

STANDARDIZATION IN THE CONDITIONS OF THE DIGITAL ECONOMY OF THE REPUBLIC OF UZBEKISTAN

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Abstract. *Standards stimulate the transition of industry and the economy to the figure. To date, digitalization has become increasingly implemented in real production, and the role of standards is difficult to overestimate. Digitalization is the first and most important stage of entering the digital economy.*

Keywords: *standart, education, quality of education, management, system, higher education, control system, model, method.*

I. INTRODUCTION

At 24 January President of the Republic of Uzbekistan Shavkat Mirziyoyev addressed the Oliy Majlis with a Message. The President stressed that large-scale work is underway to modernize our republic, and science and the digital economy will play a huge role in its further successful continuation. In order to consistently continue and bring to a new, modern level the work begun to develop the field of science and education, educate our youth as individuals with deep knowledge, high culture and spirituality, form a competitive economy, the President proposed declaring 2020 in our country as the Year of the Development of Science and Enlightenment and digital economy.

II. MAIN PART

Digitalization is changing standards based on interoperability, stimulating the transition of industry and the economy to digital and standardization processes.

In pursuance of decrees of the President of the Republic of Uzbekistan dated December 12, 2018 No. PP-4059 "On measures for the further development of technical regulation, standardization, certification and metrology systems", as well as in order to ensure the effective organization of the activities of the Research Institute for Standardization, Certification and Technical Regulation under the Agency " Uzstandart" adopted a resolution of the Cabinet of Ministers of the Republic of Uzbekistan "On the organization of the activities of the Research Institute for Standardization, Certification and Technical Regulation under the agency "Uzstandart", the task of both coordinating the activities of sectoral technical committees for standardization was given [1,2].

The role of standardization in modern conditions is constantly increasing. Standardization is a key factor in supporting the state socio-economic policy; it contributes to the development of

various innovations, the reduction of technical barriers to trade, fair competition, saving all kinds of resources, protecting the interests of consumers and protecting the environment.

It is difficult to overestimate the importance and role of standardization in the modern world. Standards provide the end user with a measure of judgment, a high measure of quality, a certain guarantee of interconnection and interoperability, helping to improve safety, human health and the environment, and improve people's quality of life. The main directions of development of standardization:

- a) modernization and technical re-equipment;
- b) expanding the practice of using references to documents in the field of standardization;
- c) voluntary confirmation of compliance with national standards;
- d) strengthening the role of business in standardization work.

Key activities for the development of the national standardization system:

- a) improving the application of normative documents in the legislative framework;
- b) formation of a library of standards in a machine-readable form;
- c) growing influence in international standardization organizations;
- d) creation of an expert ecosystem with industry and international standardization systems.

Standardization largely determines the level of economic development, as it states the technologies used, measurement methods, materials. It all adds up to the level of the economy. Standardization is used to ensure the achievement of scientific and technological progress.

Today, standardization is becoming increasingly important, as it interconnects technical solutions and makes it possible to ensure inter-industry cooperation of activities and the effective introduction of high technologies into production. Standards set the level to which manufacturers of goods and services should be guided. The insufficient number of standards in new areas of activity and the slow updating of existing ones makes it difficult to respond to innovations, accelerating their access to domestic and global markets.

One of the main socio-economic functions of standardization is the modernization of products and the technical level of production. It is implemented by creating a regulatory framework for improving the quality of products (including consumer goods) and updating the production base, with the help of which a high technical level is formed and production intensification is ensured. The introduction of the concept of "Industry 4.0" implies a significant increase in the level of knowledge about digital technologies in a manufacturing company and related capabilities, and also entails changes in several large parts of the organization at once [3,4].

The German heads of the production and technical direction and representatives of this direction DKE (German Commission for Electrical, Electronic & Information Technologies) spoke about the participation of their organization in the implementation of the Industry 4.0 program and dwelled in detail on the functioning of the meine.dke.de online platform for German standardization experts. Emphasizing that this is not just a set of tools, but a new way to create standards digitally. DKE (German Commission for Electrical, Electronic & Information Technologies) is an independent platform for electrical standardization in Germany and internationally. DKE represents Germany in the International Organization for Standardization - IEC and regional European standardization bodies - CENELEC and ETSI. More than 9 thousand experts from industry, authorities, scientific and other stakeholders seek and find consensus daily in hundreds of technical committees, meeting around the world. As a result of their mutual agreement, IEC international standards are published in 70% of cases, CENELEC in 15% and

national German VDE standards in 15%. DKE is leading this process as an independent coordinator. 15,000 pages of standards have already been developed to date in areas such as energy, health, mobility, industry, information security, components and technology. A separate place in this list is occupied by standards developed for Industry 4.0 and Smart Energy, Smart Technologies. 15% - CENELEC and 15% - national German VDE standards. DKE is leading this process as an independent coordinator. 15,000 pages of standards have already been developed to date in areas such as energy, health, mobility, industry, information security, components and technology. A separate place in this list is occupied by standards developed for Industry 4.0 and Smart Energy, Smart Technologies. 15% - CENELEC and 15% - national German VDE standards. DKE is leading this process as an independent coordinator. 15,000 pages of standards have already been developed to date in areas such as energy, health, mobility, industry, information security, components and technology. A separate place in this list is occupied by standards developed for Industry 4.0 and Smart Energy, Smart Technologies.

