

## THE CONSTRUCTION OF A LOGISTICS SYSTEM UNDER DIGITAL TRANSFORMATION

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The construction of a modern integrated logistics system is an important innovative task of the economy, an important guarantee of social progress in the context of digital transformation. The purpose of the study is to highlight the possibilities of using such technologies as artificial intelligence, 5G and IoT technologies to lay out new regional digital infrastructure, optimize the logistics system. Unlike those existing in the article, the digital transformation of logistics is linked to the development of a «double-cycle» economy, as well as the coordination of the digital development of transport hubs and networks in China and Belarus, which is also of practical importance.

**Keywords:** digital development; digital logistics; logistics system; transformation; system construction.

## ПОСТРОЕНИЕ ЛОГИСТИЧЕСКОЙ СИСТЕМЫ В УСЛОВИЯХ ЦИФРОВОЙ ТРАНСФОРМАЦИИ

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Построение современной интегрированной логистической системы является важной новаторской задачей экономики, важной гарантией социального прогресса в условиях цифровой трансформации. Цель исследования – выделить возможности использования таких технологий как искусственный интеллект, технологии 5G и IoT для создания новой региональной цифровой инфраструктуры, оптимизации логистической системы. В отличие от существующих в статье цифровая трансформация логистики увязывается с развитием экономики «двойного цикла», а также координации цифрового развития транспортных узлов и сетей в Китае и Беларуси, что имеет и практическую значимость.

**Ключевые слова:** цифровое развитие; цифровая логистика; логистическая система; трансформация; системное строительство.

Belarusian society and businesses are confidently moving along the path of digital transformation with The National Digital Development Plan of Belarus for 2021–2025, which ensures the application of ICT and advanced manufacturing technologies in the national economy and social life. Therefore, the study of the impact of digitalization is relevant and significant for the development of the industry. Consider the main directions of digital transformation to create modern logistics systems.

### **1. Using digitalization to advance logistics infrastructure.**

#### 1) Strengthen the construction of digital logistics infrastructure.

Apply artificial intelligence technology to build a modern infrastructure system needed by society. Through the application of 5G, Internet, big data center and other, build a perfect logistics information network system, realize the sharing of resources between Belarusian logistics enterprises and transportation hubs, and provide support for development of the logistics industry.

#### 2) Accelerating the construction of transport network facilities.

Rational planning of logistics infrastructure in Belarus, railroads, highways, and shipping to develop together, build a modern transportation network with seamless multidimensional docking by sea, land and air, and reduce freight logistics costs to meet the needs of long-term economic and social development by bringing into play the efficiency of various transportation modes [1].

### **2. Using digitalization to optimize transport logistics resources.**

#### 1) Building central transport hubs and optimizing resource allocation.

Comply with the trends of transportation changes in the new era, integrate new technologies such as big data, cloud computing and Internet of Things into the sea, road and air of Belarus, create mutually open hubs with digital service functions, drive the construction of digital infrastructure in the surrounding areas, and promoting overall development [2]. Accelerate the digital layout and synergistic development of the «double-cycle» economy.

#### 2) Taking advantage of digital logistics to promote resource integration.

Combined with the advantageous industries of Belarus, based on big data analysis and forecasting capabilities, scientifically optimizes the allocation of transport resources across the region, assists transport operators in making intelligent decisions, and realizes the goal of a digital service center [3].

### **3. A digital transport logistics system for a «double-cycle» economy.**

1) Breaking through the difficulties of digital development and opening up a new system of «double-cycle» economy.

The «double-cycle economy» is the main body of the economy with domestic internal circulation and international external circulation, which mainly refers to focusing on the domestic market of Belarus and improving its own innovation, while maintaining openness to the outside world. Create an innovative environment conducive to the digitization of transportation and logistics, and effectively use the advantages of Belarus' agricultural resources and the basic capabilities of the old industrial base. Through the development of the logistics system, a new «double-cycle» circulation system will be opened, and the resources of both domestic and international markets will be used to form a new pattern of economic development.

2) Highlighting the role of transport logistics as a «bridge» and promoting the synergistic development of the «four chains».

Through a modern transport and logistics system, promote the synergistic development of the «digital chain - supply chain - industrial chain - regional chain», play the leading role of new generation information technologies such as big data, cloud computing, blockchain and artificial intelligence in the transport and logistics network. Taking into full consideration the resource, location, industry, talent and technology advantages of Minsk, Belarus, the three aspects of optimizing the supply chain, improving the industrial chain and opening up the regional chain will promote the integration of high-quality agriculture such as agricultural

products and natural forest products with manufacturing industries, as well as service industries. Promote the innovation and development of traditional industries to achieve the successive conversion of old and new dynamic energy.

### References

1. Wang Xianqing. The strategic focus and policy choice of modern circulation system construction under the new development pattern // *China Circulation Economy*. – 2020. – № 34(11). – C. 18–32.
2. Wang Jifeng, He Pengfei, Wu Chunshang. Digital logistics theory, technical methods and applications – a review of the views of the Digital Logistics Symposium // *China Circulation Economy*. – 2021. – № 35(6). – C. 3–16.
3. Eddie Yu. Integration of digital economy industry and logistics industry // *Logistics and Technology*. – 2022. – № 33(2). – C. 59–61.