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## Systemic Diagnostics of the Arctic Industry Development Strategy

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The article analyzes organizational and economic problems of the industry in the Arctic and discloses methods and tools for researching these problems. An attempt to use the method of system diagnostics is made, which has established itself as a basis for determining the development strategy of industry in the Arctic zone of the Russian Federation (AZRF). This method allows to explore the mechanism of natural resources development in the Arctic, such as hydrocarbons and marine biological resources; as well as the organization of logistics and transport corridors for trade of goods produced in the North and in the central regions of Russia. The role, significance and content of the strategy as an essential element of the system for managing natural wealth development in the Arctic in the context of its growing importance in development of global transport corridor are revealed.

Importance of a systematic approach to the development of industry in the Arctic is substantiated, it will ensure development of all investors interested in this region; will allow the state, large corporations, small and medium-sized businesses to work together for the long term. The proposed method for system diagnostics of strategizing the development of industrial potential in the AZRF can be used in the implementation of «Development Strategy for the Arctic Region» as part of roadmap realization for the Arctic region.

**Key words:** economy; Arctic zone of the Russian Federation; Government program; stronghold areas; development strategy; external strategies; industry; cluster; innovation; project; region; scenario; road map

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**Introduction.** Implementation of the «Strategy for the development of the Arctic zone of the Russian Federation and national security for the period up to 2020 (2024)», as well as the state program «Socio-economic development of the Arctic zone of the Russian Federation until 2020» requires a comprehensive and systematic study of industrial potential throughout Arctic territory in order to predict and create optimal scenarios of economic development. This is due to the fact that Arctic zone of the Russian Federation (AZRF) is a zone of strategic interests of Russia, where 12-15 % of the country's GDP is created, providing about a quarter of the export of Russian natural resources. Arctic regions have a large amount of natural resources, the basis of which are hydrocarbons, which implies the development of not only extractive industries, but also manufacturing industries [14]. That is why the decisive importance is attached to the development of a holistic industrial system in all territories of the Russian Arctic on the basis of modern innovative technologies.

AZRF covers an area of about 9 million km<sup>2</sup>, which is home to more than 2.5 million people, that is about 40 % of the population of the entire Arctic, which includes: the Republic of Sakha (Yakutia), Murmansk and Arkhangelsk regions, Krasnoyarsk Territory, Nenets, Yamalo-Nenets and Chukotka Autonomous Districts. In all these administrative entities there are a large number of general and particular problems that should be taken into account when developing strategic plans for regional industrial growth in accordance with the main provisions of the state program for socio-economic development of the country as a whole. General problems of AZRF, which are considered as objective risks, include:

- extreme climatic conditions of life, environmental risks;
- low population density over entire length of the Arctic territory and population concentration only in regional centers;
- insufficient level of development of industrial potential, ensuring a stable long-term increase in the quality of socio-economic conditions of life;
- difficult demographic situation in the regions of Arctic zones, outflow and population migration;
- significant differences in the quality of housing and communal and other social services (health care, education, retraining of personnel, etc.) in the territories of AZRF;



- low level of development of transport and information links between business entities and settlements.

Indicated problems are purely regional in nature and are directly related to the development of industry and economy of the Russian Arctic as a whole. It is the balanced development of industrial potential, human and intellectual resources that are the basis of the strategic development in the Arctic. Therefore, study of regional problems of the economy and search for their solution plays a decisive role for effective implementation of the Development Strategy of the Russian Arctic, not only in terms of the development and mining of mineral resources, but also in qualitative changes in socio-economic conditions of the entire population of the Arctic [3].

**Formulation of the problem.** Concept of creating stronghold areas has caused mixed reactions in the scientific community. This is due to the fact that in the study of location of these zones there is uneven distribution over the entire Arctic territory. In the western part, they are quite concentrated, and in the eastern (Republic of Sakha – Yakutia and Chukotka), which territories are long, there are a large number of settlements with a small number of people living in rather difficult socio-economic conditions. The question of how the process of changing socio-economic conditions in these territories will be implemented is not adequately reflected in the concept. Therefore, there are fears that these settlements may be isolated from development centers. In addition, to implement such a mega-project, it is necessary not only to attract public investment, but also to have a large contribution of regional entrepreneurial structures, which so far do not have sufficient production and investment potential [4].

