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PROBLEMS OF LEGAL REGULATION IN THE CIRCULATION WITH BIOMETRIC DATA AND GENETIC INFORMATION IN THE TRANSPORT SECTOR

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Abstract:

The development and application of biometric and genetic information processing technologies are widely used for identification of people and objects on transport. The implementation of these technologies requires, on the one hand, the development of general legal institutions of biometrics and genetic information, and, on the other hand, the amendment of transport legislation. The solution of the problem for ensuring comfortable mobility among citizens within the framework of the digital transformation strategy in the transport industry requires the use of digital profiles for subjects in the transport sector based on a single biometric system. Large-scale projects for the use of human genetic data determine the need for further development of Russian legislation on personal data and its harmonization with European legislation and the provisions of the Regulation on the Protection of Personal Data (GDPR). As prospects for the development of individual norms of transport legislation constituting the institute of legal support for the circulation of genetic information, it is proposed to identify: norms of law establishing the rights of persons providing access to their genetic data as well as the obligations of persons processing such structural information; norms establishing the limits of using genetic information; norms establishing the rules of genetic data exchange with other national and international bodies and organizations; norms that ensure the information security of the turnover for genetic information; prohibitive norms on the restriction of the turnover for genetic information. The development of convergent technologies in the field of transport requires new legal solutions for the use of artificial intelligence systems for automated decision making. The person using such a system must: perform a risk assessment of the rights and legitimate interests of the subjects to whom the decision is made; ensure the necessary protection of confidential data; include specific provisions on automated processing in local regulations; widely and actively inform the data subject about profiling and automated decision-making; introduce procedures to allow individuals to make appeals regarding automated decision making; implement a mechanism for independent monitoring of the entire decision making process.

Keywords: transport, digital transformation, biometrics, genetic information, legal institution, automated decision making, profiling, digital passenger profile.

Introduction

The development and application of biometric and genetic information processing technologies is a worldwide trend. Today biometrics is widely used for the identification of persons and objects when travelling by transport (Akhmadieva et al., 2018, 2021).

Technologies are emerging which will allow to do away with tickets and ID cards in the future. Fingerprint scans, facial recognition or even microchips containing genetic data inserted under the skin could be used to speed up customer service at airports and train stations (Natolochnaya, Zimovets & Kryukova, 2015; Moroz et al., 2021; Stukalova et al., 2018).

Biometric technology is already being used as one means of access to cars. Airports and airlines have begun to innovate together using biometrics to identify luggage and board passengers. Swedish railroad company SJ is using microchips as a means of identifying its transit passengers. According to the 2017 International Air Transport Association (IATA) Global Passenger Survey, 64 percent of respondents chose biometric identification as a travel document instead of a paper ticket or electronic ticket on a smartphone (Na.panasonic.com, 2021).

Biometric facial recognition technologies are integrated with airport and station security systems, ticket booking services and transport company loyalty programs.

The Head of the Ministry of Transport of the Russian Federation V. Saveliev announced at the St. Petersburg International Economic Forum (SPIEF-2021) that by 2024 the Ministry expects to implement a biometric passenger identification system on air, rail and public transport (The Ministry of Transport, 2021).

Providing more effective functioning of airports, railway stations and other transport system structures, improving comfort and security of passengers, automation of examination and acceleration of services is not a complete list of advantages the use of biometric technologies provides.

Experts note that there are no technical barriers to the introduction of technologies based on the processing of biometric data in the transport sphere but it is still impossible due to the lack of legislation (Habr.com, 2021). Today, the introduction of such technologies in transport requires, on the one hand, the development of general legal institutes of biometrics and genetic information and, on the other hand, changes in transport legislation, in particular, the rules of passenger service, which today are based on the use of paper and electronic identity documents.

Materials and Methods

The article used materials from scientific articles on the problems of using biometric technologies and genetic information in transportation, on the issues of legal regulation for using biometric data and the circulation of genetic information, including in transportation, normative legal acts of the Russian Federation as well as international acts in the field of biometrics and the processing of genetic information.

In writing the article the following methods were used: empirical methods of comparison, description, interpretation; theoretical methods of formal and dialectical logic, analysis, synthesis, system analysis; private-scientific methods: comparative law and the method of interpretation for legal norms.

Results and Discussion

3.1. Problems of Development for the Legal Institute of Biometrics

Biometry is the basis of identification documents (biometric passports, identification cards, ID-cards), which are standardized worldwide by the International Civil Aviation Organization (ICAO). Since 2002 its documents recognize biometrics as the main identification method (ICAO Document 9303, 2021). In the ICAO member countries facial recognition technology is the main and mandatory method of identification. Other identification technologies, such as fingerprints or iris scanning, they can use at their discretion. These processes lead to the need to actively study the issues of information security (Polyakova, 2020).

European countries have established their own approach to biometric data processing in the General Data Protection Regulation (GDPR). Regardless of the purpose of the processing, GDPR applies when video devices record images to identify a person and determine his location. This data would be subject to the in-principle data processing prohibition regime of GDPR Article 9 (1). Therefore, the processor must either justify the grounds for derogating from the prohibition in principle or provide a proper legal basis for its actions (General Data Protection Regulation, 2021).

