

# ENERGY SAVINGS FROM USING TRANSPORT RO-LA

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**Abstract - This study presents a few observations about introducing the RO-LA transport in Romania, a kind of transport that let the trucks to be uploaded on a special platform-wagon and to be transported from one point to another.**

**Key words: Rollenden – Landstrasse**

## 1. GENERAL CONSIDERATIONS

Throughout Europe, rail is a spectacular comeback, because environmentally it is a current concern and leading European countries, and hence Romania.

Transportation Ro-La combined transport is a system which consists of transport trucks on wagons special construction sites, while drivers are carried in a wagon attached to the train berth. This system is widespread in European Union countries, providing an alternative to road congestion and traffic restrictions for trucks week-end.

Ro-La train journeys made to all owners of trucks engaged in transport in Europe and in the country.

Technology Ro-La combined transport (Rollenden-Landstrassen - "Road stock") appeared in European Union countries to facilitate freight traffic. Transport trucks is implemented by state policy to protect road infrastructure and environmental protection.

Thus, transport Ro-La is experiencing a great development in Austria, Hungary, Switzerland and Slovenia, countries that have introduced a restrictive policy regarding the movement of heavy vehicles on public roads.

Transportation Ro-La as part of international transport of goods, is a way of becoming more convenient in terms of reducing transport costs and time.

Conceived as an alternative to road freight transport, combined transport is making transport more efficient, safe and optimal transit time. Due to the development of this service today RO-LA combined transport is also a possibility of road. Using the service is recommended especially for a steady stream of freight transport on a particular relationship.

## 2. TRAIN RO-LA IN OUR COUNTRY

The first train Ro-La in our country was inaugurated in September 2002. This link provided Glogovăț - Arad - Curtici - Szopron - Wells (Austria) from September 2002 - January 1, 2007.

In those circumstances, opened in 2002 at Vladimirescu (Glogovăț) and Ro-La terminal first in the

country. First, the system would be used on the route Vladimirescu - Arad - Curtici - Wells will then be extended to Simeria and then to Bucharest, to stop progress.

On January 1, 2007 was waived this end and closed all Ro-La activity in Romania. The reason cited by officials at the time was that once inside the EU, Romanian carriers have dropped charges that had to pay for roads in Europe. A profitable business bailed.

Since then and until now have been some discussions about restarting Ro-La transport activity but it remained at the discussion stage.

## 3. NEED TO IMPLEMENT RO-LA TRANSPORT

In order to reduce polluting modes of transport activity and promote environmentally friendly transport mode, simultaneously with the adoption of fiscal measures to be implemented for the promotion of multimodal transport.

Combined shipments have been imposed generally limited range of vehicles that can not cover all cases the entire distance of transportation. Combined transport is also determined by various economic reasons, which creates opportunities for efficient use of transport and reduce transport costs.

In this context self combined transport - railways developed and refined to conventional transport due to the following advantages:

- Can achieve the transportation „from door-to door”;
- Ensuring the integrity of transported goods;
- Realization of reduced costs of transport, packaging and transshipment.

Road transport - rail is proving to be the most profitable way to do door to door transport of combining the advantages of road transport (high flexibility) with rail benefits (reduced pollution, greater transport capacity).

On a European solution is considered reviving the railway business and the alternative road decongestion. This system is used industrially highly developed countries recording large amounts of freight traffic, both internally and transit and have a hilly or mountainous terrain.

The main advantages of the system called "road stock are:

- Protection and road infrastructure and environmental protection;
- High velocity (100km / h);
- Make safe transport;

- Continuity in the transport of goods, no longer needed repeated handling cargo;
- Reducing costs of attrition of trucks;



**Fig. 1 – Getting off the train bargages**

- Automobile congestion heavy trucks (TIR) and small flow of traffic, tourism;
- Prevent pollution by heavy trucks;
- Congestion border crossings and customs police. The combined transport, load control products is transported by trucks concessioned firms such service;
- Avoid parking trucks in border sites;
- Lower cost of a European road;
- Ensure security throughout the road;
- Continuity in the transport of goods required multiple handling of cargo;
- Providing accommodation conditions for truck drivers in a car with a berth comfort;
- Reduce the number of accidents.

#### 4. ASPECTS OF ORGANIZATION IN TRANSPORT RO-LA

This type of transport can not have a sustainable and profitable operation without a thorough study of everything that involves routes, costs, facilities and more. General ideas as we could talk about:

- Organizing the terminal;
- Establish a number of terminals in the country in key points in order to fully satisfy both national transport and transit through our country border points of this type of transport;
- Connecting the countries on the same system RO-LA combined ferry;
- Establish a transport truck costs between road and rail transport between terminals, taking into account the benefits they provide transportation RO-LA;
- Determine the amount of pollution for the transportation of freight on the 2 transport systems;
- A project presentation by the transport ministry transport taking into account that RO-LA in European Union countries are subsidized by the governments involved to transport due to positive effects on the environment, road congestion and protecting the road infrastructure;
- Final calculation of profitability, taking into account the issues listed above.

One of the terminals would be needed in Romania at the Glogovăț terminal currently exists but is closed. As structure, all terminals will be nominated, will be similar, larger or smaller as needed.

Making a parallel with European countries, have lagged behind in terms of rail and beyond. RO-LA terminal is, however, with ferry transport from Constanta only combined transport system in which all joined the modern world [2].

#### 5. COST ANALYSIS - TRANSPORTATION

Tonnage calculations and road transport costs were made taking into account the technical characteristics of a freight car brand Iveco EUROTECH having an engine power of 430 hp, with an average consumption of 30 l/100 km diesel loaded, towing a trailer the maximum capacity of 22 t.

Calculation of efficiency will be made on the relation Glogovăț – Giurgiu.

Currently, our country is paying 0.015 € / tonne x km as toll road.

For a TIR of 48 tons on the route Glogovăț - Giurgiu at a distance of 560 km is charged on the road:

$$0.015 \times 560 \times 48 = 403 \text{ €}$$

The distance of 560 km, this TIR will consume:

$30 \times 5,6 = 168$  l oil at a price of approximately 1 € / l, this distance will be cost 168 €.

In total, the distance Glogovăț - Giurgiu, an automobile company will spend:

$$40 + 168 = 571 \text{ €}$$

If this should be taken to transport TIR Ro-La route Glogovăț - Giurgiu with distance of 677 km railway, the railway freight by just 0.013 € / t x km cost would be:

$$0,013 \times 48 \times 677 = 422 \text{ €}$$

Tariff difference is observed between the two modes of 571 - 422 = 149 €

At this amount, the car carriers adds to maintenance trucks monthly expenses which has not taken into account.

#### CONCLUSIONS

Ro-La organized transport will be a success, we aimed to include the rich and civilized European family. Ro-La train operation will be profitable for all, because if it reaches a rate of three sets per day on the links Giurgiu - Arad, would be a column less than three kilometers of roads and trucks weighing 3.000 tons less damage to roads

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