All these problems require a comprehensive and systematic study of industrial and socio-economic development potentials throughout the territory of the Russian Arctic. Methodological basis of such research is integrated and systemic approaches, which are a form of integration of principles and methods at an interdisciplinary level in the study of difficult problems. Complexity means the need to study objects as multi-purpose, complex and open systems if they have feedback and certain reaction to the effects of external factors when interacting with external environment. Systematicity involves the study of an object as a whole, consisting of many interconnected elements organized on the basis of laws of systems and laws of their functioning. System analysis allows you to decompose the object, analyze the content of alternative solutions, and then synthesize particular solutions and select the optimal one that meets the developed criteria [5].

**Methodology.** One of the effective complex-system tools for studying the state of production systems is system diagnostics [1]. The state of a production facility as an open system must be considered as a set of interconnected elements (subsystems) with different objective properties and interacting with environmental factors. In the process of this interaction, resources are exchanged both between the subsystems of the system itself, as well as the system as a whole and external environment (suppliers, creditors, investors, etc.). Therefore, the state of such an object needs to be studied not only in static parameters (functional diagnostics), but also in dynamics (process diagnostics).

Strategic development of any production facility requires its adaptation to changing external conditions, i.e. restructuring. Restructuring is understood as the process of complex changes in the principles, methods and conditions of the functioning and management of the enterprise in accordance with the external conditions of competition and industry development strategies. Therefore, to create a development strategy (goals, objectives and plans) of the enterprise management in relation to production, income and expenses, budget, taxes, loans, prices, competitiveness and other characteristics, preliminary diagnostics of the state and behavior of the organization in accordance with requirements of state and regional policies is required [9]. Such a policy is focused on innovative development, which requires the enterprise to continuously change its state through a change in production, organization and management technologies (Fig.1).

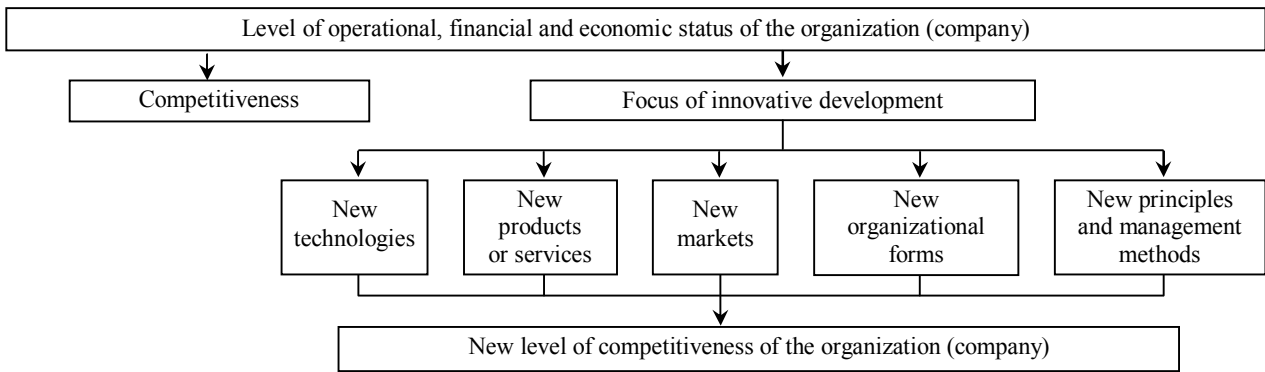


Fig. 1. Simplified model of changing the level of enterprise competitiveness

Diagnostics refers to the procedure of research activities and allows you to make a «diagnosis» of the state of manufacturing entity. Based on the results of diagnostics, measures are developed to change economic, investment, financial, organizational and management activities. Diagnostics includes analysis and evaluation procedures, on the basis of which emerging problems are identified and eliminated and a new growth policy is developed.

Diagnostics allows you to identify many contradictions that arise in production process of an enterprise, and make conclusions on the improvement of organizational and managerial processes, as well as provide recommendations for further development and increase efficiency of managing goals, resources, processes and organization as a whole [2, p. 8].

The term «system diagnostics» was introduced recently with the aim of systematizing all types of diagnostics and possibility of generalizing its results into a single result system to obtain a holistic picture of the object state. Express diagnostics, diagnostics of individual blocks or activities, and process diagnostics allow us to analyze and evaluate not only the state of production facility, but also to determine how efficiently the processes of managing the entire set of resources and individual elements of the organizational system are carried out in the face of competition and risks.

