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## **SECURITY IN RAILWAY TRANSPORT: TRADITIONS AND CHALLENGES**

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**Abstract:** *The problem of providing security for the passenger and freight transport has been of great importance ever since the railways appeared. Due to the cross-border nature of the railway transport where routes pass from one country to another and from Europe to Asia, it was of great significance to establish close interrelations of the national railway administrations and to develop international regulations preventing from dangerous situations.*

*The paper presents some historical facts connected with the activities for providing security in railway transport both on a national and international level. Under the new conditions of terrorist danger and other events of emergency, it is advisable to consider not only the latest requirements, but also the experience accumulated for more than a century of railway existence in the Balkans. The contribution of the Bulgarian state railways (BDZ) as an active participant in international organizations and forums on security is a certain asset for the successful implementation of the security policy in the region and Europe. Facing the traditions makes it possible to better assess the mutual assistance and cooperation as a precondition necessary for ensuring security in the transport sector.*

**Key words:** *railways, security, traditions, Balkans, cooperation.*

### **1. Introduction**

The necessity to take care of passenger and freight security has existed since the establishment of the railways transport. It concerned not only the engineering aspect of security, which now is commonly marked as "safety", but also the problems of protecting people against robberies, fraud, violence and goods against damages and thefts. Despite that some experts consider the understanding of the security double nature to have appeared recently, the national regulations and international agreements even from the second half of the 19<sup>th</sup> century contained a lot of evidences for the efforts to decrease the criminal deeds on trains and at stations.

Nowadays the security problems are of a global concern and much more complex including new aspects such as terrorism and other events of emergency. The processes of democracy have imposed new challenges to governments and railway companies for providing security in this

economic sector. To achieve success, it is necessary for the interested organizations to collaborate not only on a national level, but also in the regional policy and worldwide, working under the conditions of close contacts and partnership.

### **2. Bulgaria's traditions in providing railway security**

#### **2.1. The 19<sup>th</sup> century: Following the European legislative models**

The Bulgarian State Railways Company (BDZ) was established as a public enterprise in 1888 after the railway line from Tsaribrod (now the town of Dimitrovgrad, Serbia) to Vakarel had been set in operation. This line was built to enable the international railway traffic from Vienna to Istanbul and being convinced that security on it could not be achieved without stable legislative fundamentals, the politicians put the question under discussion at the Parliament prior the section was opened. They

compensated the lack of experience with knowledge of world practice, which had proved the necessity of establishing Railway Police. In December 1887 the MPs at the 5<sup>th</sup> National Assembly adopted the proposal for a draft law that had to be developed by the Ministry of Finance and applied even without an official approval. The decision was motivated with the insufficient time to thoroughly examine the issue by comparison with similar acts in other countries. The first "Regulations for police on railways in Bulgaria" were adopted by Decree No 5 on 30 September 1888, while the Act of Police on Railroads was passed nearly two years later and finally signed by King Ferdinand on 16 December 1889. Its contents showed both the public concern for railway security and the efforts to apply the principles of modern European legislation to practice of the country.

Among the other documents, used by the BDZ, the Regulations for railway operation were of greatest significance because they included a number of instructions how to ensure the train traffic safety, comfort of passengers and protection of goods against being possibly stolen or damaged. The problems of security were also treated in the agreement on the connection between the Serbian and Bulgarian railways in 1887. Two days before the line from Vakarel to Tsaribrod was officially opened as an international route, by order 33 of the Minister of Finances (published in State gazette on 30 July 1888) two Bulgarian officials were given empowered to negotiate on the train traffic between Pirot and Tsaribrod. The order 43 from 9 August made their task more specific: they had to develop Trans-Border Regulations on the base of the Convention on Regulating the Offices for Connection between the two countries signed on 14 September 1887. Then Bulgaria sent a delegate to the Commission in Budapest to participate in developing Common Regulations for the traffic along the line.

