

EVOLUTION OF INNOVATION DEVELOPMENT OF THE REPUBLIC OF BELARUS

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This article reflects the approach to the assessment of the level of innovative development of the Republic of Belarus on the basis of the Global Index of innovative development indicators in comparison with indicative indicators of innovation development of the State Program on Development for 2016–2020, approved at a meeting of the Council of Ministers Presidium, September 22, 2015.

The terms of innovation and innovative development came not only in the field of industrial, scientific and social sectors of governmental activity, but also in everyday life and it is possible to hear these words. In this regard, arises the question what the innovation and innovative development is, what spheres of activity these concepts involve and what they mean in various fields.

Based on the literal translation of the term "innovation" from the Latin – it is "in the direction of changes" – and means that innovations may involve completely any areas where there is movement towards the use of new techniques, methods, systems, techniques, processes, and development. In other words, innovation – is the creation and use of novelty and bringing it to a finished product of any kind.

The search of new methods of industrial production organization, education institutions and research organizations, the adoption of legal acts in the financial and legal lists - is an innovative development at the state level. These actions are the foundation and impetus for the development of innovations at the industry level, and in some branches of science, in application of new forms and programs of education. In its turn, at the level of individual enterprises, institutions and organizations they are formed: innovation product, innovation process, specialist with the skills of innovative thinking and able to close the spiral of innovative development and to transfer it to a new level and therefore to a new technological mode.

Conventionally, innovative development process can be presented in Figure 1.

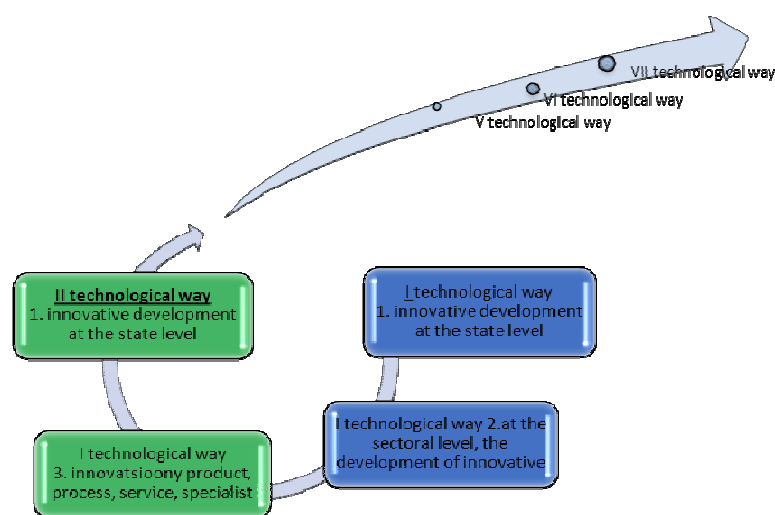


Fig. 1. Innovative development process

Program documents on forming a platform for innovative development in Belarus are the state innovation development programs for 2007–2010 and for 2011–2014 years. The results achieved in the implementation of these programs are significant, but still these results do not allow to realize the main goal of the State policy in the sphere of innovative development till 2015 – the creation of competitive, innovative, high-tech, energy and resource -saving, ecologically friendly economy. [1]

In the continuation of the program approach in the direction of innovative development of the Republic of Belarus adopted the Concept of the State Program of innovative development of Belarus for 2016–2020.

Practical and successful implementation of the Concept and Innovative Development Program is expressed in rising of economic development and living standards level. The process of implementation is in indicators characterizing innovation and key indicators of innovation activities of organizations. This suggests that there may be a situation when the indicators of innovation activity are at a high level, but the results achieved in innovation field, do not have a direct positive impact on social and economic development and on the innovative development rating of the Republic of Belarus in the world.

Table 1 – Selected Indicators of Innovation Union Scoreboard (IUS–2014) for the Republic of Belarus

Economic effect	2012	2013	2014	2015
1. Part of employed in science-intensive activities (Production and Services) to total employment, percentage (End of year)	27,36	27,36	28,49	28,49
2. Export part of mid and high-tech products in the total export of goods, percent	34,6	28,5	27,3	30,3
3. The export part of science-intensive services in total services exports, percent	27,8	26,8	29,6	33,4
4. Sales of new Innovations to market and firms in total trade turnover, percent	17,45	17,28	13,33	12,34

Source [2].

The data presented in the table show sufficiently high economic effect of innovation results, but in fact by the middle of 2016 the level of innovation Development in the Republic of Belarus has decreased. According to the "Global Innovation Index" published since 2007, together with the World Organization of innovation index, Cornell University and business school INSEAD, the Republic of Belarus has lost 26 positions and following the results of 2016 it ranked the 79th out of 128 countries. [3]

In 2016 evaluation of the Global Index of innovative development [3] carried out on the basis of 82 indexes. All the studied parameters are divided into two major groups: resources of innovation – 55 indexes and results of innovation – 27 indexes.

In turn, to:

Innovation resources are divided into the following groups of indicators: institutions, human capital and science, infrastructure, domestic market development, business development

Results of innovation to: the development of technology and science-based economy, the development of creative activity.

The ratio of the index values of innovation results to the resources of innovation is expressed by the coefficient of innovations efficiency.

Dynamics of the major groups of indicators for the Global Innovation Index for 2013–2016 are shown in Table 2.