In the modern methodology for conducting diagnostic studies, such diagnostics are called business diagnostics, which uses methodology of system and process approaches based on creation of «values» chains. In a modern market economy, any enterprise is considered as a business system. This is because in the conditions of production system dynamic functioning, constant monitoring is required not only of those changes that occur in the system itself, but also of those environmental factors that cause internal changes. In addition, in the framework of process approach, production is considered as a set of interconnected subsystems organized in the form of an «input» to «output» process of each functioning element of systems in order to create chains of «value» for the consumer of the results of the previous process.

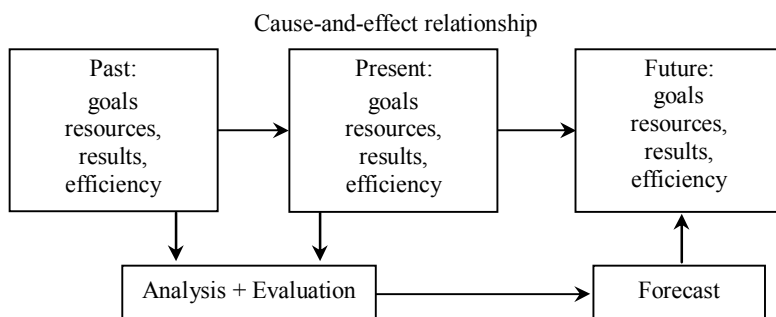


Fig. 2. Schematic representation of business diagnostics

Business diagnostics includes a retrospective, operational and predictive study (analysis and evaluation) of industrial, economic, financial, organizational, investment and management activities in a competitive environment (Fig.2).

An important point in conducting system diagnostics is the establishment, analysis and assessment of the influence of cause-and-effect relationship between goals, resources and

results in the past, present and future. This allows you to create the most effective system of organization and management of the production system in the future (predict).

The business diagnostics methodology is based on systemic and process approaches, which makes it highly relevant and effective for developing an enterprise growth policy.

The purpose of conducting systemic diagnostics of production systems is to identify all types of potentials and reserves for development, increase market attractiveness, competitiveness growth and find ways to increase efficiency and effectiveness of managing all processes in the organizational system. Content of system diagnostics, depending on the goals and objectives, can be complex, partial or variational (in the areas of activity). The consistency of such studies is provided by short-term, medium-term and long-term nature of the diagnosis of a functioning system, ratio of assets and liabilities. Complexity is provided by analysis and assessment of the position of the production system on the market and its ability to adapt to the conditions of economic dynamics and market conditions, taking into account factors of internal and external risks.

Short-term diagnostics allows you to assess the level of flexibility (ability to vary) of current assets and current liabilities with constant fixed capital and long-term sources of financing; medium-term diagnostics allows to assess the possibility of increasing own funds due to accumulated profit and fixed assets growth; long-term diagnostics – the flexibility of all assets and liabilities, including long-term fundraising through the issue of shares, long-term mortgage finance.

Comprehensive or system diagnostics has a multi-purpose content and allows you to get the results of analysis and evaluation for a number of tasks (see the table), allowing you to see the «picture of the state of the study object» in general, identify problem situations and develop recommendations for their elimination.

**Goals and tasks to be solved during system diagnostics**

Goal	Task	Result
Diagnosics of the environment state	Analysis and assessment of market conditions, state of competitors, consumer demand, suppliers, impact of a combination of external factors, their ranking, content and level of risk	Determining the position in the industry and consumer markets, the level of competitiveness of production system, the effectiveness of the existing strategy and management system of the enterprise's resources as a whole based on forecast calculations of effectiveness and efficiency, taking into account risk factors. Development of specific measures to adjust strategic goals and methods for achieving them, pricing management system, sales structure, interaction with suppliers and other external economic entities
Diagnosics of the financial situation at the enterprise	Analysis and assessment of financial performance of the organization, i.e. structure and dynamics of profit and loss, financial stability, balance sheet liquidity, sources and methods of using monetary funds, business activity, solvency, etc.	Determining the optimal amount of financial resources (reserves) in the organization, sufficient to ensure normal solvency, not leading to financial risks. Adjustment of the enterprise financial policy
Diagnosics of production and business activities	Analysis and assessment of efficiency level of the use of production resources, including fixed assets, material and labor resources (capital productivity, capital-output ratio, depreciation, fixed assets turnover, labor productivity, share of wages in the cost of production, etc.), dynamics of size and costs structure.	Development of measures to improve the efficiency of production and economic activities and development of optimal management decisions leading to the planned results
Investment policy diagnostics	Analysis and evaluation of investment policy, effectiveness of raising funds and financing, development of capital investments	Choosing a strategy for attracting financing of investment projects. Determination of the optimal ratio between own and borrowed funds. Development of investment policy options based on the criteria of its effectiveness and productivity
Organizational and management diagnostics	Analysis and assessment of the organizational structure of management, level of costs for the maintenance of the administrative apparatus, workflow, distribution of powers between managers and units, internal control systems	Development of recommendations for changing organizational structure in order to optimize it and create sustainability when exposed to external and internal risk factors



