Transport security in terms of digitization

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Abstract. The authors consider in the article the issue of ensuring transport security in Russia both from the standpoint of the lack of an appropriate approach to formation of educational programs for the training of legal personnel that can meet the "challenges" of scientific and technological progress, and the need for increased attention to the trends of modern scientific research, which serve as a basis for formation of a legislative framework aimed at regulating public relations in the field of fighting crime in this industry. The issue of formation of human resources corresponding to a high level of professionalism, rationality, competence and mobility is indicated by the rapid “complication” of crime in the field of transport infrastructure caused by the development of IT technologies and introduction of robotic controls based on the work of artificial intelligence. One of the solutions to the problem identified by the authors should be creation and implementation of a new training course, the conceptual basis of which should be built on the principle of a modular system, but combine the existing traditional approaches of legal education in order to prepare competitive personnel that can meet the “intellectual challenges” of modern reality, which is a direct reflection of connection between science and knowledge (Scientia est potentia). The publication was prepared as part of the implementation of the state task for 2020. “Transformation of private and public law in the conditions of an evolving individual, society and state” (No. 0851-2020-0033).

1. Introduction

In modern conditions, threats to the normal functioning of transport complex are man-made risks and, at least, risks of outside interference, such as violation of transport safety requirements, poor service, corruption risks, problem of professional training, etc. Including conditions of modern world, significantly different from the world to the industrial era, contribute to the intensification of transnational crime. Transport infrastructures have improved and expanded significantly, especially air travel and road trips; international tourism and business travel are at a record level. It is not surprising that there are regular reports of cases of international terrorism, smuggling, computer crimes [6], flight from justice, drug trafficking and illegal immigration. Therefore, reliable transport security at the moment has become an urgent task both for Russia and for many foreign countries.

Following the laws of technological progress, improving public relations in the field of transport and challenges to their security, aggravated in recent decades, significant changes are also taking place in domestic criminal law. So, the adopted Federal Law of February 9, 2007 No. 16 "On Transport Security" [1] (hereinafter - Federal Law "On Transport Security"), became the starting point for reforming the regulatory framework in this area. However, recognizing the existence of a legislative imbalance in the field of regulation of transport security, there are many problems that need to be addressed, which causes ambiguous positions among specialists in the field of law. So, for example,
one cannot but agree with N.A. Dukhno, who says that legal regulation also needs to be improved in the field of ensuring safety of transportation processes, safety of vehicles, environmental safety and other types of safety in transport, in the field of control and supervision activities. [3, P. 56]

Some authors believe that current experience in the field of police counteraction to transnational crime suggests that the attempts of our state to achieve greater success in the future should be based on two principles. First, Russia should bring international police cooperation to a new level, consolidate such cooperation with international treaties, which will lead to mutual respect, benefits and consent, rather than political or economic coercion, violation of foreign sovereignty or restrictive treaty. Secondly, this is the achievement of greater coherence, efficiency, predictability and legitimacy in relations [5, P. 96]. Such principles, admittedly, are idealistic and difficult to achieve, but deserving of attention in the field of transport security.

Position of the authors who speak out about the issue of developing and creating a whole set of transport legislation and regulatory legal acts, which should have a fruitful effect on successful systematization of legal norms and formation of an internal regulatory legal system of transport complex, is seen as relevant. Another no less important issue is the presence of constraints on the process of digitalization of transport, which include the lack of standards and economic profitability. [7]

Due to the importance of public relations arising in connection with ensuring transport safety, changes have also occurred in the domestic criminal law. The Criminal Code of Russian Federation replenished with a number of new articles. During this period, for the first time at the legislative level, components of the transport complex were divided into two groups of potential crime objects - transport infrastructure and vehicles. And, despite their interdependence, there is reason to argue that designated components of transport complex have their own unique characteristics that determine the possibility of their separate study, but together they fill the complex concept of “transport security”.

Due to the novelty of legislatively allocated area of ensuring the safety of transport industry, systematic study of existing criminal law regulations in this area, their consistency and effectiveness is relevant. Moreover, regulation of relations in the field of transport security is at the stage of continuous modernization, due to the development of scientific and technological progress and the use of modern robotics that operate using the capabilities of artificial intelligence and other nanotechnologies.

