

## “DIGITALIZATION” OF LOGISTICS

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### ABSTRACT

In article development of “digitalization” in transport and logistics spheres is described. New unique services for users of transport raise its safety, convenience and availability and demands perfection of system of legal and technical regulation, creation of through technologies and information security maintenance. The electronic trading platform of freight traffic and its integration with an automobile complex will accelerate granting to multimodal services to terminal-warehouse complexes, financial to services and insurance that becomes a basis of a transport-logistical platform of the country.

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Use of the created IT systems on the basis of a digital platform of a transport complex will provide fast development of “digitalization” of transport and logistics spheres. New unique services for users of transport raise its safety, convenience and availability and demands perfection of system of legal and technical regulation, creation of through technologies and information security maintenance. The electronic trading platform of freight traffic and its integration with an automobile complex will accelerate granting to multimodal services to terminal-warehouse complexes, financial to services and insurance that becomes a basis of a transport-logistical platform of the country. The state will incur uniting role on creation of the uniform protected digital space of a transport complex. In the Republic of Uzbekistan (RUz) standards of digital interaction of participants of the transport market of the market are developed. Creating unique platform decisions in the field of information support of transport safety the platforms collecting the data about an infrastructure and vehicles on the basis of technologies IT, block chain and artificial intelligence are created. For example, in the Russian Federation in the first variants of the program of digital economy development of pilotless public transport is supposed: by 2020 it was offered to organize its pre-production operation in five cities, and by 2024 - to start such systems in 12 cities. Company "Yandex" develops the pilotless car. In new conditions economic competitiveness of the country will be defined in many respects by presence of intellectual transport and logistical systems as, according to the experts, the logistical component in each end-product of economy of the RUz makes no more than 20 %, but depending on a concrete kind of an expense for logistics vary from is insignificant a small share for purely digital products sent through the Internet, to 60 % for energy carriers. Huge influence on logistics the next years will be rendered by

infrastructural projects of digital transformation of transport. The digital railway becomes a basis of digital transport in the world: innovative technologies will allow increasing throughput of the existing and new railways as minimum by 50 % and twice to lower transportation cost. In transition to new technologies the most economical is railway transportation already starts to lose to new digital forms of service. That is high-grade to provide interests of business in the conditions of global and prompt “digitalization” of national economies; the logistics inevitably should be transformed to new model of management by chains of the deliveries, based on intellectual mobile technologies. Huge influence on logistics the next years will be rendered by infrastructural projects of digital transformation of transport. According to foreign experts, the digital railway becomes a basis of digital transport in the world: innovative technologies will allow increasing throughput of the existing and new railways as minimum by 50 % and twice to lower transportation cost. At transition to new technologies in the theory the railway transportation already starts to lose the most economical to new digital forms of service. In the conditions of digital economy, the companies should develop new economically effective logistical decisions in advance. From this point of view technology Distributed Ledger Technology (DLT) can be of interest for domestic businessmen (Distributed Ledger Technology - technology of the distributed book), or block chain which all is more actively used in such countries, as the USA, Australia, Great Britain, New Zealand. One of the main advantages of this technology is possibility to trace shipment to a mode of real time, to look through stages of movement of cargo on a uniform electronic card, etc. As a matter of fact, the technology block chain provides a close connection between financial, logistical and commercial parts of commercial transactions with possibility of unification of payments and deliveries. Now experimental application of block chain is carried out by Post service of the USA which represents the main logistical company of the country for the small and average enterprises, co-coordinating with a considerable quantity of clients, contractors and other interested parties, including customs bodies, partners in delivery, drivers of lorries of distant following, post senders, addressees etc. Use of a block chain for management of interaction between these subjects allows accelerating deliveries, in particular the international. The post service of the USA tests automatic payment of invoices at cargo receipt, in the long term it is supposed that each item of mail (a parcel or the letter) will be supplied by the built in gauge which in frameworks block chain will allow tracing all chain of delivery, including payment and customs registration. The post service of the USA plans to apply originally the given technology only for высокоценных departures, expecting to achieve in due course depreciation of gauges for wider use of technology of block chain. In the United States of America in November, 2017 public discussion of the strategic plan for development of transport branch for 2018 has ended - 2022 As the corner-stone here are put four components: safety, an infrastructure, innovations and controllability. Safety means increase of efficiency of state-private partnership; the account of behavior of the person raising risks for safety; improvement of the analysis of the data for management of decision-making; maintenance of automation for achievement of considerable advantages regarding safety, and also working out of regulation which is based on results of activity. The infrastructure assumes mobility and availability maintenance, and also stimulation of economic growth, productivity and competitiveness for the American workers and businessmen. For realization of the given postulates it is planned to give the technical help and to conduct corresponding researches which will promote acceleration of realization of profile projects, to reduction of expenses for delivery life cycle, and also optimize work of existing objects. For the purpose of increase of efficiency of the given processes innovative forms of financing and realization of projects, and also encouragement of state-private partnership will be used. In the field of innovations in the American strategic plan for development of transport branch the attention is directed on a management of working out and introduction of innovative practice and the technologies raising safety and efficiency of transport system.