End of the table

Goal	Task	Result
Accounting Policy Diagnostics	Analysis and evaluation of accounting and management record-keeping, quality of reporting, methods of organizing internal audit	Recommendations for conducting internal and external audit of financial statements and workflows with the aim of optimizing relationships and interrelations with tax authorities, suppliers, contractors, banks, etc.
Tax policy diagnostics	Analysis and assessment of tax policy and measures to optimize payments to the budget	Development of recommendations for reducing or deferring tax payments when using different methods of tax optimization. Reserves for increasing profits due to payments to the budget are determined
Diagnostics of personnel and intellectual resources of the enterprise	Analysis and assessment of human and intellectual potentials in the organization, selection and placement of personnel, advanced training, motivation and incentive system	Adjustment of the personnel policy in the enterprise, development of measures for effective use of the human factor and intellectual capital, which is able to create additional values and increase the potential of the enterprise
Diagnostics of the potential of informatization and innovation development	Analysis and evaluation of enterprise management information systems, level of implementation of information technology, quality of technical and software and the effectiveness of its application	Development of a strategy for innovative development of an enterprise, which includes principles and methods for implementing modern information technologies for organizing and managing production systems
Diagnostics of the enterprise value and its level competitiveness	Analysis and assessment of the real and market value of the enterprise, taking into account value and level of competitive advantages (all types of capital)	Correction and refinement of development strategies, determination of qualitative and quantitative parameters and characteristics of resource and cost management in order to obtain optimal synergetic effects from implementation of industrial, financial, investment, personnel, social policies

Materials, presented in the table, give a general picture of the content of those systemic tasks in the diagnostic study, which only in interrelation can reveal a complex of problems that need to be solved in order to develop a new strategy for the production system that meets the needs of the modern economy. To establish an objective diagnosis of the enterprise, special attention should be paid to the preparation of information-analytical base of the study. Conducting systemic diagnostics requires not only preparation, systematization and integration of a large volume of indicators, regulatory, technical and organizational-management documentation, but also ability to interpret it. As part of systemic diagnostics, a large number of systematic methods of both analysis and assessment are used, which allows you to provide integrity and comprehensiveness of the diagnostic study.

System diagnostics can be successfully applied both to develop a growth policy for the Arctic region as a whole, and its individual sectors, for example, industrial sector considered in this article. At its core, an economic strategy is the choice of a scenario for development of the system, implementation of which will allow achieving long-term goals with least losses. The total number of possible types of strategies is very large. However, basic economic strategies in the modern context can be divided into two main categories: development strategy and growth strategy. A basic strategy is a strategy that is developed depending on changes in external and internal environment. It represents a general concept of the production system behavior at a certain stage of its functioning, taking into account modern requirements. Results of systemic diagnostics allow you to create an objective picture of external and internal environment of production system functioning as a separate economic entity, and throughout the territory of AZRF.

In the first case, these are fundamental changes in the quality characteristics of managerial, production, technological, financial, investment and other types of activities through the use of innovative technologies. In the second case, these are changes in the quantitative characteristics of production system indicators due to the growth of production volume, attraction of investments, cost reduction by reorganizing production structure or expanding production capacities, which im-



plies an increase in the volume of resources. The key moment in the development of any production system strategy is the goal-setting, which determines the main directions of development. The hierarchy of strategic goals also establishes a hierarchy of developed strategies, which allows achieving strategic goals, i.e. creates a systematic grouping of strategies according to the hierarchical principle of goals. According to this principle, it is customary to distinguish the following strategies:

1. Corporate strategy, within the framework of which decisions are made on the areas of investment, innovation and financial and economic activity.
2. Strategy of activity or business areas, focused on the direction of production activities types.
3. Functional strategies of the subsystems leaders: finance, marketing, R&D, production, personnel management, work with suppliers, contractors and allies, work with consumers and much more.
4. Linear strategies are focused on the level of heads of organizational units or representative offices and branches.

