hasbeen recognized as important for special transports in a European multi-modal transport system in the future as well,significant developments are needed. In the last decade the volume of SWL transport in Europe was estimated to be as much as 100 billion tonnes-km. However, such an order of extent likely needs to be slightly resized, because a general negative trend has observed in the last years, with the segment of rail freught transport with SWL decreased from 50% to 27% [6, 11].

In contrast to road transport, load tracking and tracing is still not widely used in SWL. ViWaS system seeks to speed up the introduction ofIT in rail freight transport. With on-board communication solutionsthe operators can improve the dispatching ofwagons and the reorganize processes in case of disturbances. Cost-efficient and intelligent telematics-based information services will generate the required information and enable real-time wagon tracking and automatically servewagon mileage information [2]. New freight transport models are being developed which include both responses to changes in the transportation system andforecasts of traffic flows, transport costs, etc. [5, 15].

Smart-Rail system has focussed on:

- Contribution to a change of attitude of the rail freight sector toward a client oriented and supply chain focus.
- Development of methodology and structure for exchange of information among stakeholders.
- Establishment of „Continuous Improvement Tracks" (CIT's) with the objective to identify the practical barriers and improve the innovative intents [4].

The main obstacles to implementation:

- In some European countries the rail freight transport market is not liberalised. that hamper the progress of establishing competitive market.
- They operate ‘terminal-to-terminal’ but modern SCM needs door-to-door service;
- Themodern supply chain needs total transport chain; not a part of it [9].

The facilities for multimodal rail freight transport include:

- European rail freight market needs full liberalisation.
- The rail operators need to acquire qualityservice.
- They need to conduct a combination of ‘terminal-to-terminal’ and door-to-dooroperations [10].

The main focus until now has been given to intermodal freight transportby rail. Future research is should be done to improve operations inintermodal barge transport.Not many researches take decision makers at different levels into account [3, 12].

The aim of our work was the study of the Rail Cargo Hungaria Co.'s role in domestic and international freight transport, with special regard to agricultural and food products. In addition, we examined how the Co. is related to international combined freight transport systems.

MATERIALS AND METHODS

In the recent study the primary material collection was based on the data of the Rail Cargo Hungaria Co., which mainly reflects the company's domestic and Central European activities and provides information about the company's international relations and destination. During the investigation, we paid particular attention to agricultural commodity turnover. We worked from aggregated data, because individual delivery contracts were business secrets. Secondary material collection was obtained from various literature and by the National Statistical Office's quick reports.

RESEARCH RESULTS

Table 1 provides a summary of data on how the company's farm goods delivery was established in the 2016, 2017 and 2018 first quarter. Data can be read from this, as the composition of agricultural transport is mostly consisted of domestic and export deliveries. After that comes transit freight traffic and finally the import. The Hungarian export is significant, which shows that Hungary still basically a country of agriculture, though not as much as it could be from our ecological conditions and economy. In addition, it is also a positive sign that these deliveries are becoming more and more frequent, as data from the table shows that the quantities delivered, the transport distances and the kilometers transported year by year increase.

Rail Cargo Group is seeking a new aid program between 2018 and 2022. Previous programs were effective in the past, but changes were needed. This Brenner-Kores study helped to simplify the financing program. It applies similar principles to the previous ones (which accounted for the kilometers traveled) with the difference that either domestic transport or import / export calculations are performed, distance classification up to 120 km, They can be calculated from 120 km. Movements are here 22.07 EUR per 1000 t/km, while cross-border movements mean low costs. In addition, there is no need to finance the main courses either.

RCG (Rail Cargo Group) has also announced an investment program for the development of intermodal transport between 2015 and 2020. Within this project framework, subsidies can be used to different equipment and systems as well as for the wagons and handling of combined vehicles. This involves the intermodal transport of means of transport (eg. domestic containers), the use of innovative technologies for the

development of bids, and the support of various studies, the content of which is specific implementation measures and the development of IT systems.