Key direction of investments is carrying out of researches for the purpose of acceleration of expansion of the newest transport technologies. The fourth point, controllability, means decrease in burden of regulation and efficiency increase. In this case, simplification of rules and increase of efficiency of organizational activity of Department of transport in the USA is meant. In Singapore in the project «Clever mobility» variants of the decision of an on the agenda problem of “digitalization” transport are most accurately designated. In particular, necessity of analytics is registered in the document in three base directions which concern operational planning, optimization of resources, and also availability of the corresponding information in a mode of real time. As toolkit it is offered to use land sensor controls, demand management, simulations, a predicative and multimodal analytics. Basis of digital transport system in Singapore, according to strategy, the pilotless trains, and the robotized loaders, independent columns of trucks, independent taxi, shearing cars and bicycles will make devices for personal mobility, independent buses. Among prospective calls in the project «Clever mobility» the safety problem, and also anonimization of both re-identification and aggregation is specified. Plans are presented to France within the limits of profile strategy on development of a transport infrastructure which include programs of investments into the future (IAP). Two of them provide considerable financial investments (in the form of repayable advance payments) in new designs of planes Airbus Group. IAP includes support of projects in the field of research and development. In particular, in space sphere of the program of investment have promoted financing of the researches, launchers of new generation concerning working out, and also new telecommunication companions. The program «a future Vehicle», in turn, has mobilized automobile, sea and rail transportation for the purpose of technological structuration of the corresponding branches connected, in particular, with manufacture of starting mechanisms (thermal, hybrid or electric), and also with reduction of weight and working out of independent vehicles. Along with it, the program «a future Vehicle» in context IAP has brought the considerable financial contribution to creation of system of electric refuel lings for cars and modernization of ferry park in France. In addition to the given program automobile, railway and sea types of transport within the limits of realization of the concept of reasonable mobility and logistics should receive: the help in means of research and joint testing; support of projects of joint development; support of researches in the field of investigation through the research organizations; the auxiliary means concerning production, within the limits of the program of modernization of industrial production in a direction to «future Factory». Technological road maps for the above-stated sectors are a program part «New industrial France: «Ecological mobility» and «Transport of tomorrow » which provides assistance to projects in the field of research and development and includes following points: continuation of research work in the field of researches and workings out of programs for key players (large motor-car manufacturers and suppliers, ship builders and railway men) on manufacture of vehicles in a context of the increased technical requirements, including intellectual vehicles (independent and connected); continuation of support of tests of vehicles and expansion of an infrastructure for independent vehicles. Considerable research is devoted trends in development of transport system in Australia. In particular, in the document it is specified that technological innovations in transport sphere will help to raise efficiency, productivity and safety of transport, to reduce its negative influence on environment. Access expansion to the big data already allows carrying out more a complex analysis for teamwork of the state and private sectors of economy. For example, road chambers and gauges provide efficient control an infrastructure at the expense of detection of jams and a roadwork, sending to motorists of the prevention, and repeatedly building routes. It promotes time reduction in a way, reduces quantity of consumed fuel and energy, and also allows using an existing infrastructure more effectively. For example, pilotless trucks Rio Tinto already have transported more than 100 million tons of the earth in Pilbara. In strategy of development of a transport infrastructure in England one of the main tasks is increase of level of a covering by networks WI-FI of passenger transport. It is supposed that by 2018 about 90 % of passenger vehicles in England will be with access to

WI-FI. Along with it, it is possible to note considerable coverage by cellular communication on highways in England which makes an order of 97 % of the vocal covering given by operating operators. Nevertheless, in the long term it is necessary to spend corresponding works on improvement of quality of connection, in particular, that consumers could receive operatively messages on problems on road, and also for appropriate functioning of new technologies, such as the connected both independent vehicles and intellectual highways.

Abroad at level of strategic plans the sufficient attention to development of transport sphere in the conditions of process of digital transformation of economy is paid. Therefore it is necessary to study carefully the international experience and the best experts to use at us. New requirements which are shown by digital economy to transport branch in the Russian Federation, are expressed in strengthening personalized, distributed (according to geographical specificity) consumption. Thus, to correspond to new realities, the logistics should become digital, and, as consequence, прогностической. Moreover, the digital logistics is obliged to develop simultaneously and in interrelations with other branches. One of drivers of fast development of digital logistics is electronic trade. In the last some years its volume very quickly grows, as in Russia, and worldwide that puts new problems which to a transport infrastructure are necessary for solving as soon as possible. To our experts in Uzbekistan important to choose for digital development of the country those technologies which can be effectively and are economically realized in the conditions of domestic economy. The basic question which will arise in connection with a new format of social and economic development in our companies consists in that, how fast they can adapt for the uncertainty created by new technologies and business models. RUz is in the beginning of industrial transformation and as a result developments of digital economy will be shown global scientific and technical decisions in logistics.

#### **REFERENCES**

1. Димитров И. Д. Ж. «Транспорт Российской Федерации», № 6.
2. Международный Форум по цифровой логистике и блокчейн-системам на сети международных транспортных коридоров. 15 марта 2018 г. - Москва