

**Keywords:** transport; contract; document; CMR convention; tachograph

**Miloš POLIAK\*, Jana TOMICOVÁ**

University of Zilina  
Department of Road and Urban Transport  
Univerzitná 1, 010 26, Slovakia

**Marek JAŚKIEWICZ**

Kielce University of Technology  
Department of Motor Vehicles and Transport  
Al. Tysiąclecia Państwa Polskiego 7, 25-314 Kielce, Poland

**Natalia ZHURAVLEVA**

Petersburg State Transport University  
Transportation Economics Department  
Moskovskij prospect 9, St. Petersburg 190031, Russia

**Gabriel FEDORKO**

Technical University of Košice  
Faculty of Mining, Ecology, Process Control and Geotechnologies  
Park Komenského 14, 042 00 Košice, Slovakia

\*Corresponding author. E-mail: [milos.poliak@fpedas.uniza.sk](mailto:milos.poliak@fpedas.uniza.sk)

## NEUTRALIZATION OF TRANSPORT DOCUMENTS IN ROAD TRANSPORT

**Summary.** The year 1956 is a significant milestone in international road freight transport. The CMR International Convention was adopted this year. The reason for its adoption was to unify the rules in international road freight transport in connection with the contract of carriage. This step was very important not only for carrier but also for the consignee and consignor. The convention also characterized one of the most important documents in road freight transport, which accompanies goods throughout transport. Its name is the CMR consignment note. In recent years in road transport, the original CMR consignment note has been replaced by another CMR consignment note. This practice is referred to as the neutralization of consignment note. In another consignment note, only some data are changed compared with the original, and the goods are not handled during transport. It is an interference with the system of functioning of transport documents, which aims to obscure the actual movement of the consignment during transport. The paper contains own research, which identifies the presumption of the existence of neutralization of transport documents in road transport. The authors also propose the use of new technologies, namely new smart tachographs, through which the sender can prevent the neutralization of documents.

### 1. INTRODUCTION

Transport is very important for humanity. It also contributes to the proper functioning of international trade. Within the EU, road transport is one of the most widely used modes of freight transport. This is for reasons such as its flexibility, quality and dense road network, speed of delivery, adaptation of transport to customer conditions, and much more [8, 18]. It is possible to transport goods only on the basis of concluding a transport contract [10]. In the absence of the Convention on the Contract for the

International Carriage of Goods (CMR Convention), the conclusion of a contract of carriage would have been much more difficult for the carrier. Carriers would have to proceed according to the particularities of the national regulations of the countries where the transport would take place. Fortunately, in 1956, the CMR Convention was adopted in Geneva, which simplified the work of carriers. The main reason for the adoption of the Convention was to unify the conditions for concluding transport contracts in international road freight transport. The CMR consignment note has a very important role in the international transport of goods. It is particularly important because it is proof of the conclusion of the contract of carriage and is also proof of receipt of the goods by the carrier [5]. In recent years, road carriers have been required to neutralize the CMR consignment note. Such a term is not defined in any legislation. Even the CMR Convention does not state the term neutralization of transport documents. For this reason, the purpose of this paper is to identify what procedures, in terms of transport documents and the responsibilities of the contracting parties, take place in the neutralization of documents. There is a presumption that in the neutralization of documents one of the contracting parties is harmed or one of the contracting parties assumes a greater risk in the standard contractual relationship. The aim of the paper is also to carry out, based on own research, proposals that would help the contracting parties to identify and prevent the neutralization of documents if the neutralization could harm the rights of the person.

## 2. ANALYSIS OF THE CURRENT STATE

On 19 May 1956, the Convention on the Contract for the International Carriage of Goods by Road was signed [9]. The main reason for the adoption of the Convention was to unify the conditions for concluding transport contracts in international road freight transport and thus to help the prosperity of international trade. In the absence of this Convention, everything relating to carriage would be managed by national rules, which the carrier would have to know. It is therefore of great importance not only for the carrier but also for other persons who participate in the transport [3]. Owing to problems with the fluctuating value of gold, the original Convention was supplemented in 1978 by the Protocol. The Protocol edited the original Article 23, which describes compensation of damages [4]. To support the use of electronic documents in transport, the Convention was subsequently supplemented in 2008 by an Additional Protocol, which allows for the transition from a paper CMR consignment note to an electronic one.

International transport is defined as transport in which the place of loading and unloading is located in two different countries [13]. The provisions of the CMR Convention are valid only if the place of loading or unloading is in a Contracting State to the CMR Convention [21, 35]. There are 3 cases where it is not possible to conclude a contract of carriage in accordance with the provisions of the CMR Convention [30, 31]. Specifically, there is the transport of postal items, corpses, and moving uppers [14]. The CMR Convention has been adopted mainly by European countries, but countries outside Europe are also members. At present, 56 countries in the world are parties to the CMR Convention, of which only 45 countries have also ratified the Protocol. The member countries are listed in the following Table 1. In the first column are countries that are only members of the CMR Convention. The second column lists the countries that have adopted the Convention as well as the Protocol to the Convention.

The CMR Convention sets out the duties, rules, rights, and responsibilities of the persons involved in the transport. It stipulates the conditions for concluding transport contracts and the value of compensatory damages [29]. In the Convention is listed all the necessary information that must be included in the accompanying documentation and on the basis of which the CMR consignment note was created [7]. Confirmation of the consignment note by the carrier confirms the conclusion of the contract of carriage. The absence, irregularity or loss of the consignment note does not affect the validity of the contract of carriage. The provisions of the Convention will continue to apply to the contract of carriage. The CMR consignment note has a standardized form. It is an official document and is usually written in two languages [16].