The convention between Serbia and Bulgaria was a unique in the Balkans as it determined only one station, Tsaribrod (today it is the town of Dimitrovgrad in Serbia), for changing trains and customs control. As at that time the station belonged to the Bulgarian State Railways (BDZ), the Bulgarian officials carried out the traffic management on the expenses and responsibility of the BDZ. Although the Serbian Railways had only two representatives, an official and his assistant, no train could leave to Pirot without their approval. This organization of cross-border

interaction was remarkable for the relations between the two countries, which 3 years before, in 1885, had been in war. That fact could be properly assessed if compared with the trans-border crossing on the other lines in the region and even in Europe where the usual practice was two separate stations, one in each country. It is worth mentioning that last year this tradition was restored by the agreement of the governments of Bulgaria and Serbia to carry out the trans-border control only at the station of Dimitrovgrad.

Another example of the public awareness for the railway security was the change of the Criminal Law, which for several years after 1878 remained the same as it existed during the Ottoman rule. The reasons for the amendments of the Parliament were connected with the increasing vandalism against the railway infrastructure during and after its construction. Although of different nature (dismounting of rails, taking away of sleepers, putting objects on the track, etc.), the deeds were equally dangerous for train traffic and all with the malice to hinder the import of industrial goods from the Western Europe. What lay beyond that behavior was the local producers' fear of competition and bankruptcy. The new articles added to the old law provided quite severe penalties and, in this way, had a preventive effect against intentional damages to infrastructure and rolling stock.

While analyzing the regulations developed in Bulgaria until the end of the 19<sup>th</sup> century, it can be easily traced where the amplexes were taken from. According to the Act of Railroads in the Kingdom of Bulgaria of 1885, French practice had to be regarded as a main reference but the geographical range of the documents origin was much wider. For example, the Convention of Connecting the Serbian and Bulgarian Railways had to create compatibility between the two railway systems, so the BDZ authorities had no other way but to harmonize the internal rules of operation with those of the neighboring country, where most articles were borrowed from the railway acts in Austro-Hungarian Empire.

It was only in extreme cases, when Bulgaria did not keep to the international law. In 1888 the Company of Vitalis, which had build the short section from Belovo to Vakarel, denied to open it for operation before being paid by the High Porte, making impossible to cover the whole route from Vienna to Istanbul. Then the Prime Minister Stefan Stambolov ordered to occupy the line and pass the BDZ trains to Belovo. Explained with the care to protect the tracks

against possible robberies, this action established the conditions for operating the “*Orient Express*”, one of the most preferred transcontinental roads, the background of Agatha Christie’s famous novel where a murder story on the train was brilliantly described. However, keeping to the historical facts, it should be acknowledged that the journey eastwards from the hearth of Europe was more pleasant than dangerous. Nowadays thousands of people want to feel the spirit of the past traveling by the duplicate “Orient express”, which a tourist attraction of high quality and price.

The security on this line and especially with crossing the borders was guaranteed by bilateral and trilateral agreements between Bulgaria, Turkey and Serbia, keeping to the international conventions. The documents were periodically renewed to follow the current world tendencies in railway management. After the agreements of 1891 and 11893, on 1 May 1898 the three countries signed another contract on direct traffic operation along the Balkan part of the “Orient Express” line.

## **2.2. The 20<sup>th</sup> century: Active participant in international forums**

The thorough examination on the Bulgarian documents can prove that both the railway authorities and law experts knew the international regulations for protecting people and goods and professionally applied them to practice. However, the country could not be officially a contract party because of its vassal position until the Act of Independence (8 September 1908), as the agreements with foreign countries had to be confirmed by the High Porte. That is why the BDZ joined some of the international railway structures just after that event. In 1912 Bulgaria became a member of the International Convention on Goods Transport, CIM (established in 1893) and, being an active participant in it, supported the decision of founding another International Convention – on Passenger and Luggage Transport, CIV. A year later, in 1924, it confirmed the new membership, using both documents against criminal deeds on the infrastructure and rolling stock.

The activity of the Bulgarian delegates at international conferences and meetings was registered in the reports published in the specialized journals and newspapers between the two world wars. It is worth mentioning that their presentations created the image of the BDZ as a company ensuring reliable and comfortable

traveling, including the first organized tourist journeys. The improvements accomplished at that period were imposed by the necessity to increase the railway competitiveness to road transport, the security of passengers and their belongings as well as of goods. It was the newly-established International Union of Railways, UIC (1923), that contributed most to developing modern railway regulations.

Despite the political changes in the country after 1944, Bulgaria did not break its connections with the railway organizations it entered before the World War II, even after the establishment of the Organization for Cooperation of Railways (OSJD) in Sofia in 1956. The OSJD was actually the final step in the cooperation of the railways from Eastern-Europe (the former Soviet block) as during the years they had signed a serious of agreements on transportation of passenger and goods defining common rules for keeping a high level of security.

Bulgaria continued to be an active player in the international relations in the field of transport, especially in the Balkans. It developed and kept contacts with the neighboring countries both on governmental and professional level. The bilateral agreements gave a possibility to discuss issues of common interests, including border crosses. The latter was very important as within 40 years the railway connecting points tripled: from two (on the railway Istanbul – Vienna, at the borders with Yugoslavia and Turkey) to 7 (1878). In 1940 Bulgaria was linked with Romania by the Rousse- Gjurgju ferry, replaced by a bridge in 1954, then by the land border line (Kardam – Negru vodu), and a few years later (1952) by the Vidin – Kalafat ferry. In 1965 the railway line going southwards from Sofia to Kulata was connected to the Greek railways, considered to be a great success in the relations between the two countries.

The next step to a united railway network in the Balkans was the construction of the bridge over the Maritsa river that made possible to avoid the double crossing of the Greek border, leading directly from Svilengrad to Kapa-kule, Turkey (1971). The final project of a new railway connection was the ferry from Varna to Ilichevsk/Poti (1978). It should be underlined that the opening of each new border pass was preceded by hard work of bilateral commissions, which had to precisely fix detailed rules for ensuring the railway security.

Tracing the situation in Bulgaria after 1944, it is not possible to miss the fact that in the 1980s the

country experienced two terrorist attacks: at the stations of Plovdiv (1884) and on a train passing through the station of Bunovo (1985). Out of their political background, those dreadful events stimulated the re-esteem of the possible dangers in railways and the strategy of strengthening the security on railway system as a whole. The experience accumulated was the basic reason to assign the coordination of WG 8 – Security with the Southeast Europe Railway Group (SERG) to Bulgaria where it is represented by the BDZ EAD, the main national railway operator.

Constituted in 1989 as a component of the International Union of Railways (UIC), the SERG unites structures from Albania, Bulgaria, Macedonia, Greece, Romania, Turkey, Serbia and Montenegro. Among its priorities, the aim to increase security has become particularly urgent after the events in Kosovo, New York and Madrid. It is why the position occupied by Bulgaria in WG 8 is not only an acknowledgement, but also a great responsibility for the traffic safety in the Balkans.

Long before the SERG appeared, in 1980 the UIC had established another structure specialized to deal with rail security, COLPOFER (Collaboration of Railway Police and Security Services). It was founded by the Western Europe's railway companies on the purpose to discuss and exchange information on security and other relevant issues, organize conferences and other events to share "good practices" and disseminate knowledge and expertise; develop common principles, methodology, technical means and recommendations for the fight against fraud, illegal entrants, damages to cars, robberies, terrorist threat, transport of hazardous materials, interventions in railway traffic, terrorism, emergency events, etc.; to support various forms of education and information services in the field of transport security. Bulgaria joined this organization only a few years ago.

### **3. Challenges of democracy and globalization to the current condition of railway security**

#### **3.1. New realities – new decisions**

The democratic changes in the 1990s, as well as the European integration and the process of globalization, have put new challenges to providing security in society as a whole. The problem with the railways became one of the most urgent after the terrorist attack in Spain on 11 March 2004 and in London in 2005. Each new

threat to the sector increases the responsibility of governmental bodies and transport companies for the lives of people traveling on trains or/and waiting at stations.

The new realities need new, much more effective decisions. The old regulations developed under the conditions of the 20<sup>th</sup> did consider neither the new risks nor the use of modern technologies. The unprecedented tragedy in New York on 11 September 2001 showed that security is to be regarded as a main concern of governments and societies. It became clear that no country and nobody could feel absolutely insured against terrorism and that the preventive policy should become a priority on national, regional and international security.

The solution of the security problems requires also a new approach to staff training. In all countries the rail carriers and infrastructure managers are bound to create and submit plans for security training and then complete the training for those who are identified as security personnel, dispatchers, train operators, other onboard employees, maintenance and maintenance support staff, bridge tenders, etc. According to experts, training should be specified depending on the sector (passenger or freight) and the individual jobs.

At the same time, it is likely to achieve success if only the organizational measures are combined with implementation of modern equipment and technologies. The devices of monitoring and on-board station surveillance have proved their efficiency as a barrier against crimes, reducing the number of registered thefts, violence attacks, vandalism, etc. Another important factor is the information exchange between the neighboring railway administration as well as the enhancement of trans-border control. The investments for both will return the costs by preventing damages and destruction. The process of globalization needs much more than close connections in the regions: it requires the creation of a single system of information and dissemination of "good practices".

#### **3.2. Bulgaria's contribution to railway security in the Balkans**

The events in the beginning of the 21<sup>st</sup> century and the new position of Bulgaria's as an accession country increased its responsibility for the railway security both on its territory and in the region. The presidency of the SERG in 2002-2003 was an opportunity for the BDZ EAD, representing also the NRIC, to enhance the

cooperation of the member railway companies from Albania, Greece, Macedonia, Romania, Turkey, Serbia and Moldova as an observer. Following the objectives of the WG 8 – Security, the Bulgarian partners organized a number of work meetings to exchange experience in preventing criminal acts against railway transport. They managed to improve the system of information concerning the transport of hazardous materials, cross-border accidents, special freight transport, carriages with graffiti, etc. The new approach of joint efforts resulted in establishing close contacts not only among the railway administrations, but also with the government bodies such as customs offices, border police, transport police (where it is a separate organization, e.g. in Romania) or/and the Ministries of Interior.

For the past five years Bulgaria has been working hard also for the COLPOFER association. It was at the conference in Rome in 2002, where the delegates from the two member organizations, the BDZ EAD and the NRIC, for the first time presented the results in providing security in the railways as well as the work of the WG 8 – Security. Since then, they have contributed to all forums organized by COLPOFER: the conference in Marseille (2004), the seminar in Lublin (2006), etc. The meeting in Poland where the partners in the Schengenrail project EC 2006 developed a joint declaration on the security at railway border crossings set a new challenge to Romania and Bulgaria because of having EU external borders.

Concerning the national level, the biggest event was the conference on Safety and Security of Transport held on 15-16 November 2005. It gave a possibility for a direct contact of the Bulgarian specialists and public with foreign experts and representatives from the EC.

The division the BDZ company into an operator and infrastructure manager did not affect much the routine activities for ensuring security on trains and at stations and the new departments, although within different structures, continued to work as a team. The specificity of their activities is in the established three-party cooperation together with the Transport Police office, which is a successor of the Railway Police and its nearly 120 years' traditions. However, each of the mentioned bodies has its specific functions and tasks but they all are intended to one and the same aim: ensuring the security of passenger and freight transportation. Another common feature with their work is the lack of funding that makes

difficult the implementation of modern equipment. The hope is that now, when Bulgaria is a member country, it will be able to solve this problem in compliance with the EU standards and requirements.

As for the staff training, the companies organize periodical training for the security responsible staff. The specificity here is in their collaboration with the Higher School of Transport (VTU), Sofia which can carry out a great variety of qualification and postgraduate courses. To enhance the part of the university in the system, a team from the school developed a special project funded by the ASO program of the Austrian Ministry of education and Science: *CONcepts for life long learning to further increase SafeTy on rail based trANsporT systems – CONSTANT*, developed with partners from the Institute of Transport Studies of the University of Natural Resources and Applied Life Sciences in Vienna, Austria, University Politehnica in Buharest, Romania and Faculty of Mechanical Engineering (MFK) in Kraljevo, Serbia and Montenegro. The project aim is to study the problems and advantages in each country and, on that basis, to develop concepts that will make possible to conduct joint forms of training in the field of railway safety and security.

