



**To the Question of Development need for the concept of the legislation in the  
sphere of Robotic Vehicles use on public roads**

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**ABSTRACT**

Assuming serious reforming contents of standard instructions in the sphere of robotic vehicles use, authors of article indicate the need developments of the complex document, a detailed "route of the movement" to an effective and comprehensive legal narration of process of pilotless vehicles use on public roads, since questions of standardization of release of those, and finishing with full and consistent "embedding" of a new difficult object in the general system of civil law objects.

The all-methodological basis was made by the conceptual approach, a general scientific (dialectic) method of knowledge, comparative and legal, logical methods which allowed to consider problems of development of the legislation in the sphere of robotic vehicles use on public roads.

Approaches of the Russian and foreign law-enforcement practice of regulation of robotic vehicles use are considered. Features of inter-industry legal regulation of the relations connected with establishment of their legal status are revealed.

Attempts of formation of the Legislation development concept having comprehensive and complex character for the purpose of finding of ways of permission of the existing theoretical and practical problems were made.

Theoretical domestic and foreign researches of scientists in the field are brought and analyzed. It is offered to reform the current legislation in transport, civil, administrative and other branches of the right, for elimination of gaps and lapidary in standard and legal regulation, and formulations of specific proposals on further improvement of the standard massif.

**Keywords:** Robotic vehicles, public roads, legislation development concept, civil law, administrative law.



## **1. INTRODUCTION**

Progress in the field of informatics and computer facilities led to emergence of essentially new, earlier not existing objects, namely robotic vehicles. These objects are capable to move without direct intervention of the person on difficult trajectories and to react to emergence of obstacles, independently making the decision on performance of this or that maneuver. At the same time, in the legislation of the Russian Federation there is no standard and legal base of use of the similar equipment on public roads taking into account its features and fundamental differences from the vehicles operated by the person.

Development of a segment of the automated technologies and its significant progress in applied application demand to return to a problem of reconsideration of contents of the created legislation today and to lead it to the corresponding present situation to level, including, taking into account the prospect of development of transport branch in the country.

Already now the existing roads technically are in many respects adapted for the movement of pilotless transport on safety parameters which are equipped with elements of intellectual transport systems and need only the minimum technological retrofitting for the solution of this problem.

In the analysis of legal support in this case, the situation develops oppositely. Need of legal reform of the legislation of the Russian Federation for this sphere is agreed by all experts whose works are anyway connected with operation of robotic vehicles. But it is necessary to understand that only pointed correction of separate standards of the legislation will not allow solving all possible problems. Already now the vector on an innovation is established and continues to be carried out "under a wing" the road map of "AutoNet" developed by Presidium of Council at the Russian President for modernization of economy and innovative development of Russia on the basis of Decisions #3 of June 9, 2015 and #4 of October 16, 2015.

The contents of this document, in fact, defined only the most general contours of necessary reformatations of the standard massif. At the same time, the effective and balanced change of the legislation requires obviously existence of more concrete and detailed document subordinated to an overall objective of renovations namely - to an



optimum combination of interests of businessmen, investors, future operators of robotic vehicles (private-law in essence), and respect for public interests, first of all, with requirements of transport safety. And this purpose (its achievement) has to become key when forming the Legislation development concept in the sphere of robotic vehicles use on public roads.

## **2. METHODS**

The fundamental principle of a research is the methodological principle of objectivity. It is expressed in the comprehensive accounting of factors and conditions in which the phenomena arise and develop. The essence consists in allocating and estimating all possible versions of the decision, to reveal all points of view on the studied question. The variety of the parties, elements, relations, internal and external factors of functioning and development of process of introduction of robotic vehicles defines the principle of system studying. System approach is based on the provision that specifics of a difficult object (system) are not exhausted by features of the elements making it, and is connected, first of all, with the nature of interaction between all its elements. The problem of knowledge of character and the mechanism of these communications and the relations is put in the forefront.

For elaboration of approach to regulation in the sphere of robotic vehicles use on public roads, Russia can apprehend the international experience checked decades in this section.

The analysis, synthesis, concrete historical, system and structural, formal and logical, theoretic-predictive methods, and also interpretation of rules of law act as methods of a research.