Table 1

States Parties to the CMR Convention (Sources: processed according to UNTC)

Member countries of the CMR Convention	Member countries of the CMR Convention and the Protocol
Kazakhstan	Russian Federation, Iran, Pakistan
Mongolia	Turkey, France, Spain, Turkmenistan
Ukraine	Sweden, Uzbekistan, Germany, Finland
Tajikistan	Norway, Poland, Italy, United Kingdom of
Bulgaria	Great Britain and Northern Ireland
Serbia	Romania, Kyrgyzstan, Belarus, Tunisia
Bosnia and Herzegovina	Greece, Hungary, Portugal, Jordan, Austria
Montenegro	Czech Republic, Ireland, Georgia, Lithuania
Morocco	Latvia, Croatia, Slovakia, Estonia
Syrian Arab Republic	Denmark, Netherlands, Switzerland
Azerbaijan	Republic of Moldova, Belgium, Armenia
	Albania, North Macedonia, Slovenia
	Lebanon, Cyprus, Luxembourg, Malta

The consignment note must contain minimum information such as place and date of issue, name and address of consignor, name and address of carrier, place and date of receipt of goods and destination, name and address of consignee, name of goods and type of packaging, for dangerous goods their generally accepted designation, the number of pieces and their special marks and numbers, the weight of the consignment or other quantity of goods, the costs of transport, the instructions needed for customs and other official procedures, and the fact that the transport is subject to the provisions of the Convention CMR. The consignment note may also contain information such as the ban on transshipment, the costs borne by the consignor, the amount of cash on delivery, the price of the consignment and the amount expressing a special interest in delivery, the consignor's instructions to the carrier concerning insurance, and list of documents submitted to the carrier. The parties may enter in the consignment note any other particulars which they may deem useful.

The consignment note shall contain at least three original copies. These copies must be signed by the consignor and the carrier [20]. The first copy is red and is intended for the consignor. It is proof that the goods have been handed over by the consignor to the carrier for transport. The second copy is blue and is intended for the consignee. Based on this document, the consignee can check the number of goods taken over at the carrier. A green copy is intended for the carrier, and this is proof that he has delivered the goods to the consignee [36]. After the transport has been performed, the signed consignment note serves the carrier as a basis for invoicing for the performed transport. The CMR consignment note is also important for inspection authorities. It is necessary to submit it, e.g., in the case of a roadside check. The CMR Convention does not specify who must make out a CMR consignment note. In practice, in most cases, if the transport is ordered by the consignor, he also makes out a consignment note. If the transport orderer is not the consignor but the trader, in which case the carrier issues a consignment note. The consignment note is credible proof of the conclusion of the contract of carriage, unless it is established that something is contrary to the provisions of the Convention. If the carrier does not note down any reservations in the consignment note, the legal presumption is that the consignment was in good condition at the time of acceptance by the carrier and all information with regard to the consignment corresponds to the data entered in the consignment note [14]. The convention allows the consignor to dispose of the consignment until it is delivered to the consignee. The consignor may request the carrier to stop the transport, change the place of delivery, or change the consignee [31].

The carrier has to, by the provisions of the CMR Convention, compensate for any loss of the consignment arising from the moment of its acceptance for carriage to the moment of its delivery [15, 23, 25]. The refund shall be calculated based on the value of the consignment at the place and time of

its acceptance for carriage. According to the CMR Convention, the liability of a road carrier is limited to 25 francs per kilogram of lost, damaged gross weight of the consignment [31]. This restriction is valid only in eleven contracting countries of the CMR Convention. These countries have not subsequently ratified the Protocol. In other countries, there has been a significant decline in the liability of road carrier. In these countries, the limitation unit has changed from the golden franc to Special Drawing Rights (SDR). The carrier must pay the owner of the goods 8.33 SDR per kilogram of damaged or undelivered goods. SDR is artificially created and its value depends on exchange rates [11, 17, 19]. In addition to the damage, the carrier must also pay customs duties, transport costs, and other costs related to the transport of the consignment. The carrier must have taken out road transport liability insurance to cover such damage. If the carrier signs a consignment note stating the value of the consignment, the carrier's liability will not be limited but the carrier will be liable for the actual value of the damaged goods. This also applies in the case of special interest in delivery. If the consignment is completely lost, the carrier must pay the full value of the consignment as well as customs duties, excise duties, import duties, VAT, etc. [26].

The contribution aims to point out the importance of the consignment note not from the position of concluding the contract but especially from the position of performance the provisions of the CMR Convention. The aforementioned analysis confirms that the CMR Convention is an important legal standard for both the carrier and the transporter. The CMR consignment note constitutes a credible document for carrier, consignor, consignee and third parties, e.g., customs offices and insurance companies. It is important to consider whether the neutralization of the consignment note conflicts with the legislation in force. It is also necessary to consider whether the neutralization of the consignment note does not pose a threat to the functionality of the hitherto existing functioning system.

