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ANALYSIS OF PROBLEMS OF PRODUCTION MODERNIZATION THROUGH IMPLEMENTATION OF IT TECHNOLOGIES

Today, the fundamental modernization of production and the usage of modern technologies is a necessary condition for increasing the competitiveness of products and efficiency of the most domestic enterprises. Therefore, the research topic on the problems of modernization of enterprises using IT technologies is relevant today.

The purpose of the research is to study the problems of modernization of the enterprises to find strategic directions for their development.

To achieve this goal, it is necessary:

- to analyze the state of the current situation of the Ukrainian enterprises;
- to determine the main tasks of the enterprises' modernization using IT technologies;
- to develop directions of the modernization processes improvement and technical re-equipment of the enterprises.

It is no secret that the introduction of new technologies of the production mechanization will allow to continue the path of industrial revolution in the world. And while developed countries have replaced most unskilled labor with robotic systems, Ukraine is just at the beginning of its journey on this issue. The latest IT technologies are currently the main source of the changes for the Ukrainian economy, which will help to jump into the bright future as soon as possible. Today scientific and engineering staff in Ukraine is at a good level, but often new technologies are recognized, but not used for a long time.

Modernization of production with the help of IT technologies will strengthen the country's position as a high-tech and post-industrial country, integrated into global, technological values, and introducing unique engineering services and high quality products, self-sufficient in providing its army and economy with the most necessary technological products.

Production modernization is possible providing the collection of the expert opinions of the stakeholders in a particular area, in which the modernization is planned, the experience of competing domestic companies and, if possible, foreign ones.

Thus, the average period of modernization should not exceed several years.

The classical principle is the most commonly used, which is:

- analysis of the current state;
- setting goals;
- setting strategic directions for development;
- specific projects that implement the goals.

Analysis of the current situation in Ukraine includes both weaknesses and strengths:

- degraded industry;
- low efficiency of the regulator;
- weak domestic demand for innovation;
- strong IT industry;
- developed segments of the integrators-developers of automated systems for process control;
- a powerful system of the higher education institutions (HEIs) that provide educational services in the field of IT (teach students of information technology, computer science, software development, artificial intelligence, robotics, etc.).

According to the results of the analysis, the following development factors have been identified:

- concentration of the major stakeholders and government structures around the development goals and programs in Ukraine;

- involvement of the IT sector in the problems of internal market development and, first of all, issues of the transfer of globalization experience and best business practices to industrial high-tech sectors;
- creation of an innovative system of industrial latest segments, including integration with the research space;
- integration into European and world values;
- accelerated development of the industrial segments in Ukraine.

For the modernization of enterprises, and, simultaneously, the country's economy, it is positive to use of the following IT technologies:

- additive production (usage of 3D-modeling for the manufacture of physical objects);
- Big Data technologies (usage of effective data processing methods to obtain information, forecast, etc.);
- virtual and augmented reality technologies (usage of computer modelling to visualize images of physical objects);
- IoT technologies (interconnected physical devices that have built-in sensors and software that allows automatic analysis, transmission and exchange of data between the physical world and computer systems);
- computer vision (automatic extraction and recognition of useful information, its analysis);
- machine learning (technology of artificial neural networks, fuzzy logic and genetic algorithms);
- automated control systems (technologies for processes automation and production at the enterprise or organization);
- cloud computing (computing resources, access to which is promptly provided via the Internet);
- artificial intelligence (the ability of a computer to perform actions that mimic the activity of the human brain).

The introduction of these information technologies into production will not only improve the economic situation in Ukraine, but also make it competitive on the world market.

Thus, at the present stage the main task of industrial policy is the technological modernization of production and increasing the

competitiveness of production enterprises. One of the most important factors that provide a solution to this problem is the introduction of the achievements in the field of information technology.

There is no longer need to postpone the modernization of the production facilities. Today, the radical modernization of the production facilities and the usage of modern technologies, materials and equipment is necessary condition for increasing the competitiveness of the products and efficiency of the most domestic enterprises.

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