### **3.3. Partnership and cooperation as a base of security in railway transport**

The terrorist threat has turned the public transport from an occasional target in the past into a preferred objective because of its vulnerability, size and the number of people it carries. Railways are open and accessible to all, generally without individual access controls or passenger identification. The terrorist attacks generate extensive media coverage at a global level, which not only affects the image of the transport sector, but also discredits the country, its government and social organizations.

Facing the current importance of railway security (day-to-day delinquency, terrorism, etc.), UIC decided to bolster its action creating the position of Chief Security Officer at UIC Headquarters in March 2003. His role is to coordinate and organize the framework for new international cooperation initiatives and implement the security policy through specific actions and events, with the constant aim to better integrate the efforts of the railway companies and other interested organizations. The officer relies mainly on two groups, each with a distinct structure: the *Security Group* consisting of railway security

managers from the main companies in the sector and the *Colpofer Group* involving security managers or police forces with responsibility for railways.

The necessity to expand the cooperation was the reason for developing the UIC security platform for working together with passengers, freight and infrastructure railway companies (7-8 June 2006). This document is intended to bring together security managers from railway company members of the UIC Executive Board and representatives from the UIC Forums, the CER and EIM. The first working groups were created to deal with the Schengen acquis and immigration, freight chain security, evolution of security technologies, passenger train security, station and critical infrastructure security, major events' management, fraud and tickets forgery, security crisis management, terrorism, thefts of metal.

Another trend in railway security cooperation is the partnership with the European Commission and its specialized bodies, Directorate General for Transport and Energy and Directorate General for Justice, Freedom and Security. Some of the latest forums on security issues were organized with their financial support and the involvement of the European Conference of Ministers of Transport (ECMT). Besides that, those problems have been accepted as a priority task by many other international organizations such as UITP, ECMT, UNECE, FRONTEX – the European Agency for management of the External borders of the Member states of the EU, all of which are interested in keeping close relations and organizing joint events.

### **Conclusion**

The nearly 120 years' experience of Bulgaria in providing a reliable railway system has shown that it could be achieved if only the national efforts are coupled with international collaboration and coordination. The strategy of cooperation is the most appropriate one for the railway transport because of its transnational nature. It is the economic sector that by its purpose is likely to unite not separate people and regions, nations and countries.

The loyal partnership and “day-to-day” exchange of information are of essential importance for the success of the railway security policy in the Balkans, Europe and the world.

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# СИГУРНОСТТА В ЖЕЛЕЗОПЪТНИЯ ТРАНСПОРТ: ТРАДИЦИИ И ПРЕДИЗВИКАТЕЛСТВА

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***Резюме:** Проблемът за сигурността на пътническия и товарен транспорт съществува откакто са се появили железниците. Поради трансграничния характер на железопътния транспорт, чиито маршрути преминават от страна в страна и от Европа в Азия, от голямо значение е било установяването на близки отношения между националните администрации и да се разработят международни правилници за предотвратяване на опасни ситуации.*

*Докладът представя исторически факти, свързани с работата за осигуряване на сигурност в железопътния транспорт както на национално, така и на международно равнище. В новите условия на терористични заплахи и други рискови събития, е препоръчително да се вземат предвид не само най-новите изисквания, но и опитът, натрупан в продължение на повече от един век съществуване на железниците на Балканите. Приносът на Българските държавни железници (БДЖ) като активен участник в международните организации и форуми по сигурността представлява капитал за политиката на сигурност в региона и Европа. Обръщането към традициите дава възможност по-добре да се оценят взаимодействието и сътрудничеството като необходимо условие за сигурността в железопътния сектор.*

***Ключови думи:** железници, сигурност, традиции, Балкани, сътрудничество.*