

# Trends in The Development of The Economy and Industry in The Context of Digitalization

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**Abstract:** The article examines modern trends and factors in the development of the digital economy in the country as a whole, as well as in its separate sector - industry, it is concluded that the digital transformation of the industrial sector requires government support, development of digital infrastructure, strengthening incentives for the implementation of digital solutions, motivation of personnel, and the directions of digitalization for the near future in the industrial sector of the economy of Uzbekistan are outlined.

**Keywords:** Industry, industrial enterprise, digitalization, digital transformation, digital economy, digital economy, creative economy, artificial intelligence, e-government, innovative developments, innovative drivers, digital technologies, digital electronic platforms, ecosystems, quantum technologies; smart contracts.

**Introduction:** Digital transformation is a key driver of industrial modernization in Uzbekistan, aimed at increasing productivity, reducing costs, and integrating into global supply chains. Implementation of the "Digital Uzbekistan 2030" strategy includes the introduction of AI, robotics, and big data, which enhances product competitiveness and ensures technological advancement.

Key areas and role of digitalization in industry:

- Production modernization: Implementation of Industry 4.0 technologies, process automation, and the use of smart sensors for equipment monitoring.
- Energy efficiency: Digitalization of the energy sector to optimize energy consumption and improve grid reliability.
- Supply chain management: Increased production flexibility and rapid response to market changes.
- IT infrastructure development: Active development of IT parks, growth in IT services exports (50-fold since

its inception), improvement of internet infrastructure.

- Government support: The "Unified Portal of Interactive Government Services" facilitates electronic interaction, simplifying bureaucratic procedures for businesses.

The modern scientific and technological revolution, the transition to a new technological order, the ongoing process of increasing interdependence of national economic systems have led to the rapid development and introduction of digital technologies into all spheres of the economy. Digital transformation gradually covers both public administration and all sectors of the economy of Uzbekistan. Digitalization is one of the key modern economic and industrial trends.. Currently, digital development strategies are in effect in Germany ("Industry 4.0."), China ("Internet plus") and many other countries around the world (South Korea, Japan, Brazil, USA, Great Britain, Russia, Estonia, The Netherlands, Ireland, Sweden, Singapore and others). In them, digitalization in terms of the development of the industrial sector is viewed as the unification of links

in the production chain using modern information and communication technologies. Modern automation and informatization of industrial enterprise activities come down not only to the restructuring of the applied information technologies, but also to the improvement of the business processes themselves through the use of technologies based on cyber-physical solutions in order to achieve effective performance indicators. The digital transformation of the economy in Uzbekistan is designated as a strategic key task for the development of the state, the implementation of which is entrusted to the relevant government bodies.

Uzbekistan began to prioritize the development of information and communication technologies and digitalization back in the early 2000s. For example, the country adopted the Comprehensive Program for the Development of the National Information and Communication System of the Republic of Uzbekistan for the period 2013-2020, the Development Strategy of the New Uzbekistan for 2022-2026, the State Program for its implementation in the "Year of Ensuring Human Interests and Mahalla Development", and the Strategy "Digital Uzbekistan-2030". In addition, with the launch of the Unified Portal of Interactive Public Services and its mobile application My.gov.uz, there has been growth in this area, as well as in the implementation of new technologies in the public sector. It should be noted that in the past two years, even in the context of the global COVID-19 pandemic, large-scale digital reforms have been actively implemented in the country.

And, what is important, it is precisely today, at such a difficult stage for the country and all of humanity, that the importance of measures for the widespread introduction of digital technologies in the sphere of public administration, government services, and trade has been clearly proven.

From the content of the program documents it becomes clear that the economic management model will be changed - from a program-targeted form to a program-forecasting one.

In connection with the introduction of digital technologies, there must be a change in the economic structure, a modification of traditional markets, social relations and, as a consequence, public administration as a whole.

With the advent of digital technologies, serious changes are taking place in the functioning of economic systems at various levels - from the global economy to individual business entities. Having a cross-cutting nature of actions, digitalization leads to the creation of a digital economy, which covers more and more countries of the world. Digitalization of the economy

has a number of advantages, including the creation of innovative products, new jobs, reduction of enterprise costs, increased production efficiency, etc. States are aware of the positive aspects of digitalization and are striving to introduce as much digital aspect as possible into their economic activities.

Today, Uzbekistan demonstrates sustainable growth rates of the digital component, which is reflected in the following:

- support and interest of the state in carrying out digital transformation (digital reforms, programs and events);
- developed digital infrastructure with positive dynamics of indicators in the last few years;
- stable demand for IT specialists, competitive wages even for young employees;
- growth in the number of people using digital technologies and the Internet.