### **3. RESEARCH OF THE CONCEPT OF NEUTRALIZATION OF THE CMR CONSIGNMENT NOTE**

Neutralization of the transport document is a practice used in the road transport sector. We have not been able to find a definition in the legal standards or in any legislation. We conducted a literature analysis related to the issue of transport document neutralization and its potential risks, where we worked with WOS and Scopus databases. We were not able to find any publications. We identified the neutralization of transport documents through our own survey. In practice, the neutralization of transport documents is the replacement of the original consignment note with another consignment note (in order to change some data), while the goods are not handled during transport [24].

In most cases, the neutralization of transport documents is related to illegal activity - parallel trade. Parallel trade means the sale of goods that are sold outside the official distribution and a particular company enriches itself with it [38, 39]. Companies thus cause product price differences in different countries. The trader buys products from the manufacturer in the country at a lower price and then sells them in other countries at a higher price. The product is transported to the country without the consent of the owner of the intellectual property, but it is not counterfeit.

The following Figure 1 explains the process of neutralization of transport documents in parallel trade.

(1) The trader enters into a contract with the manufacturer. Under the contract, the trader will distribute the manufacturer's product to a country where his product is not currently sold (for example, Switzerland). However, the trader requests that the price be lower than the original selling price, in order to promote the product in the new market. (2) The carrier fills a consignment note, where the consignee is a company in Switzerland and the consignor is the manufacturer. (3) After the start of the transport of goods, the driver receives an order from the trader to neutralize the CMR consignment note. He requests a change of consignee and consignor of the shipment. Driver stops the vehicle for example at the gas station and neutralizes the CMR consignment note. This means that he hides the original consignment note somewhere or destroys it and writes out a new consignment note. (4) The new consignment note lists Switzerland's company as the consignor and the consignee is a German company. The consignee will take over the neutralized consignment note together with the load, according to which he will not find out who is the real manufacturer. The trader does not actually sell the goods in Switzerland but in

Germany. The goods are sold here for a much higher price, compared to the price at which he received the goods. (5) The manufacturer does not know that his goods are in fact sold in Germany, where they already sell them.

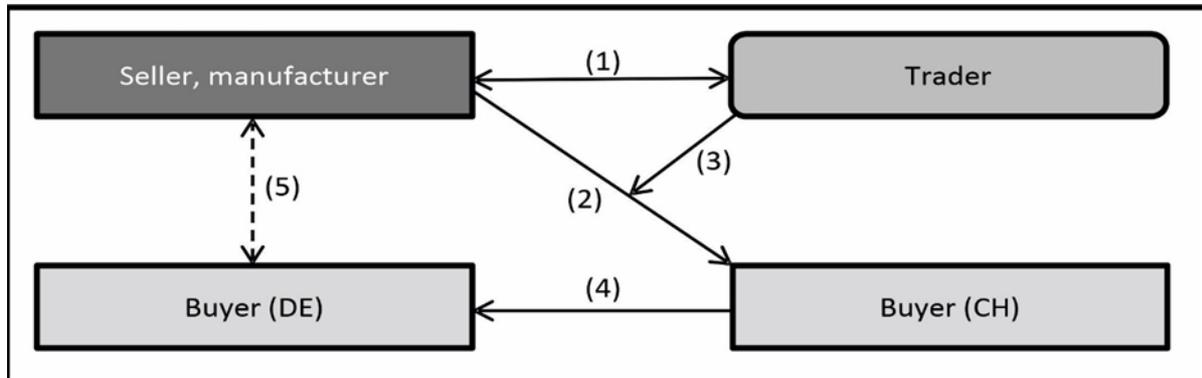


Fig. 1. Scheme of neutralization CMR at parallel trade; Source: authors

The main reason for carrying out the neutralization of the consignment note should be to maintain trade secrets. The trader wants to prevent the recipient from finding out information about the manufacturer. Based on theoretical research, we were able to identify 3 main reasons:

Reason A - the trader does not want the manufacturer to find out who is buying his product. The driver loads the goods into the vehicle and fills the CMR consignment note. During transport, the driver stops the vehicle and writes out a new consignment note with another consignee.

Reason B - the trader does not want the consignee to know who produces the goods. The driver loads the goods into the vehicle and fills a consignment note. The consignment note will be sent to the consignee's warehouse but will indicate another place of loading. The driver fills the second consignment note which will contain information on the actual place of loading and unloading in the event of a roadside check. The consignee will not know the real manufacturer.

Reason C - nobody knows anything, the trader keeps the manufacturer and the recipient secret. The driver loads the goods into the vehicle and fills the consignment note and a copy of this consignment note remains in stock. Later, the driver will exchange the consignment note for another in which, the actual consignor will be listed, but the consignee will be different than the consignee in the first consignment note. Subsequently, before approaching a new consignee, the driver shall write out a third consignment note in which the consignor is different from the actual consignor and the new consignee is listed in the second consignment note.

Based on the obtained information, we can argue that there are currently up to three reasons for neutralizing transport documents in connection with maintaining trade secrets. We conducted our research in the next part which is based on the theoretical identification of the problem of neutralization of transport documents.