Assessing the identified issues and prospects for their solution, we can conclude that ensuring transport safety goes far beyond the scope of only legal disciplines, bearing all the signs of interdisciplinarity and interdependence. As correctly noted, “transport security is a multidisciplinary conceptual category that includes technological, anti-terrorism, general criminal, economic security” [4, p. 88]. That is why it is currently so important, to determine the trends in the state’s domestic policy in the direction under consideration, as well as the vectors of modern scientific research aimed at ensuring transport security, not excluding the solution of the threat of terrorism that is interconnected with it. Undoubtedly, solution of such problems lies in the plane of competent and rational adoption of important decisions, which primarily depend on the location of professional personnel whose occupation is related to crime prevention in the field under consideration. Therefore, the problem of training the personnel potential of the sphere of ensuring transport security can also be attributed to the list of the above-mentioned torts that impede the normal and safe functioning of transport infrastructure.

In science, the issues of reckless crime, as well as the criminal law or criminological characteristics of crimes committed in transport, are well studied. Following works can be attributed to scientific works of this specificity: N.S. Alekseev, Yu.M. Antonyan, O.R. Afanasyev, A.V. Borisov, D.A. Brazhnikov, M.V. Goncharova, P.S. Dagel, M.Yu. Zelenkov, N.I. Isaev, A.I. Korobeev A.A. Matveev, S.V. Malikov, A.I. Chuchaev, V.E. Eminov and others. However, the issues of ensuring transport safety from the perspective of problems caused by the complication of country's technical transport fleet, creation of modern intelligent transport systems, introduction of new educational programs for training professional personnel, were not considered earlier in the context of a single comprehensive
program, which requires a separate study and preparation of new educational products that can harmoniously combine with other disciplines of the criminal law profile in the general structure of educational programs. The normative basis of this study was the use of federal legislation governing transport safety prevention; criminal and administrative law; departmental regulations.

2. Methods
The methodological basis of this scientific research was built using the method of analogy, logical analysis, synthesis. The authors used systemic and functional approaches, as well as methods of criminal statistics.

3. Results
The results obtained by the authors in the course of the study allowed us to identify urgent issues of ensuring transport safety. The analysis of modern crime trends in this area, approaches to its prevention, as well as the study of the problems of formation of professional skills as a factor contributing to the development of criminal attacks in this area, led the authors to the judgment on the need to improve and modernize educational programs for training specialists in the field of transport security. One of such solutions may be the introduction of a training course in the educational process “Actual issues of ensuring transport security”, the modular structure of which is presented in the Table below.

| №   | Module name                          | Subject matter of the review material                                                                 | Methodical approaches                                                                 |
|-----|-------------------------------------|--------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------|
|     | Conceptual foundations of scientific and technological development | 1. Development strategy. Single digital transport space.  
2. Normative regulation of transport safety.  
3. Spectra of digitalization. UAVs, hybrids, electric vehicles, super speed.  
4. Right of robots: politics, ethics. Biometrics and transport.  
1. Development of the doctrine of transport safety; Legislative imbalance.  
2. Institutions for ensuring transport security in Russian Federation. | Guest lectures and seminars; business games; excursion; method of work in a legal clinic; specific situation analysis method; psychodrama method with the development of coping strategies; judicial practice analysis method; method of psychological diagnosis (MMPI) with the construction of a "portrait" of the offender; testing method; method of using information technology (group online chats in social networks on resonant matters); peer review of articles; essay; "brainstorm"; the use of movie fragments and multimedia presentations, a conference and project method. |
| 1   | Organizational means of transport security | International cooperation.  
3. Trends in the development of transport crime of Russian Federation.  
4. Means of ensuring transport safety. Objects of transport infrastructure.  
1. Issues of implementation of institution of criminal liability. |                                                                       |
| 2   | Criminal law means of transport security | 2. Issues of qualification of transport crimes.  
3. Corruption and transport security.  
4. Terrorism as a threat to transport security.  
1. Issues of transport safety: means of control and power of supervision. |                                                                       |
| 3   | Prevention of transport crimes in the Russian Federation | 2. Identity of offender: diagnosis, professional selection. The issue of personnel. At-risk groups.  
3. Issue of standards and economic viability |                                                                       |
4. Discussion
The era of robotization has begun. Digitalization of almost all spheres of life, introduction of artificial intelligence, transition to nano-technologies, three-dimensional visualization, which overtook humanity, have led to scientific disputes and debates that go far beyond domestic politics to the international level. Unimaginable drones, electric cars and drones, intelligent warning and navigation systems, machine vision modules that recognize pedestrians have already been successfully mastered by humans. Modern BIM technologies, creation of digital doubles and geopostals, GLONASS, interactive pedestrian crossing systems, photo and video recording cameras, MedPoint24 survey systems, the use of incident management and acoustic road sensors - now logically fit into the concept of developing a unified intelligent transport system. However, the question has still not been resolved. Who will ultimately be destined to decide on a particular life situation - a person or a robot? After all, a mistake in such a choice carries an enormous risk to the life and health of citizens.