The majority of the country's population, regardless of their place of residence, has access to the Internet and mobile communications; - expansion of the scope of use of digital achievements of scientific and technological progress. ICT and the Internet have initiated profound changes in economic systems and society, contributed to increased productivity and economic efficiency. Innovations created by the ICT sector have significant potential for developing new growth points and significant social improvements in the country. Currently, promising areas of digitalization of the economy in Uzbekistan are the development of an effective and transparent system of public administration, national information and communication infrastructure, digital infrastructure and business; the introduction of ICT in the real sector of the economy, improving the social sphere based on ICT, ensuring information security, etc.

The digital transformation of the economy of New Uzbekistan involves the organization of a digital information environment by forming a regulatory framework and introducing effective tools for managing the processes of digitalization of the economy. It is planned to introduce information and communication technologies and advanced production technologies in industry based on the principles of the concept "Industry 4.0", to develop SMART industry. It is planned to master quality management systems for products using IT technologies, to develop testing and measuring bases for the creation of competitive products.

The long-term strategic planning document - Digital Uzbekistan-2030 also envisages the development of a competitive industrial complex and its digitalization through the implementation of the concept of the

fourth industrial revolution, the creation of new high-tech industries and ensuring environmental sustainability of production.

As noted in the state program, digitalization of traditional activities should include the introduction of automated commodity flow management systems, BYA systems and CALS technologies in large and medium-sized industrial organizations; the creation of data collection dispatch control systems (SDC), SMC systems (supply chain management). It is necessary to emphasize that the main directions of development of industrial activities in the country, in our opinion, will be the introduction of new progressive technologies, the creation of robotic and automated production, improving the quality of management, and the development of SMART industry platforms.

For successful digitalization in the industrial sector of Uzbekistan, it is planned to develop and implement a series of programs aimed at ensuring the digital transformation of industry. National standards and competence centers will be needed to disseminate information and communication, cloud, additive and other technologies, and artificial intelligence systems. High-tech production should develop in the in-demand areas of development of the production of electronic components, electrical sensors, power electronics, mechatronic systems, consumer electronics and telecommunications equipment. In the future, electronic twins of parts and technological processes will be created to conduct virtual preliminary production tests and optimize the production process itself. In order to accelerate the formation of a high-tech industrial sector, it will be necessary to develop consulting in the field of digital transformation, since strategic planning and development in general are impossible without analyzing the market situation, consumer and competitor behavior, and assessing risks and opportunities. An important area of activity is the formation of marketing alliances with foreign enterprises to promote jointly produced high-tech products to the markets of third countries. The emphasis should be placed on using the potential of the common market of Central Asian countries, the market of the countries participating in the Shanghai Cooperation Organization, in the segments of light and textile industry, mechanical engineering, electrical industry, production of medicines, medical and diagnostic equipment, and electronic components.

In the context of Uzbekistan's transition to a digital economy, innovations in the industrial sector should become a priority mechanism for technological breakthrough in strategic industries, ensuring technological security, long-term national competitiveness and sustainable economic

development of the country. In general, the national industry should become a dynamically growing, high-tech and highly integrated into the global economy advanced industry, whose products are in demand throughout the world. At the same time, to activate the digital modification of the industry of Uzbekistan, only targeted measures that promote specific enterprises or projects, and instructional coercion of enterprises are not enough, since this will contribute to the imitation of the desired changes. Systematic actions are needed to ensure the use of relevant digital technologies: the formation of a favorable business climate, tax incentives to improve the efficiency of technological modernization and high-quality corporate governance, and increased investment in the growth of personnel competencies. Thus, digitalization and digital technologies in industry are the main key to the consistent development of any state, allowing for a qualitative breakthrough in many aspects of society. And the comprehensive digital reforms being carried out in Uzbekistan today are aimed at achieving the main goal - to become one of the leading states with a prosperous economy and a strong civil society.

## **CONCLUSION**

In summary, digitalization plays a key role in Uzbekistan's development, contributing to economic modernization, improving the quality of life for citizens, and enhancing the country's global competitiveness. Digitalization of production, driven by Industry 4.0, offers enormous potential for increasing productivity, reducing costs, improving product quality, and enhancing companies' competitiveness. However, successful implementation of this concept requires not only the introduction of new technologies but also changes in corporate culture, personnel training, and strategic decision-making at the management level.

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