#### 4. EMPIRICAL RESEARCH

To obtain basic information regarding the neutralization of the consignment note, we conducted a survey. The survey was conducted in the form of a questionnaire and we used the electronic application Google Forms to create it. As soon as the questionnaire was created, we pre-tested it to confirm that all the questions are clear enough. To obtain answers from the questionnaire, we published a link on discussion forums, social networks, and social groups whose members are carriers. We determined a representative sample. We used the Sample Size Calculator to calculate a representative sample. As a population, we stated the number of Slovak carriers (9,755). Other variables - confidence level was determined to be 95 % and the confidence interval was determined to be 8. Based on the entered data,

we obtained the value of 148 questionnaires. The questionnaire was published and available in the period from 1.12.2018 to 1.12. 2019, and the link to it has been updated four times. A total of 190 respondents participated in the survey.

We conducted a questionnaire survey in order to obtain basic information regarding the neutralization of the consignment note. Specifically, we wanted to find out whether the carriers have experience with the neutralization of the consignment note and in which goods the neutralization is most often performed. We also wanted to find out on which transport routes the transport documents are neutralized, i.e., which countries are listed as the consignor and consignee. The survey was attended by Slovak carriers and drivers who perform international transport to, for example, Germany, Spain, and France. The data obtained from the survey (questionnaire) were processed into tables and graphs.

Survey output confirms the assumption that carriers have experience with neutralizing the CMR consignment note. The results of the survey show that up to 66 % of the addressed carriers (drivers who completed the questionnaire) already have experience with neutralization, and 34% have no experience or have never encountered the concept of CMR neutralization. Although no special literature describes the neutralization of the CMR consignment note, it should be noted that carriers are commonly encountered with these practices.

The second part of the research dealt with the question of what kind of goods usually requires the consignor or consignee to neutralize the transport documents. The results of the research are expressed in Table 2, which describes the different categories of goods reported by the carriers as transported goods that were entered in the CMR consignment note in field 9 "Labeling and marking of goods" in case the consignment note was neutralized. It may be noted that the documents are neutralized for different types of goods. The table also contains information on the percentage of individual categories of transported goods in Slovakia (information from EUROSTAT). However, this survey shows that the most neutralization is associated with the transport of metal ores and metal products (27.50 %), which represents the most transported category of goods in the Slovak Republic (36.62 %). Furthermore, transport of waste represented a volume of 21.25% in all neutralized documents. In the Slovak Republic, it is not often the most transported type of goods, representing only 3.5%. In the third place is the transport of food and beverages, which represents almost 18 % of the total neutralized transported quantity of goods, and being the fourth most frequently transported type of goods in Slovakia. On this basis, it can be stated that neutralization does not, therefore, apply to specific transported goods and is not related to the total volume of transported goods in Slovakia (both high and lower share of transported goods).

However, if we observe the importance of neutralizing transport documents to the share of transport of a particular commodity, then the highest share is achieved by secondary materials, municipal waste, and other waste. These shipments account to share for only 3.5 % of total transport but up to 21.25 % of total transport with an identified neutralization of consignment note (the ratio between the percentages reaches a coefficient of up to 6.0714). Furthermore, the following items are also important from the neutralization of transport documents: wood, articles of wood and cork; articles of straw and plaiting materials; pulp, paper, and paper products with a coefficient of 2.4858; textiles and textile products; and leather products, with a coefficient of 2.1186.

The last question in the questionnaire was focused on transport routes on which the neutralization of the consignment note was used. We wanted to find out from Slovak carriers on which transport routes they were instructed to neutralize the consignment note. Due to the fact that the carriers reported different transport routes, the outputs of the questionnaire were divided into countries of dispatch and destination. As can be seen from Figure 2, Germany is the country where Slovak carriers have neutralized transport documents the most. Germany accounts for almost 35 % of the replies as the country of dispatch and 22% than the country of destination. Furthermore, neutralization is mainly used in connection with the Slovak Republic. The other countries mentioned were not listed as much as Germany and Slovakia.

Table 2

Share of transported consignments in Slovakia and neutralized consignments; Source: authors

Type of goods	Share in total transport in Slovakia (%)	Share in total neutralized transports (%)	The ratio of the share of transport of a particular commodity to that of transports with neutralized documents
Secondary materials; waste	3.50	21.25	6.0714
Wood, articles of wood and cork; pulp, paper and paper products	3.52	8.75	2.4858
Textiles; textile and leather products	0.59	1.25	2.1186
Food, beverages and tobacco	8.82	17.50	1.9841
Chemicals, chemical; rubber and plastic products; nuclear fuel	5.51	7.50	1.3612
Furniture; other industrial goods	2.11	2.50	1.1848
Machinery and equipment; office computers; apparatus	5.32	6.25	1.1748
Metal ores and other mining and quarrying products; products thereof	36.62	27.50	0.7510
Transport equipment	4.67	2.50	0.5353
Equipment and material used in the carriage of goods	3.89	1.25	0.3213
Products of agriculture, hunting and forestry, fish and other fishery products	13.18	3.75	0.2845
Other non - metallic mineral products	9.35	0.00	0.0000
Coke and refined petroleum products	2.44	0.00	0.0000
Coal and lignite; oil and natural gas	0.23	0.00	0.0000
Goods transported during the moving of household and office; luggage	0.14	0.00	0.0000
Unidentifiable, other goods	0.12	0.00	0.0000
<b>Together</b>	<b>100 %</b>	<b>100 %</b>	<b>-</b>