In the practice of developing growth strategies, depending on signs of classification, there is a wide variety of their types. In this article, we proceed from the fact that while developing a preliminary hierarchical system of goals, we can create the most effective development strategy for an economic entity that will meet the real development needs of all elements as a whole.

Based on the goals and objectives of the «Concept for the development of the Arctic zone», realization of national interests, as well as the fact that industrial and economic activity in the Arctic territories is focal in nature, it is the development of growth strategy for economic entities that becomes the basic framework for the economy of the Arctic [13].

Important factor in the development of regional growth strategies in the Russian Arctic is to take into account specifics of environmental and climatic features; development of investment potential and activity; orientation to industrial extraction of natural resources; introduction of innovative technologies. The region may coincide with the borders of the territory of the subject of the Russian Federation, or combine several territories. Therefore, regional development strategy should extend not only to the territories of the «stronghold area (support zones)», but also to the nearby settlements. General algorithm for developing a growth strategy can be represented in the form of a scheme (Fig.3), taking into account choice of the strategy type that will take into account regional characteristics.

Special attention should be paid to industrial development strategy generation in the regions of the Russian Arctic. This is due to the fact that at least 30 % of the world's gas reserves and 13 % of oil are concentrated in the Arctic zone. The scale of economic activity significantly exceeds indicators of other countries; in the Russian Arctic, 12-15 % of the country's gross domestic product is created, about a quarter of Russia's national exports are provided. According to experts, the total cost of proven reserves of energy and mineral resources of the bowels in the Russian Arctic is about 3 trillion dollars; hydrocarbons account for about two thirds [12].

As already noted, resource-mining industries of the Arctic make a significant contribution to the GDP of the Russian Federation. About 20 % of mining products are produced here. About 2 % of manufacturing products are also produced in the Arctic. Most of the products are produced in

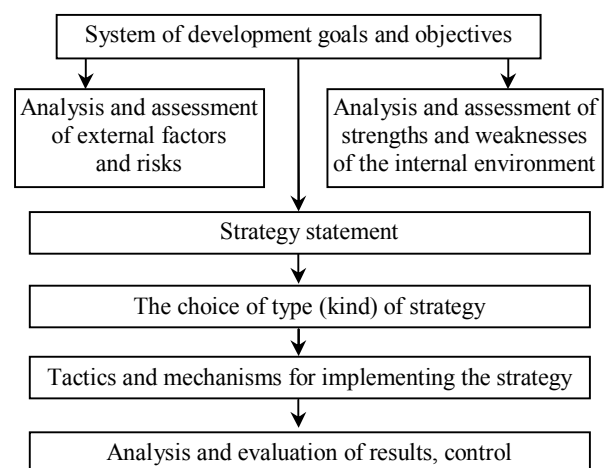


Fig.3. General strategy development algorithm

the Yamal-Nenets Autonomous Okrug, and about 10 % in the north of the Krasnoyarsk Territory and in the Nenets Autonomous Okrug [10]. Almost 2 % of industrial products are produced in the Arctic part of Yakutia. In the western part of domestic Arctic are the so-called «old» areas, industrialized in the early twentieth century. For example, the Murmansk region with the most developed mining industry, metallurgy and electric power industry is the most diversified one [10]. Finland, Canada, USA, Norway and Sweden also have similar development strategies for the Arctic [16-18].

**Discussion.** Strategic aspects of industrial development of the Arctic were considered by V.A.Tishkov, A.I.Tatarkin, S.Yu.Kozmenko, D.A.Dodin, S.V.Ryabchenko, K.G.Sintsov, O.V.Ovchinnikov. Their works touched upon the problems of sustainable development in the Arctic, geopolitical position of the Arctic zone of the Russian Federation and strategy for the development of Arctic communications and industrial modernization. At the same time, complexity of the subject of the research determines debatable nature of many provisions contained in the scientific literature, and in general its insufficient knowledge at the moment.