Table 2 – Dynamics of the major groups of indicators of the Global Innovation Index for 2013–2016 years

Global index of innovation development	2013	2014	2015	2016
1. Resources of innovation	77	58	53	79
1.1. institutions	75	70	55	64
1.2. human capital and Science	107	105	94	77
1.3. infrastructure	43	38	32	35
1.4. the development of the internal market	74	56	60	63
1.5. business development	47	86	32	89
2. The result of innovation	10	114	94	81
2.1. development of technology and knowledge-based economy	79	50	58	103
2.2. creative activity development	54	30	32	49
3. The coefficient of innovation efficiency	102	84	94	124

Source [3].

These tables show that sustainable development is observed only in the group of indicators institutions, which are referred to sub index of resources innovation. Decreasing of the level of index for Innovation resources was 9 points, when the level of index for innovation result decreased on 45 points, consequently, the

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potential resource of Belarus is still high enough, but the result of innovations application and their introduction to life has a very low speed and efficiency.

Let us go back to Figure 1 of this article and look at it from another angle in Figure 2:

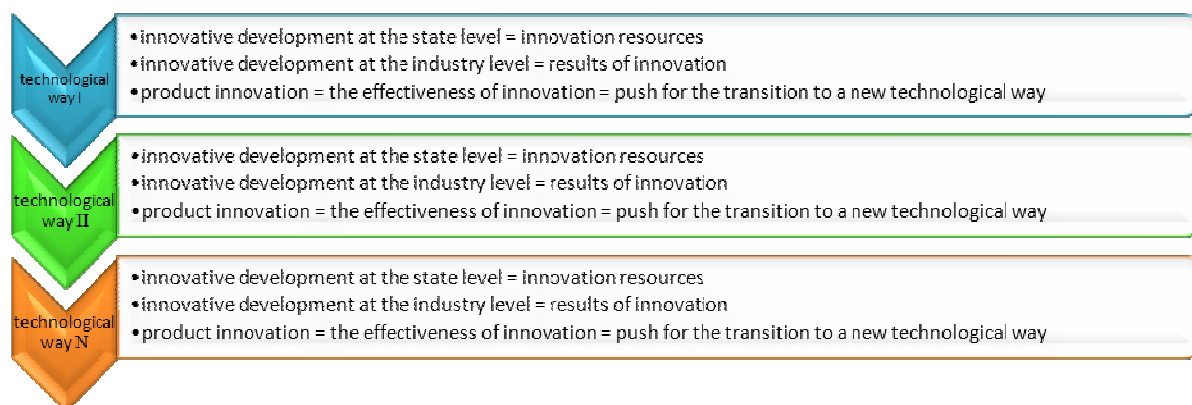


Fig 2. The level of implementation and development of innovations in the state

Figure 2 shows the relationship between the levels of development and implementation of innovations in the state and the chain of resources innovation transfer in the indicator of their effectiveness. Importance of clarity and quick organization of this chain work is in the final result, which allows innovation resources – innovations in the shortest period to be introduced in the form of a breakthrough innovation product, which will further accelerate the innovation development.

The information mentioned above shows that the important role is played by the process of transformation of innovative resources in innovative results with a simultaneous process of "deflating" of innovation in everyday life and mass production. At the same time analysis of indicative parameters of the State program Table 3 is based on innovation resources indicators, group of innovation indicators is represented by only one indicator "The share of high technology exports and high-tech products in the total volume of Belarusian exports".

The emphasis on innovation resources development in innovative development of the Republic of Belarus is confirmed by the values of the indicators groups of the Global Index of innovative development, presented in Table 2. Wherein, the purpose of the Concept of the State program of Belarus Innovation Development for 2016–2020 years is "Providing quality growth and the competitiveness of the national economy with a concentration of resources on building its high-tech sectors, based on V and VI technological structures' production [1], it involves not only the innovative potential presence, but the result and the effectiveness of innovative development.

Table 3 – National Indicative Program

Indicator	years	
	2015 (prognosis)	2016
Specific weight of innovation-active organizations in the total number of organizations, the main economic activity which is the production of industrial products, the percentage	19	26
specific weight of delivered innovative products in the total products volume, the main economic activity of which is industrial production, the percentage	13	21
Number of researchers per 10 thousand people.	20	22
The share of extra-budgetary sources in the internal costs for research and development, the percentage	55	60
Domestic expenditure on research and development of per cent of GDP	0,54	1,5
The share of exports of high technology and high-tech products in the total volume of the Belarusian export, the percentage	15	20
The share of high-tech activities in manufacturing, the percentage	2,5–3	4–6

Source [1].

It should be noted that innovation implies something new and modern technology development and knowledge level in combination capable to produce new ideas virtually non-stop, the question remains just how fast this innovation idea – resource can reach its transformation point as the result of innovations and innovations

efficiency. Considering that the annual statistical digest of science and innovation activity in the Republic of Belarus for 2015 was signed on 30 July 2016, and two months later the international community has already published the Global Index of innovative development for 2016, our gap in the evaluation of innovative activity is at least 10 months.

Thus on the basis of all mentioned above it can be concluded that the Republic of Belarus has the potential for innovation, but we need the system of transformation of this potential in the results of innovation development. For the development of this system it is required to take the following primary preventive measures:

1. Make emphasis on assessment not only of innovative development resources, but on the assessment of results and effectiveness of innovative development. Comprehensive assessment of the three trends of these indicators will allow making more accurate and precise steps and assessing their weaknesses.

2. Reduce the time for collecting, processing and provision of data on innovative development that will accelerate innovative development in general.

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