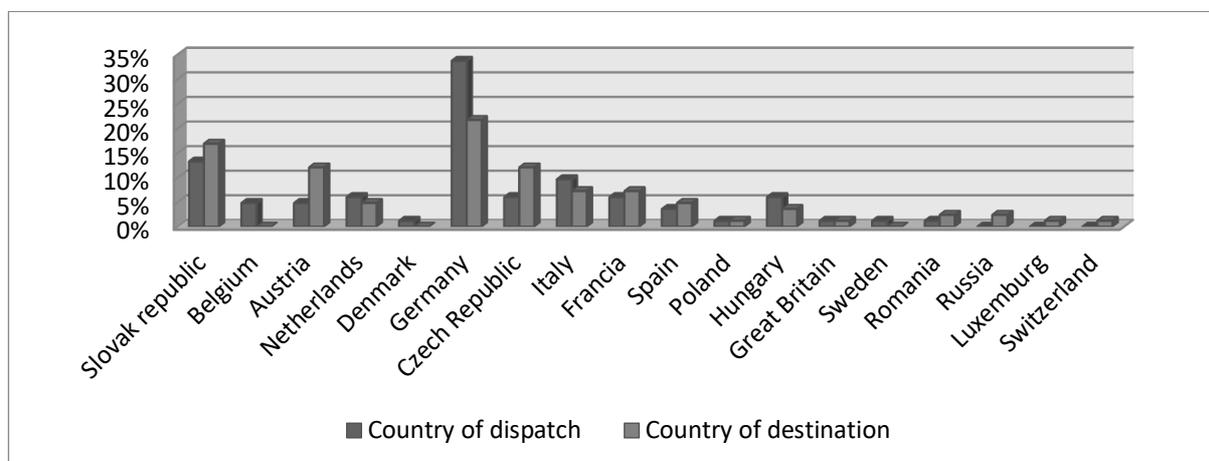


Fig. 2. Transport routes at neutralization of consignment notes, country of dispatch and country of destination; Source: authors

## 5. RISKS ASSOCIATED WITH THE NEUTRALIZATION OF TRANSPORT DOCUMENTS

With the neutralization of the transport documents, which in practice exists and which is described above, some risks arise not only on the part of the consignor but also on the part of the carrier. To neutralization, we identified the following risks:

- Fraud risk - When the carrier receives an order to neutralize the consignment note, he/she cannot know that it is for the purpose of concealing the fraud against the consignor. Fraud is committed for the purpose of enriching oneself at the expense of someone else, that is, circumventing the pricing policy or obtaining discounts, which are not justified. An example could be the launch of a product on a new market, where the manufacturer is required to lower the price of the goods for the trader. The goods will not actually be sold in a new market, but, for example, somewhere where they are already sold. In such a case, there will be an intentional lie, and in the Slovak Republic, it is a violation of the Criminal Code. This type of trading is known as parallel trade.
- Damaging foreign rights – it occurs when someone else causes serious harm to rights by misleading someone or making use of someone's mistake. Under Article 12 of the CMR Convention, the consignor is entitled to dispose of the consignment until it is delivered to the consignee, provided that consignor holds the first copy of the CMR consignment note. However, if the consignment note is neutralized immediately after loading, this right is difficult to assert.
- Risk of insurance of the carrier's liability - the carrier in the event of a loss event must prove to the insurance company the original transport documents related to the carriage in which the consignment or its part was damaged. The carrier, who on the order of the customer exchanges the transport documents during the carriage, carries out the carriage according to other conditions than originally agreed in the contract of carriage. According to the opinion of several insurance companies, they would not realize insurance benefits when the transport documents were neutralized. In this situation, there is a risk on the part of the carrier that it carries out the transport without insurance coverage.

In addition to these risks, there are other risks in the area of tax law or cabotage operations, which we will not discuss in detail because they are either on the side of the transport customer or on the side of the carrier who is aware that the transport documents have been neutralized.

## 6. PROPOSAL FOR CONTROL OF DOCUMENT NEUTRALIZATION BY THE CONSIGNOR

Neutralization can result in the consignment note (its function) becoming unreliable. Current legislation does not know how to respond to this practice. There are no tools to prevent its use and thus the potential risks already mentioned [28]. It is therefore necessary to find a way in which neutralization and the associated risks can be eliminated or minimized.

The neutralization of transport documents, according to the processed analysis and processed risks, is primarily set to violate the rights of the sender or the recipient if this person is not the ordering party of the transport. The sender agrees with the merchant on specific terms in the purchase contract. These conditions will change due to the neutralization of the transport documents. The consignor has no bearing on the finding that the transport documents have been neutralized. The only proof of carriage of the goods shall be the first red copy of the CMR consignment note issued by the carrier, which shall also indicate the place of loading and unloading of the goods. The consignor is damaged by the subsequent neutralization of the CMR consignment note.

Our proposal is based on the fact that since 2006 every truck has to be equipped with a digital tachograph [27]. Since 2006, several generations of tachographs have been modernized, and over time, the following reasons for the necessary modernization of digital tachographs have been identified [2, 33, 34]:

- Digital tachographs do not have sufficient efficiency to ensure effective checks on drivers' work. Given that the inspected vehicle must stop with this generation of tachographs, the number of vehicles inspected in this way is limited and time-consuming.

- Problematic authenticity of data from the sensor on the transmission. In digital tachographs (mounted until 2019), the only source of information about the distances and positions travelled is a motion sensor that has been exposed to security attacks. Furgel and Lemke address these attacks in detail [12]. However, attacks also existed in the case of analog tachographs [1]. Attacks were based primarily on the installation of magnets or other applications that interfered with the sensor function on the transmission [37].
- A weakening of cryptographic power over time [6, 22].