Increasing the level of knowledge about digital technologies necessitates a step-by-step approach to the development of the company. German scientists have developed development paths for "Industry 4.0": they start with basic requirements and provide support to companies throughout the process of their transformation into constantly evolving, flexible organizations. This path includes 6 stages of development: informatization, connectivity, visibility, permeability, predictability and self-correction (Fig. 1).

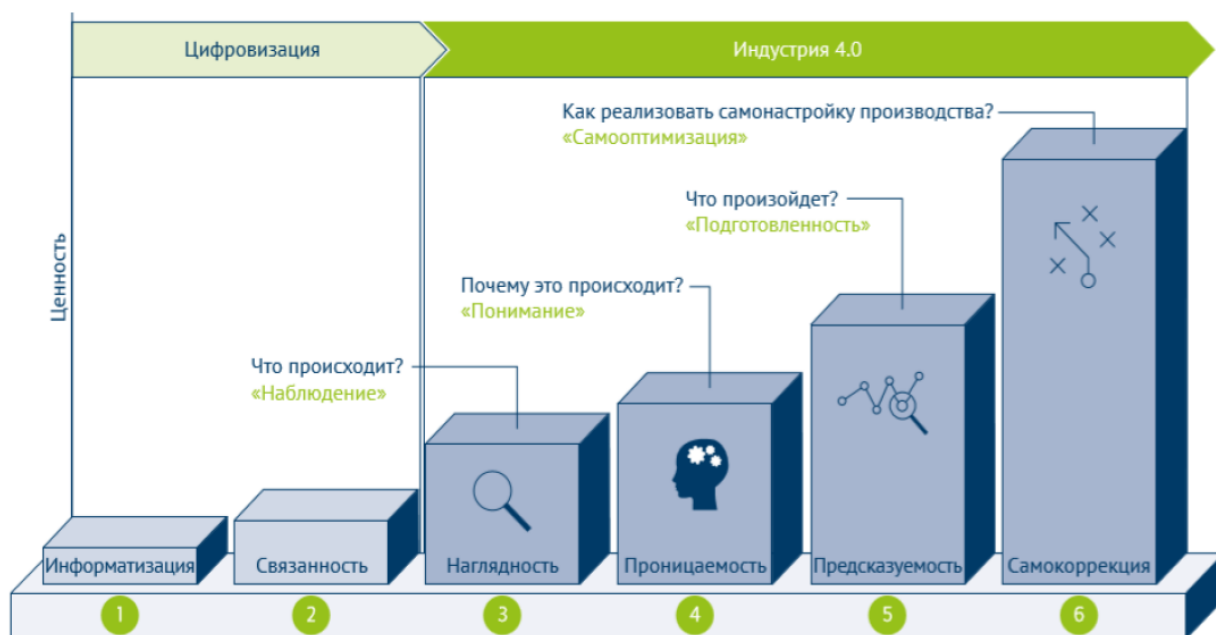


Fig. 1. Stages of development "Industry 4.0"

Each stage builds on the previous one and describes the characteristics needed to achieve it, as well as the potential benefits for the company. It is important that the characteristics are accumulated in stages. The transformation process is a continuous journey, involving many successive steps that need to be taken gradually.

Today, many companies in the Republic of Uzbekistan are solving problems related to the creation of basic conditions for the development path begins with digitalization. Although digitalization itself is not part of Industry 4.0, informatization and connectivity are basic requirements for its implementation. These two initial phases are followed by four other phases in which the characteristics needed for Industry 4.0 are developed.

Informatization is the first stage in the development of Industry 4.0, and it represents the basis for digitalization. At this stage, different information technologies are used separately from each other within the company. Informatization is already quite common in most companies and is mainly used to perform repetitive tasks more efficiently. Informatization offers important advantages, for example, it helps to reduce the cost of production and at the same time bring it to higher standards and higher precision, without which it would be impossible to manufacture many modern products. However, enterprises have a lot of equipment without a digital interface, so using informatization to start the development of "Industry 4.0" is not possible. The digital standard of the future is the standard in its current textual format, with requirements attached to it, to which the parameters read by automated systems are attached. Based on this, new document management technologies are being developed (comparative analysis, relevance check, etc.). Solutions are also being developed for the implementation of a requirements management system for use by humans and automated systems. This creation will bring great benefits to all participants in the production process. for use by humans and automated systems. This creation will bring great benefits to all participants in the production process. for use by humans and automated systems. This creation will bring great benefits to all participants in the production process.

III. CONCLUSION

In the Republic of Uzbekistan and abroad, the tasks of standardization for the transition to the "digit" are similar. The Digital Economy Program of the Republic of Uzbekistan through the prism of standardization - implementation by 2020. This should take into account the development of a digital model of the product and virtual measurements, up to electronic certification; standard for the Internet of things and the industrial Internet of things or smart manufacturing; standards for smart cities; standards for artificial intelligence; digital standards creation processes - XML and machine-readable format.

Special importance of digitalization for standardization:

- modern products of standardization (standard in the form of software);
- fast finding of a consensus;
- digital methods of work.

A further increase in the level of harmonization of national standards with international requirements has been established by joining the Technical Committees under international, regional standardization organizations (ISO, IEC, IGU, etc.).

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