However, the rapidly changing technologies of information processing have required a clarification of the general position. For example, the European Data Protection Board (EDPB) adopted guidelines on the 29th of January, 2020, explaining how to apply GDPR principles in the context of video recording (Guidelines, 2019). They state that three criteria are required for the processing of biometric data obtained through video devices: the data must be obtained as a result of a specific technical processing (criterion of the means of processing); the processing must include raw data on the physical, physiological and behavioral characteristics of an individual (criterion of the nature of the data); the data processed this way must provide a unique identification of the person to whom it belongs (criterion of the purpose of processing).

As an exception, the guidelines state that the GDPR does not apply if the video: cannot directly or indirectly identify a person and (or) the video is recorded by an individual for exclusively personal or family purposes.

It is also noted that processing is not biometric if, in the context of a video, it is only intended to distinguish categories of people based on certain characteristics, such as age or gender, without combining the raw data collected and using biometric technology to uniquely identify people.

The use of biometric processing technology can only be justified if the goal of processing cannot be achieved by other means. This requirement for proportionality is supported by the guidelines cited, which also insist that the use of biometric processing technology be in accordance with the principles of legality, necessity and data minimization.

The extremely sensitive nature of biometric data requires special organizational measures to ensure its security. This includes, in particular, the separate storage of the raw personal data and the biometric data created from that raw personal data, and the deletion of the collected raw data when it is no longer needed to create biometric models. If this data is retained, the guidelines require additional security measures.

Russia has been working to create a Unified Biometric System (UBS) since 2017, initially designed to collect biometric information and use it to identify users of financial services. Federal Law № 479-FZ from the 29th of December, 2020 «On Amendments to Certain Legislative Acts of the Russian Federation» expands the scope of the UBS, primarily beginning its use in the provision of public services (Federal Law, 2020a).

The Ministry of Transport of the Russian Federation has identified six initiatives for the regions as part of the strategy for the digital transformation of the transport industry in the Russian Federation. Thus, the Green Digital Passenger Corridor project has set the goal of ensuring the comfortable mobility of citizens. The implementation of this initiative involves the use of digital profiles for transport subjects (passengers, drivers) on the basis of a unified biometric system, the development of tools for cashless fare payment based on biometric data and the technology of digital routes for all modes of transport (Ministry of Transport of the Russian Federation, 2021).

The implementation of these initiatives requires the development of transport legislation, in particular, the rules of passenger service using data from the unified biometric system.

3.2. Problems of Developing an Interdisciplinary Legal Institute for Genetic Information

Genome research activities generate huge amounts of genetic data which are widely used in various research projects (Rassolov et al., 2020).

Thus, on the 14th of May, 2020, Russian President Vladimir Putin, at a meeting on the development of genetic technologies, stated the need to create a national genetic information database, instructing the Russian government to organize work in this direction at the expense of the federal budget. One of the key tasks of this project is to ensure data protection, storage, transfer, the development of software tools for searching, analyzing and modeling genetic information on the basis of uniform standards (The official website of the President of Russia, 2021).

Control over the use of genetic data is currently an urgent problem, which is directly related to the protection of basic human rights and freedoms, the individual's right to privacy of personal information.

On the 8th of June, 2020 the Federal Law № 168-FZ «On the Unified Federal Information Register Containing Information on the Population of the Russian Federation» was adopted (Federal Law, 2020b). which regulates the relations on the collection, processing, storage, receipt, use of personal information, as well as ensuring the relevance and reliability of other information about the country's population. The information system being created will allow connecting various information about citizens who already use the services of various state bodies. The register will store, according to the principle of a distributed database, basic information about a person, as well as various additional identifiers. Ultimately, we are talking about pairing databases of different legal nature including genetic. It seems that in the future a closed ecosystem will be created for deployment and functioning of artificial intelligence system, working with new ensembles of data.

The institute of legal support of genetic information turnover is a complex institute, which includes norms for different branches of law united by a single subject of regulation. Thus, the norms of information law and civil law regulate relations connected with genetic information as a special type of personal data (Federal Law, 2006). Norms of information law and administrative law regulate the relations in the field of genetic engineering activities of mandatory genomic registration (Federal Law, 1996; Federal Law, 2008). The international law contains the norms-principles established by the International Declaration on Human Genetic Data (adopted by the resolution of the UNESCO General Conference on the report of Commission III at the 20th plenary meeting on the 16th of October, 2003) (International Declaration on Human Genetic Data, 2003), the General Data Protection Regulation (GDPR) (Polyakova, 2020), the Convention for the Protection of Human Rights and Human Dignity with regard to the Biology and Medicine on the 19th of September, 1996 (Convention on Human Rights and Biomedicine ETS № 164) (Convention, 2021) and etc.