Intelligent tachographs that are installed in newly registered vehicles in the EU from 15 June 2019 are important to us in terms of neutralizing transport documents. These tachographs are almost identical to previous generations in terms of operation, but there are significant differences in the structure of archived data with previous versions. Important features that smart tachographs bring to road transport are as follows:

- wireless communications,
- navigation based on GNSS, and
- security solutions to protect data from sensors generated in the vehicle.

New intelligent tachograph features can enhance the operational capabilities of supervisory authorities and address existing vulnerabilities of digital tachographs installed by 2019 [2, 33]. The function of the remote download of data by means of the implementation of CEN-DSRC will improve the possibility for supervisory authorities to detect failures or violations. In particular, this will increase the protection and safety of road users. [32].

In particular, in the context of the introduction of smart tachographs, foreign authors devote themselves to the infrastructure of smart tachographs. They deal with the position identification of digital tachographs from GNSS [40]. GNSS information is important for obtaining basic position information and also for providing consistent information from several different sensors. This mainly concerns information from the GNSS on one side and information from the vehicle transmission sensor. They carried out research that confirmed that the architecture of intelligent tachographs is currently set up so that there is no risk of disturbing the coherence of data in tachographs. In comparison with other generations of tachographs, intelligent tachographs also include vehicle position recording via the Global Navigation System (GNSS). The digital tachograph automatically records the position of the start and end of daily working time and every three hours of the cumulative driving time the position of the vehicle. Such a location record aims to provide control authorities with more information to check compliance with social legislation. If these data were accessible to the sender of the consignment, he/she would be able to check that the consignment had not been neutralized and the consignment had been transported to a place other than the agreed place. A proposal for using data from intelligent tachographs to prevent the neutralization of transport documents is shown in the following scheme.

The customer concludes a contract of sale with the trader (1), according to which the transport is provided by the trader. In this contract, the customer must require the condition that upon completion of the carriage, the trader, represented by the carrier, provides him with data on the route of the shipment. Subsequently, the trader concludes a contract of carriage with the carrier (2), which also stipulates the condition of delivery of information on the identification of the transport route and its delivery to the consignor. The carrier (driver) places the vehicle at the place of loading (3), the loading is carried out, and the consignor confirms the transport documents after loading the consignment for transport. One copy of the transport document, indicating the place of loading and unloading, as well as the vehicle identification data, shall be available to the consignor. The vehicle (4) then transports the goods according to the transport documents to the place of unloading (5). During transportation, the intelligent tachograph records the driver's work and the GPS position of the vehicle every three hours of cumulative driving time. These data, given that the tachograph is an official measure, are for the sender a reliable indication of the realized route of the vehicle according to the transport documents. This means that in connection with the concluded trade, the transport documents were not neutralized, and the goods were

not transported to another place than agreed in the contract of sale. The carrier is obliged to download data from the tachographs (6) within the set limits and to evaluate them appropriately. Currently, the download interval is a maximum of 90 days, but in the future, if the data could be downloaded remotely from a location outside the carrier's headquarters, it is certainly possible to legally shorten this interval. After evaluating the data downloaded from the vehicle in suitable evaluation software (7), the customer will be able to check the carrier's realized route on the carrier's website via the unique CMR consignment note number or other unique transport identification.

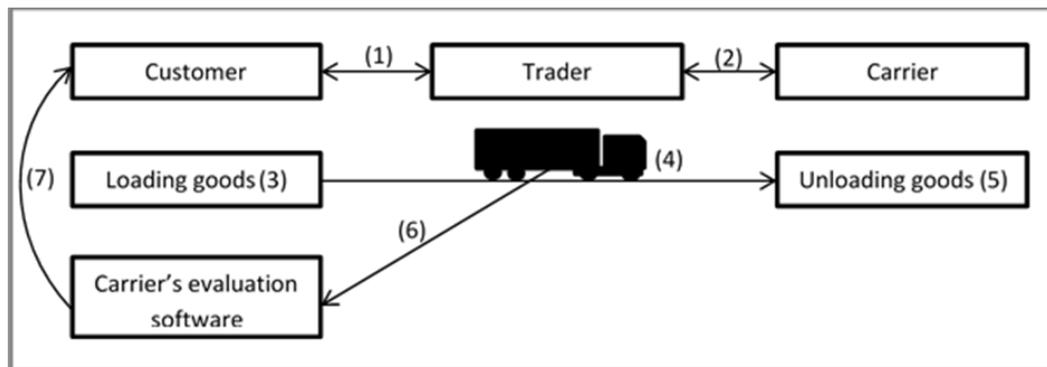


Fig. 3. Possibility to use data from the digital tachograph; Source: authors

It follows from the proposal that, in order not to suspect a change of consignee, it is necessary to ensure transport with a specific vehicle to the original destination. However, it is not possible to prevent goods from that vehicle from being transferred to another vehicle that would transport the goods to another consignee. The original vehicle would be transported to the original destination without the goods. The tachograph data would be evidence that the vehicle has actually arrived at the place of unloading. However, it is important to note that if such transshipment took place, the transport costs for the trader would increase. He/she would have to pay the costs to the original carrier and also to the other carrier. The question arises as to whether this would still be effective for the trader, or whether it would ultimately be loss making in this way. As the purpose of neutralization in parallel trade is to buy cheaply and sell more expensive, we assume that this would discourage some traders from requesting the neutralization of transport documents. In 2020, Regulation (EU) 2020/1056 of the European Parliament and of the Council on information on electronic freight transport entered into force. The purpose of this regulation is to facilitate and promote the exchange of information between competent authorities and economic operators by electronic means. It follows that it will be necessary in the future to switch from the use of a paper consignment note to an electronic version of the consignment note. The electronic consignment note, in conjunction with our proposal, will make it impossible to tranship the goods without the consignor finding out.

