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CHALLENGES AND PROSPECTS FOR
DEVELOPMENT IN THE MODERN WORLD

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**DIGITALIZATION OF THE CONSTRUCTION INDUSTRY
IN THE CONTEXT OF INFORMATION SECURITY**

Digitization in the construction industry involves the transfer of all processes to a digital format, the use of modern technologies both to shorten the construction period and to improve its quality. In Ukraine, the digitalization process in construction began in 2019 with the reform of the urban planning sector. The first step on this path was the introduction of the Unified State Electronic System in the field of construction (EDESSB), which made it possible to automate the processes of state regulation and combat corruption, since all documentation support for the construction of objects when using it is carried out online, which does not allow changing documents. Thanks to this system, construction registration has become transparent and convenient, the level of bureaucracy has decreased, paper processes have been simplified, and document manipulation has stopped. The system provides tracking and control over all actions that take place with documents.

Digitization of the construction industry involves the automation of business processes and the transition to digital means of communication. Thanks to cloud technologies, a significant amount of data is represented and structured in a digital format. With the help of network integration tools, the implementation of construction projects is monitored, which increases the reliability of construction objects.

Digital technologies, sensor systems, intelligent machines and materials make it possible to model construction objects. One of the most promising digital technologies in construction is blockchain. As a rule, several subcontracting companies are involved in construction. The use of blockchain technologies allows all project data to be stored in one place, which allows to adjust, track data, control and manage construction more efficiently than in real time, facilitates joint work and timely decision-making.

Digitization of business processes created the conditions for the emergence of intelligent construction, the basis of which is: 3D printing, the Internet of Things, virtual reality, Big Data. This ensures forecasting and control over all business processes, increases work efficiency, safety, reduces construction costs by 5–10%, and operational costs by 10–20% [1].

The use of modelling and virtual reality technologies to create digital duplicates of a real building allows data management and real-time monitoring of changes, which reduces the number of errors during real construction. Digital solutions contribute to increasing the level of environmental friendliness of buildings, because by using digital models, you can adjust business processes in real time and reduce the impact on the environment.

Cloud solutions automate the construction process and accelerate construction project execution, allow you to monitor the progress of projects, plan activities, reduce the labor intensity and complexity of construction works, and increase the level of labor safety.

However, the digital transformation of the construction industry creates certain challenges and threats: the lack of the necessary skills of working with digital equipment among contractors, the resistance of companies and their employees to digital changes, the lack of understanding of the economic benefits of digitalization, the need to implement uniform standards for the use of digital solutions, their adaptation to the existing technological base. The identified challenges hold back the digitalization process in Ukrainian construction companies and require measures to overcome them.

Reference

1. The unified state electronic system in the field of construction is 3 years old / Ministry of Digital Transformation of Ukraine URL: <https://www.kmu.gov.ua/news/mintsyfry-iedynii-derzhavnii-elektronii-systemi-v-sferi-budivnytstva-3-roky>.