As prospects for further development of individual norms in transport legislation that make up the institute of legal support for the circulation with genetic information, it is proposed to identify the following blocks, enshrining:

– legal norms that establish the rights of persons providing access to their genetic data, as well as the obligations of persons processing such structural information in the transport sector;

– rules setting out the limits of the use of genetic information in transport

– regulations governing the exchange of genetic data with other national and international bodies and organizations;

– norms ensuring information security in the circulation of genetic information;

– prohibitive provisions restricting the circulation of genetic information in certain cases, such as special procedures for the transmission of genetic data to third parties or to organs and organizations from foreign countries.

3.3. Problems of Using Artificial Intelligence Technologies in Processing Biometric Data and Genetic Information

Artificial intelligence technologies are becoming an integral part of decision-making systems, including in transportation. Dr. Andrew Whitford (SPIA), speaking at the Academic Technology Advanced Research Center (ATARC) conference in October 2019, noted that «machines learn faster than humans and operate on large data sets, meaning artificial intelligence can read over a million cases, whereas a human could not read a million cases in a lifetime. Artificial intelligence can make both public and private sector business much more efficient» (Artificial intelligence and the future of public administration, 2021).

Many foreign countries have strict requirements and restrictions in cases where automated decisions are made with respect to individuals. For example, the European Data Protection Council and the UK's independent body set up to protect the rights to information in the public interest and to promote openness of public bodies and privacy of individuals (Information Commisser's Office, ICO) adopted guidelines which enshrine the legal framework of Automated Decision Making

(ADM) (Guidelines on automated individual decision-making and profiling, 2021).

Foreign practice on this issue is based on a risk-based approach, requiring organizations to have a clear understanding of the extent to which artificial intelligence technology is expected to be used and the risks associated with its use. They must be sure to inform and specify in the relevant documents setting out the organization's risk management policy whether artificial intelligence technology will be used only to enhance human decision making or solely for automated decision making.

Foreign law specifically regulates cases where identification of a person takes place and automated decisions are made with respect to a specific individual. The GDPR defines profiling as any form of automated processing for personal data, consisting in the use of personal data for the assessment to certain personal characteristics concerning an individual, in particular for the analysis or prediction in aspects related to the activities of this individual, economic status, health, personal preferences, interests, location or movement. In the transport sector, profiling issues are related to the challenges of developing and using digital passenger and driver profiles in the ongoing digitalization programs of the industry.

It is obvious that profiling and automated decision making offer great opportunities and increase the efficiency for decision making in many areas of the economy and management, including transportation, as they allow large volumes of data to be analyzed in a short time with minimal expenditure of labor resources.

At the same time, it is clear that these methods carry potential threats to the rights of specific individuals, associated with a lack of understanding on what significant negative consequences for them may result from the decisions made. The GDRP devotes a number of provisions to addressing such risks.

First, European law strictly restricts exclusively automated decision making with legal or similarly significant consequences. The subject of personal data has the right to object to a decision based solely on automated processing that has legal consequences for him or her or similarly affects his or her interests.

The international obligations assumed by Russia and the emerging practice in this area require further development of the Russian legislation on personal data and its harmonization with the provisions of the European Regulation on personal data protection.

Thus, organizations of the transport sector that use an artificial intelligence system for automated decision making must: perform a risk assessment of the rights and legitimate interests for the subjects in respect of which a decision is made; provide the necessary protection of confidential information; include specific provisions on automated processing in local regulations; widely and actively inform the data subject about profiling and automated decision making; introduce procedures that allow individuals to make appeals regarding automated decision making; implement a mechanism for independent monitoring of the entire decision making process.

Conclusions

Technologies for processing biometric data and genetic information in transport are actively developing. The introduction of these technologies requires, on the one hand, the development of general legal institutions for biometric data and genetic information and, on the other hand, changes in transport legislation.

The task of ensuring comfortable mobility among citizens within the framework for the digital transformation strategy of the transport sector involves the use of digital profiles in transport subjects (passengers, drivers) based on a single biometric system, the development of non-cash fare payment tools based on biometric data and digital travel routes technology (Chistyakov et al., 2021).

Large-scale projects for the use of human genetic data require further development of Russian legislation on personal data and its harmonization with European legislation, in particular with the provisions of the Regulation on the Protection of Personal Data (GDPR).

As prospects for further development of certain transport legislation norms that make up the institute of legal support for the circulation with genetic information, it is proposed to identify

the following blocks, establishing: norms of law that establish the rights of persons providing access to their genetic data, as well as the obligations of persons processing such structural information; norms that establish the limits of using genetic information; norms that establish the rules for the exchange of genetic data with other national and international (Derzhavina et al., 2021).

The development of convergent technologies in the transport sector requires new legal solutions in the field of using artificial intelligence systems for automated decision making. The person using such a system must: perform a risk assessment of the rights and legitimate interests of the subjects in respect of which the decision is made; ensure the necessary protection of confidential information; include specific provisions on automated processing in local regulations (privacy policy, provisions on the processing of personal data and etc.); widely and actively inform the data subject about profiling and automated decision making; introduce procedures that allow individuals to make appeals regarding automated decision making; implement a mechanism for independent monitoring of the entire decision making process.

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