## 7. CONCLUSION

The CMR Convention, which regulates transport contracts in international road freight transport, is currently one of the most important tools for the division of responsibilities between the carrier and the customer. The CMR Convention also defines credible documents that are necessary for the execution of the carriage and which constitute proof of the carriage not only for the parties but also for third parties. In the absence of credible research into the neutralization of the transport documents, the paper aims to confirm the hypothesis that the documents are neutralized. Research by the authors confirmed that in practice the transport documents were neutralized. Up to 66% of the surveyed carriers confirmed that they had neutralized the transport documents at the request of the client of transport. Based on research, it can be argued that neutralization is not directly related to the transport of a particular type of goods

because neutralization occurs during the transport of various commodities. However, we can say that our research shows that documents are most neutralized when transporting secondary materials, municipal waste, and other waste. We have also concluded that the consignment note exchange is used on different transport routes. It is mostly connected with the transport of goods from/to Germany and further from/to Slovakia. We have found that neutralization is used not only in international freight transport but also in national freight transport.

As neutralization of the consignment note is not a technical term and is not defined in any legislation or the CMR Convention, the neutralization procedure needs to be specifically addressed. In this article, we identified some risks on the shipper and carrier side. These are mainly risks related to fraud and infringement of the sender's property rights but also risks related to insurance of the carrier's liability. The authors are aware that there are other risks, for example in the tax area. This paper presents a proposal to prevent the neutralization of the CMR consignment note from the position of the sender. In case the sender has access to data from the transport route - according to the unique CMR consignment note number, the neutralization of the transport documents will be limited. Similarly, in terms of tax risk, it would be appropriate to provide this information to the financial administration. Further research would need to be devoted to this issue.

### Acknowledgements

This paper has been developed under support of project: VEGA No. 1/0245/20 Poliak: Identification of the impact of a change in transport related legislation on the competitiveness of carriers and carriage safety

### References

1. Anderson, R. On the security of digital tachographs. *European Symposium on Research in Computer Security*. Springer. 1998. P. 111-125.
2. Baldini, G. & Sportiello, L. & Chiaramello, M. & Mahieu, V. Regulated applications for the road transportation infrastructure: The case study of the smart tachograph in the European Union. *International Journal of Critical Infrastructure Protection*. 2018. Vol. 21. P. 3-21.
3. Belohlavek, A. Selected Case Law of Czech Republic on the CMR Convention and New Civil Law in Effect in Czech Republic as of 1 January 2014. *CYIL - Czech Yearbook of International Law*. 2015. Vol. 6. P. 231-325.
4. Berlingieri, F. Uniformity in Maritime Law and Implementation of International Conventions. *Journal of Maritime Law and Commerce*. 1987 Vol. 18. No. 3. 317 p.
5. Clarke, M.A. *International Carriage of Goods by Road: CMR*. CRC Press, sixth edition. 2014. 512 p.
6. Colak, M. & Bishop, J. & Nordvik, P. & Mahieu, V. & Loeschner, J. Cryptographic security mechanisms of the next generation digital tachograph system and future considerations. *Research Centre Scientific and Policy Report. European Commission*. 2012. Available at: <http://publications.jrc.ec.europa.eu/repository/handle/JRC77933>.
7. Criddle, E. The Vienna Convention on the Law of Treaties in U.S. Treaty Interpretation. *Virginia Journal of International Law*. 2004. Vol. 44. No. 2. P. 431-500.
8. Čulík, K. & Kalašová, A. & Kubíková, S. Simulation as an instrument for research of driver-vehicle interaction. In: *MATEC Web of Conferences*. 2017. Vol. 134. No. 8.
9. Czapski, W. Application et interprétation de la Convention CMR à la lumière du droit international. [In French: Application and interpretation of the CMR Convention in the light of international law]. *Uniform Law Review*. 2006. Vol. 11. No. 3. P. 545-567.
10. Defosse, D. CMR: what if the courts got it wrong? *Uniform Law Review*. 2016. Vol. 21. No. 1. P. 75-100.