## **3. RESULTS AND DISCUSSION**

Now rapid development of computer facilities led to emergence of a new class of technical devices - the pilotless mobile objects capable to move along the set route without direct participation of the person. Unmanned aerial vehicles, the pilotless ships, robotic vehicles etc. can be examples of autonomous mobile objects. Now unmanned aerial vehicles are already widely used in practice (especially in military science), active researches in the field of creation of sea and land pilotless mobile objects are conducted. Practically all leading global car makers already realize projects on creation of cars with a possibility of the autonomous movement. Such companies as "Volvo", Daimler,



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"Scania", Google, "Tesla Motors" etc. already have prototypes of robotic vehicles. The Russian car maker PJSC KAMAZ announced creation by 2018 of prototypes of the pilotless bus, pilotless dump truck and the pilotless truck tractor. According to analysts, robotic vehicles use in the long term will allow to reduce the number of the road accidents by 90%, load of highways - for 60%, harmful emissions - for 30%.

However, practical robotic vehicles use in economic activity at the moment is significantly limited to absence of the relevant standard and legal base. Now in the legislation of the Russian Federation there are no norms, the setting legal regime of the robotic vehicle, his concept is absent even, and all existing normative documents do not provide the fact of existence of the vehicles capable to function in the normal mode without intervention of the person.

In legal literature there are no works devoted to a complete, complex research of a legal regime of the robotic vehicles and questions connected with development of basic provisions of the Legislation development concept in the sphere of robotic vehicles use on public roads. There are no norms establishing features of regulation of robotic vehicles use at all.

Unfortunately, and the total of researches about separate aspects in the sphere of use of pilotless mobile objects is obviously not enough, and the level of researches does not correspond to complexity of the studied problem. In particular, there is only a small round of researches devoted to operation of unmanned aerial vehicles [Kurakin A. V., Molyanov A. Yu., Mityushin D. A., Kharitonov A. N. 2017; Zulfugarzade; T. E., Tanimov O. V. 2016]. Especially it is necessary to pay attention to work about essence of robots as quasibjects of civil legal relationship and rules of use of responsibility in this situation [Lyashchenko Yu. V. 2016].

At this conjuncture, the standard and legal base is the central element limiting robotic vehicles use on public roads. The analysis of foreign precepts of law and researches confirms wider interest of the legislator and jurists to these questions in the USA [Iriskina E. N., Belyakov K. O. 2016], Japan [Japan Sets Draft Rules for Unmanned Vehicle Road Tests//2017.], etc. All specified researches set the studied category of vehicles as special object of the right, emphasizing at the same time their special peculiar features, for example need of presentation of increased requirements to hardware of vehicles and to their reflection in the right [Ravich Timothy M. 2017]. Such



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relations in connection with an opportunity (and there are already examples) use of drones in armed conflicts [Wu Stephen S. 2011] [Shah, Sikander A. 2015] become complicated.

It is a little actually legal researches in this section, the exception can be considered only the work S. Nilsson [2017] and some others. Their analysis allows drawing a conclusion that the foreign legislator faces approximately the same problems, as Russian. For example, it concerns norms on responsibility of persons within criminal law [Hallevy G. 2011].

The ideal result of legal support in the case under consideration in our law and order has to mean that all arising public relations of public and private character are regulated by the rules of law which are contained in regulations of various branches of the right. We believe that the emphasis has to be placed on use in the Russian Federation system, complex, approach in the field of ensuring normal and effective operation of robotic vehicles.

Only the full and comprehensive accounting of all objective circumstances will allow formulating a basis of the draft of the Legislation development concept in the sphere of robotic vehicles use on public roads.

The right already pays sufficient attention to transport branch, however robotic vehicles use in real life, in the course of implementation of transportation of goods, passengers, baggage is accompanied by emergence of unusual situations, not familiar to the current legislation of the Russian Federation now. Therefore, emergence of the public and private legal relationship developing concerning functioning of such vehicles demands a detailed regulation on the basis of the principle of unity known to the right and differentiation of legal regulation already now.

Assuming serious reforming contents of standard instructions in this part, we believe need of development of the complex document, a detailed "route of the movement" to an effective and comprehensive legal narration of process of pilotless vehicles use on public roads, since questions of standardization of release of those, and finishing with full and consistent "embedding" of a new difficult object in the general system of objects administrative, civil, enterprise and other branches of the right.

The main features of the Concept offered to development consist that this document will widely affect not only situations of actually transport legislation, but also numerous



federal laws of various branch accessory which only in the presence of designation of the general planimetric space and detailed study of the main directions of development of the legal massif can be provided to the uniform coordinated system.

It is necessary to understand that transition to robotic transport technologies is not possible at once. It is preceded by the period of gradual technological accumulation and improvements which finally provide necessary technological breakthrough. The following steps have to be connected with standard ensuring direct introduction of developments in life by means of adoption of special legal instructions, the defining norms of robotic vehicles use. In the certain European countries and the USA similar standard rules are already accepted and are effectively applied. Due to specified activation of actions in the similar direction is extremely necessary: further lack of standard and legal base of functioning of robotic vehicles will promote, including, and to technological lag of the Russian Federation from the leading world powers.