Integration of numbers and transport is accompanied by a number of problems related not only to the lack of knowledge in working with digitalization products, the presence of corruption and cyber threats, the lack of a single regulatory framework, but also the lack of educational programs that satisfy continuous development of scientific and technological progress, which means that they can produce the right qualification, for example, in case of a robot causing death to a person.

Training of personnel capable of coordinated action in the conditions of failure of intelligent transport systems (hereinafter referred to as ITS), make the right decision when the management of such a system will be “paralyzed”, correctly assess legal risks and emergencies, while providing competent qualification and appointing a fair punishment - should become the main vector on the path to modern research, along with stimulating the scientific potential of students with the aim of continuing their scientific development, modernizing normative legal acts, as well as preparing ethical codes and methodological recommendations on joint human activities and, for example, a robot in the transport sector. Currently available educational products are scattered and “scarce” in terms of using modern methodological approaches that can directly affect development of students' productive thinking, which affects their competitiveness. Therefore, the approach to organizing and implementing modern student training courses in the field of transport security should be structured in such a way that it can not only complement the structure of a separate educational program (for example, a master's program), but also open up a large-scale analysis of new national threats.

One of such products, in our opinion, may be the training course “Actual Issues of Ensuring Transport Security”, which could probably become attractive for commercial organizations related to the transport industry and the use of transport systems, due to the high profitability provided by an interdisciplinary methodological approach combining interconnected tradition and innovation.

It is worth noting that the leading foreign universities of Western Europe and the USA (University of Glasgow, Cambridge, Oxford) have long adhered to a modular rating assessment of knowledge of masters based on the ECTS system. Also, the programs of some of them (University of Leicester) provide for interactive classes, so the "hybrid" study, when there is active communication with the teacher in combination with computer tools, is considered to be recognized.

Successful implementation of such a course is seen by us, provided that the teacher uses deep criminal law knowledge, applies professional communication skills, as well as traditional and innovative methodological approaches that determine the unique format of work. A wide methodological selection will create an atmosphere of students' interest in the issues and content of the course, make the educational process interesting, accessible and understandable, and in some cases mobile, and possible in a remote mode.
Such an original organization of educational process should provide an individual character of work in an optimal combination with a creative approach to the interests of students and their educational needs. Representatives of various transport departments and legal directions can take part in the preparation of the course, which will provide a broad view of issue of crime prevention.

Complexity of the discipline should provide the optimal opportunity to gradually master the training material in view of the planned process, the degree of load on the session should be reduced. The classroom load should provide an opportunity to discuss issues together with the teacher, identify incidents, torts, assessing risks, and the teacher’s active use of IT technologies should turn the lesson into a mutual dialogue, which ensures the high role of collective creativity.

Traditional methodological approaches should increase the responsibility of students before making a balanced legal decision, and also be aimed at building the ability to defend their position, have a look at the problem and correctly argue it in opposition to ordinary judgments, using the entire arsenal of legal technique and oratory tactics, which should indicate about the significant role of independent work. Conducting excursions that influence the student’s social adaptation process should be evaluated in a positive way, making it part of the legal culture, shaping spiritual and personal development.

Training course meets the requirements of such a mission as accumulation, preservation, augmentation and dissemination of intellectual, scientific, moral and cultural values. Therefore, students who have successfully mastered the course may become the most attractive for demanding consumers in the labor market. Implementation of this course will solve the issue of training highly qualified personnel in the spirit of professional mobility, tolerance and competence in terms of solving problems of ensuring national security, which is an important condition for implementation of productive activities in the modern realities of information society.

Introduction of an educational product should contribute to the development of professional competencies of future employees in the field of ensuring transport safety in lawmaking, in terms of developing skills in preparing regulatory legal acts, law enforcement in terms of ensuring public order safety, research and development, and conducting research and development, as well as in pedagogical activity.

5. Conclusion

Development of conceptual approaches to fighting crime is the fundamental basis for any transformation taking place in society. Rapid development of digitalization, which has already found expression in the use of innovative tools created with the latest technology, has not only positive features from the point of view of resource saving, but also raises the issue of ensuring security. High-quality legal protection of rights and legitimate interests of citizens is required. Therefore, the demand for personnel with special in-depth knowledge in the field of criminal regulation of issues of ensuring transport security in the context of introduction of innovative controls is undeniable.

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