11. Dörr, O. & Schmalenbach, K. Article 32. Supplementary Means of Interpretation. In: *Vienna convention on the law of treaties: A commentary*. Springer. 2012. P. 571-586.
12. Furgel, I. & Lemke, K. A review of the digital tachograph system. In: *Embedded Security in Cars*. Springer. 2006. P. 69-94.
13. Gnap, J & Varjan, P. & Semanová, S. Logistics of entry and parking of vehicles at large production companies. In: *MATEC Web of Conferences*. 2017. Vol. 134. No. 16.
14. Haak, K.F. *The liability of the carrier under the CMR*. Stichting Vervoeradres. 1986. 395 p.
15. Haak, K.F. *Uniformiteit, Quo Vadis?* [In Dutch: *Uniformity, quo vadis?*]. Boom Juridische uitgevers, Den Haag. 2013. 100 p.
16. Hendrikse, M.L. & Van Huizen, P.H.J.G. *CMR: Internationaal vervoer van goederen over de weg*. [In Dutch: *CMR: International transport of goods by road*]. NTHR-reeks. 2006. 322 p.
17. Joshua, K. & de Germiny, L. Has the CISG Advisory Council Come of Age. *Berkeley Journal of International Law*. 2009. Vol. 27. No. 2. P. 448-496.
18. Jurecki, R. & Stańczyk, T. Analyzing driver response times for pedestrian intrusions in crash-imminent situations. In: *11th International Science and Technical Conference Automotive Safety*. 2018. P. 1-7.
19. Karton, J.D.H. & Germiny, L.D. Can the CISG advisory council affect the homeward trend? *Vindobona Journal of International Commercial Law and Arbitration*. 2009. Vol. 13. P. 71-90.
20. Keijser, L. Ondervoer - Opvolgend vervoer (artikel 3 - 34 e.v. CMR). [In Dutch: Sub-transport - subsequent transport (Articles 3 - 34 ff. CMR)]. *European Transport Law*. 2007. 331 p.
21. Lamont-Black S. The UK Supreme Court on jurisdiction over successive CMR Convention carriers and European Union rules. *Uniform Law Review*. 2016. Vol. 21. No. 4. P. 487-509.
22. Lemke K. Embedded Security: Physical Protection against Tampering Attacks. In: *Embedded Security in Cars*. Springer. Berlin, Heidelberg. 2006. P. 207-217.
23. Loewe, R. Commentary on the convention of 19 may 1956 on the contract for the international carriage of goods by road (CMR). *European Transport Law*. 1976. 11 p.
24. Mukherjee, A. & Zhao, L. Profitable parallel trade in unionized markets. *Journal of Economics*. 2012. Vol. 107. P. 267-276.
25. Mutz, G. *Le droit de transport international ferroviaire en pleine mutation*. [In French: *The law of international rail transport in full change*]. Liber Amicorum Jacques Putzeys. 1996. 555 p.
26. Paulin, C. 2006. Réflexions sur la distinction entre contrat de transport et contrat de commission de transport. In: *Etudes sur le droit de la concurrence et quelques thèmes fondamentaux: mélanges en l'honneur d'Yves Serra Dalloz*. [In French: Reflections on the distinction between transport contract and transport commission contract. In: *Studies on competition law and some fundamental themes: mixtures in honor of Yves Serra Dalloz*]. Paris. 2006. P. 325-336.
27. Poliak, M. & Poliaková, A. Relation of social legislation in road transport on driver's work quality. In: *International Conference on Transport Systems Telematics*. 2015. P. 300-310.
28. Poliak, Miloš et al. Transport document in road freight transport - paper versus electronic consignment note CMR. *The Archives of Automotive Engineering – Archiwum Motoryzacji*. 2020. Vol. 90. No. 4. P. 45-58. DOI: 10.14669/AM.VOL90.ART4.
29. Putzeys, J. La CMR-60 ans et plus. [In French: CMR - 60 years and more]. *Uniform Law Review*. 2016. Vol. 21. No. 4. P. 421-425.
30. Quigley, I. Freight Carrier's Liability under the CMR convention 1956. *Acta Oeconomica Pragensia*. 2006. Vol. 14. No. 4. P. 41-45.
31. Radionov, N. Limitation of liability right in road freight carriage in Croatia: an extinct institute. *Uniform Law Review*. 2016. Vol. 21. No. 4. P. 457-468.
32. Rana, A. & Sportiello, L. Implementation of security and privacy in epassports and the extended access control infrastructure. *International Journal of Critical Infrastructure Protection*. 2014. Vol. 7. No. 4. P. 233-243.
33. Rychter, M. Function, technology and the level of implementation of the digital tachograph system in EU-AETR and non EU-AETR countries. *SAE Technical Paper. The Automotive Research Association of India*. 2011.

34. Sel, M. & Karaklajic, D. Internet of trucks and digital tachograph – Security and privacy threats. *ISSE 2014 Securing Electronic Business Processes: Highlights of the Information Security Solutions Europe 2014 Conference*. 2014. P. 230-238.
35. Schelin, J. CMR Convention in a law and economics perspective. *Uniform Law Review*. 2016. Vol. 21. No. 4. P. 434-440.
36. Sker, T. Analysis of Road Carriers Liability for Robbery of Cargo According to CMR Convention. *Promet – Traffic – Traffico*. 2003. Vol. 15. No. 6. P. 371-374.
37. Smieja, M. & Rygiewicz, A. Information systems safety in a context of automotive applications. *Journal of KONES*. 2012. Vol. 19. No. 4. P. 565-570.
38. Stothers, Ch. *Parallel Trade in Europe: Intellectual Property, Competition and Regulatory Law*. Oxford, Hart Publishing. 2007. P. 637-639.
39. Szymonik, A. *International logistics*. Lodz University of Technology. 2014.
40. Wildemeersch, M. & Slump, C. H. & Rabbachin, A. Acquisition of GNSS signals in urban interference environment. *IEEE Transactions on Aerospace and Electronic Systems*. 2014. Vol. 50. No. 2. P. 1078-1091.

Received 11.12.2019; accepted in revised form 10.05.2021