#### **4. SUMMARY**

Today need of development of full-fledged standard-right base of robotic vehicles use on public roads is sharply shown. Creation of the Legislation development concept in the sphere of robotic vehicles use on public roads including the exhaustive list of necessary changes and additions in the current legislation.

We believe it is necessary to reflect the following aspects in this document without fail:

1. analysis of essence and maintenance of the concept "robotic vehicle";
2. development of a legal regime of robotic vehicles as object of the civil rights features of transactions with them and questions of their turnover ability;
3. a formulation of the text of the main changes in Traffic regulations;
4. development of the project of state standards of the vehicles used on public roads;
5. a research of questions of ecological safety in the sphere of robotic vehicles use on public roads;
6. definition of measures of legal responsibility in various branches of the right, differentiation of rules of responsibility between different persons in the sphere of robotic vehicles use on public roads;
7. features of investment support and tax benefits to the subjects participating in this sphere;



8. development of offers on formation of rules of obligatory insurance in the sphere of robotic vehicles use on public roads;

9. elaboration of suggestions for improvement of the legislation.

Complex character of the studied problem caused the appeal to norms of various branch accessories. The generalizing approach and thoroughness of future research will allow carrying out study of many key central problems when studying references, wide use of the legislation, law-enforcement practice. The special attention will be paid to an additional research of technical and economic, social and economic and organizational and administrative aspects.

## **5. CONCLUSIONS**

On the basis of the analysis of the standard massif of foreign countries, the program documents establishing features of process of functioning of robotic vehicles in the domestic legislation creation of one more additional program document - the Concept in which new approaches to effective realization of a problem of introduction of robotic vehicles in life of modern society will be created is necessary. It is planned to develop offers on comprehensive and complex improvement of the current legislation with use of theoretical justifications taking into account experience of foreign countries, with justification of the choice of the most effective tools and means of regulation of robotic vehicles use on public roads.

Basic provisions of the Concept can become a basis for creation of the special array of the legislation on regulation of the relations arising in the course of robotic vehicles use. When developing the draft of the Concept not only the conventional theoretical postulates and classical legal designs in possible refractions to the studied right object, but also modern law-enforcement practice, and also experience of advanced European and other laws and orders (first of all, the USA), for the purpose of harmonization administrative, civil and other branches of the legislation will be widely considered.

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## **7. REFERENCES**

- DRONE WARS: TRANSFORMING CONFLICT, law, AND POLICY//NEW YORK, NY: CAMBRIDGE UNIVERSITY PRESS, 2015.
- Hallevy G. Unmanned vehicles: subordination to criminal law under the modern concept of criminal liability//Journal of Law, Information & Science. - 2011. - Vol.21(2). - P.200 - 211.
- Iriskina E. N., Belyakov K. O. Legal aspects of civil responsibility for infliction of harm by operations of the robot as quasisubject of the civil relations//Humanitarian informatics. 2016. #10. Page 63 - 72.
- Japan Sets Draft Rules for Unmanned Vehicle Road Tests//Jiji Press English News Service, Apr 13, 2017.
- Kurakin A. V., Molyanov A. Yu., Mityushin D. A., Kharitonov A. N. Legal regulation of use of remotely-controlled arms by police//Modern right. 2017. #4. Page 41 - 45.
- Lyashchenko Yu. V. Legal aspect of use of pilotless devices in Russia//Urgent problems of aircraft and astronautics. 2016. #12. Page 612 - 614.
- NILSSON S. DRONES ACROSS AMERICA: UNMANNED AIRCRAFT SYSTEMS (UAS) REGULATION AND STATE LAWS//CHICAGO, ILLINOIS: AMERICAN BAR ASSOCIATION, AIR & SPACE LAW FORUM, 2017.
- Ravich Timothy M. Commercial drone law: digest of U.S. and global UAS rules, policies, and procedures//Chicago, Illinois, 2017.
- Wu Stephen S. Unmanned vehicles and US product liability law//Journal of Law, Information & Science, Dec, 2011, Vol.21(2), p.234-254.
- Shah, Sikander A. International law and drone strikes in Pakistan: legal and socio-political aspects//London: Routledge, 2015.
- Zulfugarzade T. E., Tanimov O. V. of Model of regulation of the information relations in the USA//the Information right. 2016. #1. Page 26 - 33.