In connection with strengthening of the strategic role at the Arctic territories in the country's economy as a whole, much attention should be paid to the development of regional investment strategies. This is due to the fact that regions have different investment potentials and do not have sufficient business activity. Implementation of the planned state programs in the Arctic territories requires not only involvement of outside investors, but also activation of domestic, regional economic resources. In the theory and practice of investment activity, it is customary to distinguish three main strategies according to the criteria for projected profitability and loss risks:

- 1) conservative strategy with a return of less than 20 %, low risks and a 60 % share in the investment project portfolio;
- 2) moderate strategy with a return of 20-50 %, medium risks and a share in the portfolio of an investment project of 30 %;
- 3) an aggressive strategy with a return of more than 50 %, high risks and a 10 % share in the investment project portfolio.

Investment component plays a decisive role not only for the implementation of state programs in the Arctic, but also for the regional development of the entire production, economic and social sectors. The increasing role of Russia in the Arctic region is an essential condition for ensuring national security, and is also caused by the need to meet the growing demand for energy both domestically and on the world market. Recently, special attention has been paid to the transition to an innovative economy. In this case, it is necessary to talk about resource-innovative development, the core of which can be Arctic projects. Development of significant hydrocarbon reserves will enable to intensify the process of innovative development both in the Arctic itself and in the Russian economy as a whole [15]. Arctic projects can give a powerful innovative impetus to the leading sectors of the Russian industry – mechanical engineering, shipbuilding, military-industrial complex, as well as the whole spectrum of development of science and technology areas [11]. In practical terms, the Arctic is a unique object for development of internal innovation processes. Under the sanctions of Western countries from banning export of technologies used to develop hard-to-recover reserves, Russian oil and gas companies will have to develop technologies on their own or look for new partners. Obviously, these aspects require activation of innovative processes in the Arctic regions, their reorientation to resource-innovative development. Therefore, in order to overcome the lag in the transition to innovative development of the economy of the Russian Federation, it is necessary to develop regional innovative strategies and strategies for individual industries. Innovative strategies are developed in three main ways:

- 1) «top-down» – the initiative comes from the management of the enterprise and goes down vertically;



2) «bottom-up!» – units offer their recommendations and management summarizes, systematizes and supplements them;

3) order from consulting companies.

In the practice of implementing innovative processes, it is customary to single out the following innovative strategies [3]:

1) upcoming – typical for those enterprises that have a high degree of entrepreneurial competition and pursue an aggressive policy of development and promotion of goods on the market, and most importantly – have a large amount of own and borrowed funds spent on R&D;

2) defensive – indicative for those enterprises that are trying to maintain their competitive advantages;

3) imitation – typical for large enterprises or industrial complexes that are stable on the market and constantly adjust innovative properties of products;

4) the «niche» strategy is indicative for enterprises that produce innovative products with unique properties and are leaders in a particular market segment.

In addition to these basic innovative strategies, there are various options for strategic behavior based on analysis and evaluation of innovative potential and models of innovative activity organization. Innovative activity of an enterprise largely depends on the volume of investments, lending, taxation system, and most importantly, on creating comfortable working conditions for innovators, reinventors and producers [6]. When developing an innovative strategy, it is important to understand that development of innovative activity occurs in the process of interaction between markets: producers, innovations, capital (investment) of innovative products (goods) and services. Therefore, taking into account the risk factors of innovative activity and results of interaction of the listed market innovation environment components, it is necessary, when developing an innovative strategy, to foresee the development of innovative processes in all types of activities [7]. Then, when implementing such an innovative strategy, it is possible to obtain a synergistic effect as a measure of systemic effects from the introduction of innovative technologies in all types of enterprise activities.

**Conclusion.** Strategy for the development of the Arctic zone of the Russian Federation and national security for the period up to 2020 is one of the key aspects of integrated development of the Arctic territories, which is possible only with the effective use of innovative technologies both in the industrial sector of the regional economy of the Arctic and in the social environment. It should be noted that effective implementation of more than 160 events and investment projects in the Arctic (within which more than 90 % of the funding is provided for the development of transport infrastructure, energy, mining and processing industries, shipbuilding) is possible only with improvement of the business climate and development of innovative local capacity. Therefore, systematic diagnostics of potential capabilities of the production sector of the regional economy in the Arctic will allow us to work out the most objective and effective private and comprehensive development strategies that contribute to increasing the level of life of not only production systems, but also the socio-cultural support of the entire Arctic population.

## REFERENCES

1. Alekseeva M.B. Methods and models for diagnosing the status of business systems. ChOU VO «MAEU». Murmansk, 2016, p. 84 (in Russian).
2. Alekseeva M.B., Vetrenko P.P. Innovation Analysis. Moscow: Yurait, 2016, p. 303 (in Russian).
3. Bogachev V.F., Veretennikov N.P. Formation of the organizational and economic mechanism for regulating the consumption of aquatic biological resources. *Mir ekonomiki i prava*. 2013. N 7-8, p. 4-11 (in Russian).
4. Bogachev V.F., Veretennikov N.P., Evgrafova L.E. Socio-economic aspects of sustainable development of industrial fishing in the Arctic. *Vestnik Murmanskogo gosudarstvennogo tekhnicheskogo universiteta*. 2014. Vol. 17. N 3, p. 431-436 (in Russian).
5. Veretennikov N.P., Bogachev V.F., Ul'chenko M.V. Northern Sea Route: transport, economics, geopolitics. *Vestnik MGTU*. 2015. Vol. 18. N 3, p. 386-392 (in Russian).
6. Gorenburgov M.A., Goncharov V.V. Classification of industrial innovations as a prerequisite for making optimal management decisions in business. *Problemy sovremennoi ekonomiki*. 2018. N 3 (67), p. 136-339 (in Russian).





7. Gorenburgov M.A. Business Organization. SPbGEU. St. Petersburg, 2015, p. 201 (in Russian).
8. Ivanchenko D.S., Kartamysheva E.S. The development of industry and technology in the Arctic. *Molodoi uchenyi*. 2016. N 28, p. 333-336 (in Russian).
9. Litvinenko V.S. Development of the strategy of providing Russian mining industrial complex with personnel: Urgent today problem. *Gornyi zhurnal*. 2002. N 6, p. 75-77 (in Russian).
10. On the Fundamentals of State Policy of Russia in the Arctic for the Period Until 2020 and the Future. Ofitsial'nyi sait Pravitel'stva RF (in Russian). URL: <http://static.government.ru/media/files/A4qP6brLNJ175I40U0K46x4SsKRHGfUO.pdf> (date of access 12.01.2019).
11. Overview of Arctic industries. Ofitsial'nyi sait kompanii «Vostoc Kapital UK» (in Russian). URL: <https://www.vostockcapital.com/about-us/> (date of access 12.01.2019).
12. Arctic Development Meeting (in Russian). URL: <https://budushchee-arktiki.rf/coveshhanie-po-voprosam-razvitiya-arktiki/> (date of access 12.01.2019).
13. Strategy for the development of the Arctic zone of the Russian Federation and ensuring national security for the period until 2020. Ofitsial'nyi sait Pravitel'stva RF (in Russian). URL: <http://static.government.ru/media/files/2RpSA3sctElhAGn4RN9dHrtzk0A3wZm8.pdf> (date of access 12.01.2019).
14. Khaikin M.M. Subsoil use in the context of the modern development of economic theory. *Zapiski Gornogo instituta*. 2015. Vol. 213, p. 100-109 (in Russian).
15. Khaikin M.M., Chimeddorzh U. Organizational and economic aspects of the development of mechanisms for the rational use of coal deposits. *Evrasiiskii yuridicheskii zhurnal*. 2018. N 5 (120), p. 352-354 (in Russian).
16. A Strategic Vision for the North: Finland's prospects for economic growth in the Arctic region. Elinkeinoelämän keskusliitto. URL: <https://ek.fi/wp-content/uploads/A-Strategic-Vision-for-the-North.pdf> (date of access 12.01.2019).
17. Canada's Arctic Foreign Policy. Government of Canada (official site). URL: [https://international.gc.ca/world-monde/international-relations-relations\\_internationales/arctic-arctique/arctic\\_policy-canada-politique\\_arctique.aspx?lang=eng](https://international.gc.ca/world-monde/international-relations-relations_internationales/arctic-arctique/arctic_policy-canada-politique_arctique.aspx?lang=eng) (date of access 12.01.2019).
18. National strategy for the Arctic region. USA Government (official site). URL: [https://obamawhitehouse.archives.gov/sites/default/files/docs/nat\\_arctic\\_strategy.pdf](https://obamawhitehouse.archives.gov/sites/default/files/docs/nat_arctic_strategy.pdf) (date of access 12.01.2019).

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