Table 1

Data from the agricultural segment of the RCH*

	tonnes	average transport distance km	average tkm
2016	**1 989 729**	**466 003**	**521 580 268**
DOMESTIC	993 746	153 189	263 418 331
EXPORT	652 430	134 942	165 661 748
IMPORT	181 591	26 768	41 381 692
TRANZIT	161 961	151 104	51 118 497
2017	**2 340 769**	**1 597 708**	**645 836 898**
DOMESTIC	846 735	446 161	224 255 397
EXPORT	1 151 871	782 438	312 680 503
IMPORT	160 294	119 425	48 140 530
TRANZIT	181 869	249 684	60 760 469
2018	**807 160**	**678 255**	**263 961 887**
DOMESTIC	183 091	84 499	51 621 217
EXPORT	362 164	269 514	117 804 329
IMPORT	83 001	58 504	22 299 645
TRANZIT	178 903	265 738	72 236 697
TOTAL	**5 137 657**	**2 741 966**	**1 431 379 053**

Source: authors

*Rail Cargo Hungary

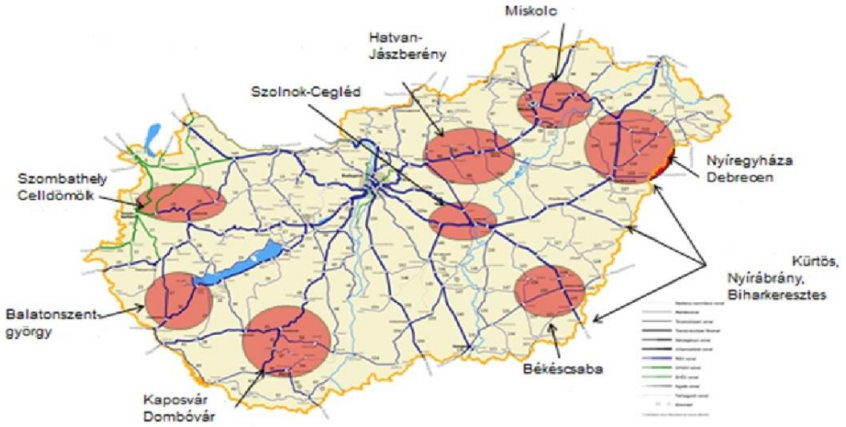

Figure 1: Typical grain-loading districts in Hungary

(Railway map of Hungary)

An important segment for the future is also the process of sustainability. The RCH is currently involved in several initiatives that will focus on protecting our planet [14]. Among them, I would like to highlight the Virtual Power Plant Program, which essentially means that participants reduce their energy consumption. The resulting savings are collected into a virtual power plant and by 2030 the second largest power plant in Hungary. RCH contributes to this by bringing the locomotive's braking energy back into the electric system. But there are also a number of environmentally-friendly solutions, such as the amount of paper used in office work. Digitalization reduces the amount of paper consumed by 1 to 1.5 tonnes less, so in 2017 31 tons of paper were used. The company is already sustainable through its business model, as it generates some of the road transport, which reduces the amount of carbon dioxide in the air. As a result, in 2017 304,000 tons less of carbon dioxide was released into the air by the company.

CONCLUSIONS

In some European countries RCG is basically not the leading rail freight company, but in most cases it knows 1/3 of the freight rates. Switzerland and Austria are exalted with a 50% and 43.6% share of freight transport, which shows that in these two countries, the RCG has performed very well in comparison. The table shows data from the farm's freight services. The country map shows the largest grain loading districts. Due to the country's geography, these areas are mainly in the Eastern part of the country, as there are major grain-producing areas here. The railway lines belong to MÁV Co. but they are transported by Rail Cargo Hungaria Co. There are usually assembled fittings from the East, which are still complemented by the Hungarian cargo and eventually leave the country to the West, or to the South at Kelebia. In Hungary, the biggest boost to rail freight today is the One Zone - One Road Initiative was announced in 2013 by Xi Jinping, President of the Peoples Republic of China. This is a new "silk road" between China and Europe, through which new perspectives are emerging in the field of trade, especially in the supply of raw materials.

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