

# STATUS AND POTENTIAL OF SCIENCE-INTENSIVE INDUSTRIES OF KAZAKHSTAN

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**Abstract-** Nowadays in economics of many countries constant changes take place. Process of launching mass production of the most important human goods and services, which have recently been in a row of rare and luxury ones, has been acting for a long time. Because of technological progress and development of economic relations organization producing goods in more profitable way become possible attracting the optimal amount of resources and placing them in the most favorable geographic areas. After analyzing the current state of knowledge-based industries in the Republic of Kazakhstan, we came to the conclusion that high-tech production in the country is virtually absent. Volume of science financing in Kazakhstan is about 0.2% of GDP, which is insufficient. But the country welcomes the steps taken to expand the high-tech industry. In this connection, in the Message "Kazakhstan's way - 2050: The overarching goal, common interests, common future" of Nursultan Nazarbayev the President of Kazakhstan to the people of country stated that coming decades pose lots of challenges and lots of unexpected situations, new crises in the global markets and in the world policy.

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**Index Terms-** Innovations, Research intensity, Research and Development (R&D), High-tech industries.

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## I. INTRODUCTION

Kazakhstan's economy to overcome the backlog of economically developed countries have entered a phase of growth of the modern technological structure, which is a key factor in microelectronics and software. Moreover, the new technological order, which forms in present time, based on genetic engineering, nanotechnology, artificial intelligence systems, global information networks and integrated transport, determines next technological revolution. It dramatically improves efficiency of basic directions of economy development.

Therefore, efficiency of all national economic processes is directly determined by ability to create and use innovative potential, social production restructuring on the basis of the latest achievements of science and technology as the material basis of the national economy, and intensification of resource provision of innovative business activity as a condition for the practical possibilities of development of scientific - technical progress. Solving problems with social production modernization is largely connected with development of knowledge-based industries.

Their penetration into all spheres of economy provides an accelerated growth in labor productivity, in turn, it leads to a significant reduction in costs on high-tech products, and goods, the production of which they are used. Aforementioned changes cause positive effects like equalization of proportions between income and consumption, significant growth in consumption in economy-wide action, which leads to the accelerated dynamics of aggregate demand.

## II. MAIN PART

High-tech-intensive sectors receive an exceptional status in market innovations infrastructure. In the context of post-industrial economy, in which the last named one is characterized by a high degree of development, sector data have a significant impact on dynamics of the aggregate supply. High-tech-intensive sectors are segments that use the latest achievements of science and technology in products manufacturing, and the share of expense on researches, which aim is improving technologies and products, is not less than 40-50% of the total expenditure, also number of scientific personnel is not less than 30-40 % of the total number of employees [1]. According to the encyclopedia «Technology», high-tech industry is a technical production in which output is connected with needs of making larger volume of theoretical calculations, scientific researches and experiments. Usually it is a production with expenses on research and development in stage connected with preparation and production work more than 60% from all costs [2].

A distinguishing characteristic of high-tech industries, that define their role in economy, are:

- 1) growth rate, which is 3-4 times higher than the growth rates of other sectors of economy;
- 2) large share of added value in the final product;
- 3) heightened salaries of workers;
- 4) large volume of exports and high innovation potential, serving both having high innovation potential sectors and other related industries.

Thus, it is important to note that combination of sectors related to the knowledge-based industries have some differences like: