Актуальні проблеми розвитку економіки регіону. Випуск 22. Т. 2 **ISSN (Print) 2313-8246**
The actual problems of regional economy development. Issue 22. Vol. 2 **ISSN (Online) 2518-7589**

ІННОВАЦІЙНО-ІНВЕСТИЦІЙНІ МОДЕЛІ ЕКОНОМІЧНОГО РОЗВИТКУ
INNOVATIVE-INVESTMENT MODELS OF ECONOMIC DEVELOPMENT

UDC 338.45:330.341.1:332.1:351.86
doi: https://doi.org/10.15330/apred.2.22.208-217

Малиш В. В.

ІННОВАЦІЙНО-ІНВЕСТИЦІЙНИЙ РОЗВИТОК ПРОМИСЛОВИХ ПІДПРИЄМСТВ ЯК ФАКТОР ФОРМУВАННЯ БЕЗПЕКОВОГО СЕРЕДОВИЩА РЕГІОНУ

Національний університет «Чернігівська політехніка»,
кафедра менеджменту та адміністрування,
вул. Шевченка, 95, м. Чернігів,
14030, Україна,
тел.: +380967788989
e-mail: Mvv8686@ukr.net
ORCID: https://orcid.org/0009-0002-2720-4655

Анотація. У статті досліджено інноваційно-інвестиційний розвиток промислових підприємств як фактору формування безпекового середовища регіону. Зазначене потребує активізації інноваційних процесів, упровадження цифрових технологій, оновлення основних фондів, розвитку науково-технічного потенціалу, залучення інвестицій, навчання персоналу, що в цілому сприятиме забезпеченню економічної, соціальної та виробничої безпеки регіональних систем. Встановлено, що промислові підприємства стикаються з низкою проблем, серед яких: воєнні загрози, порушення логістичних ланцюгів, обмеженість фінансових ресурсів, технологічна залежність, необхідність швидкої адаптації до нових викликів, що значно уповільнює їхню інноваційно-інвестиційну діяльність. Інноваційно-інвестиційну діяльність проаналізовано на прикладі п’яти підприємств молочної промисловості, вибір яких був зумовлений такими критеріями та міркуваннями, як: регіональне представництво, представництво ключових сегментів молочної промисловості, різноманітність організаційно-правових форм, належність до великого галузевого об'єднання (частково), доступність інформації (частково), потенціал для виявлення різних рівнів інноваційно-інвестиційного розвитку. Здійснено порівняльний аналіз інвестиційної активності та інноваційної діяльності обраних підприємств за період 2021-2024 рр. За результатами досліджень встановлено, що інноваційно-інвестиційний розвиток промислових підприємств є важливим фактором формування безпекового середовища регіону, адже ефективне поєднання інноваційної активності та інвестиційного забезпечення сприяє модернізації виробництва, підвищенню конкурентоспроможності підприємств, зміцненню їхньої стійкості до зовнішніх і внутрішніх загроз та забезпечує стабільний соціально-економічний розвиток територій. Досліджено, що молочна промисловість України, попри наявні труднощі, продовжує посідати важливе місце у структурі харчової індустрії та зберігає суттєві перспективи розвитку й модернізації. Доведено, що розширення асортименту молочної продукції, зростання споживчого попиту та впровадження сучасних виробничих рішень посилюють конкурентну боротьбу між підприємствами галузі. Така ситуація спонукає виробників систематично покращувати якісні характеристики товарів, урізноманітнювати продуктову лінійку, підвищувати ефективність виробництва та застосовувати нові підходи до просування продукції з метою охоплення ширших ринкових сегментів.

Ключові слова: регіон, регіональна економічна система, інноваційний розвиток, інвестиційний розвиток, промислові підприємства, цифровізація, безпекове середовище.

Malysh V. V.

INNOVATION AND INVESTMENT DEVELOPMENT OF INDUSTRIAL ENTERPRISES AS A FACTOR IN SHAPING THE REGIONAL SECURITY ENVIRONMENT

Chernihiv Polytechnic National University,
Department of Management and Administration,
Shevchenko St., 95, Chernihiv,
14030, Ukraine,
tel.: +380967788989
e-mail: Mvv8686@ukr.net
ORCID: https://orcid.org/0009-0002-2720-4655

Abstract. The purpose of the study is to assess the role of innovation and investment development of industrial enterprises in shaping regional economic security. Such development requires the activation of innovation processes, the introduction of digital technologies, the renewal of fixed assets, the development of scientific and technical potential, investment attraction, and the training of personnel, which will contribute to ensuring the economic, social, and industrial security of regional systems. It was found that industrial enterprises face a number of problems, including military threats, disruption of logistics chains, limited financial resources, technological dependence, the need for rapid adaptation to new challenges, which significantly slows down their innovation and investment activities. Innovation and investment activity was analyzed using the example of five dairy industry enterprises, the selection of which was determined by such criteria and considerations as: geographical diversity, representation of key segments of the dairy industry, diversity of organizational and legal forms, membership in a large industry association (partly), availability of publicly accessible information, potential for identifying different levels of innovation and investment development. A comparative analysis of investment and innovation activities of selected enterprises was carried out for the period 2021-2024. The findings indicate that the innovation and investment development of industrial enterprises is an important factor in the formation of the security environment of the region, as the effective combination of innovation activity and investment support contributes to the modernization of production, increasing the competitiveness of enterprises, strengthening their resilience to external and internal threats, and ensuring stable socio-economic development of territories. The study shows that the dairy industry of Ukraine, despite the existing difficulties, remains an important component of Ukraine’s food industry and retains significant prospects for development and modernization. The analysis suggests that the expansion of the range of dairy products, growing consumer demand and the introduction of modern production solutions increase the competition among enterprises in the industry. This situation encourages manufacturers to systematically improve product quality, diversify the product line, increase production efficiency and apply new approaches to product promotion in order to reach broader market segments.

Keywords: region, regional economic system, innovative development, investment development, industrial enterprises, digitalization, security environment.

Introduction. The current environment of global competition, economic turbulence, transformation of production systems, and growing security challenges require an emphasis on solving the problem of ensuring the sustainable development of industrial enterprises. Today, the industrial sector has a significant impact on the economic growth of regions due to the formation of a significant share of gross value added, jobs, tax revenues, and investment attractiveness of territories.

Innovation and investment development of industrial enterprises requires intensification of innovation processes, introduction of digital technologies, renewal of fixed assets, development of scientific and technical potential, attraction of investments, personnel training, which in general will contribute to ensuring the economic, social and industrial security of regional systems. Industrial enterprises face a number of problems, including:

military threats, disruption of logistics chains, limited financial resources, technological dependence, the need to quickly adapt to new challenges, which significantly slows down their innovation and investment activities.

Research Objective. Various aspects of innovation and investment activity are considered in the scientific works of the following scientists: Bezus A. M., Bludova T. V., Vahonova O. H., Vatchenko O. B., Voloshchuk Y. O., Hnatyshyn L.B., Hosalova S. V., Dubyna M. V., Popelo O. V., Prokopyshyn O. and others.

Despite a significant number of scientific studies, the issue of innovation and investment development of industrial enterprises as a factor in the formation of the security environment in the region requires further research.

The aim of this study is to analyze the innovation and investment development of industrial enterprises as a factor in the formation of the security environment of the region in modern conditions.

Results. Current challenges affecting the innovation and investment activities of industrial enterprises necessitate the search for new mechanisms that will ensure increased interaction with the processes of forming the security environment of regional economic systems. Modern trends in innovation and investment development are examined using dairy industry enterprises operating in different regions of Ukraine [1, 4, 8].

The dairy industry occupies one of the leading places in the structure of the food industry of Ukraine, playing a decisive role in providing the population with high-quality and nutritious food. According to statistics, the dairy industry is one of the 5 leading branches of the food industry in Ukraine.

The effectiveness of the functioning and development of the dairy industry is determined by the interaction and mutual interest of such key players as dairy producers, raw material producers and consumers.

Dairy producers are directly engaged in milk processing and the production of a wide range of dairy products, such as drinking milk, fermented milk drinks (kefir, yogurt, fermented baked milk), cream, butter, sour cream, hard and soft cheeses, ice cream, condensed milk and milk powder. The main goal of these enterprises is to produce high-quality products, meet consumer demand and ensure the profitability of production.

Structurally, the dairy industry of Ukraine is quite branched and includes several key subsectors, including:

- butter industry, which specializes in the production of butter of various types and fat content;
- cheese industry, encompassing the production of a wide range of cheeses, from hard and semi-hard varieties to soft and processed cheeses;
- the dairy canning industry, which is engaged in the production of concentrated and canned dairy products, such as condensed milk, milk powder and canned milk;
- production of whole milk products, which includes the production of drinking milk of various fat content, fermented milk drinks, cream and sour cream.

The importance of the dairy industry in the structure of the food industry of Ukraine is determined by a number of factors, the main of which we consider it expedient to include: contribution to food security of the regions of Ukraine, structural integration into the agro-industrial complex and development of the food industry, contribution to GDP and employment, potential for export, social significance.

A significant contribution of the dairy industry to the food security of the regions of Ukraine is due to the fact that milk and dairy products are one of the main food products for the population of Ukraine, which provide such important nutrients as protein, calcium, vitamins. The stable functioning of the dairy industry is a key element of the availability of high-quality dairy products for all segments of the population and ensuring the country's food independence.

Structural integration in the agro-industrial complex is a significant factor that determines the importance of the dairy industry, which is closely related to other industries, namely: animal husbandry (provides raw materials - milk), agriculture (growing feed for livestock), mechanical engineering (production of equipment for processing), logistics and trade (distribution of products).

The dairy industry contributes to gross regional product through the production, processing and sale of dairy products. At the same time, the industry provides jobs for a significant number of people both directly at milk processing enterprises and in related industries (agriculture, transportation, logistics, trade).

Most regions of Ukraine have quite favorable natural conditions for the development of dairy cattle breeding, which creates opportunities for increasing the production of dairy products not only for the domestic but also for the foreign market. The possibility of increasing the production of dairy products determines the export potential of the industry. The entry of commodity producers with high-quality and competitive products into the foreign market makes it possible not only to receive foreign exchange earnings, but also to strengthen the country's position in world markets. However, it is worth noting that despite the existing potential, the requirements of international markets for the quality of dairy products are quite stringent, which requires significant transformations, and therefore appropriate investments [2, 3, 5, 6, 15].

For the analysis of the innovation and investment development of industrial enterprises, five enterprises were selected: LLC Pyriatyn Cheese Plant [25], ALC Yahotyn Butter Plant [24], ALC Zolotonosha Butter-Making Plant [23], ALC Bashtanka Cheese Plant [22], and PJSC Ichnia Milk Powder and Butter Plant [17].

The choice of these enterprises was determined by such criteria and considerations as: geographical diversity, representation of key segments of the dairy industry, variety of legal forms, partial affiliation with a major industry group, availability of publicly accessible corporate and financial data, potential for identifying different levels of innovation and investment development.

Regional representation (indirectly). Although the geographical aspect was not the main criterion, the selected enterprises are located in different regions of Ukraine (Poltava, Cherkasy, Mykolaiv, Chernihiv regions), which can indirectly affect their development due to the availability of resources, the specifics of the local market, etc.

Representation of key segments of the dairy industry. The selected enterprises cover the main areas of milk processing: production of cheese, butter, milk powder, which allows for a more comprehensive assessment of innovation and investment activity in various segments of the dairy industry of Ukraine.

The next selection criterion is *the variety of organizational and legal forms.* Among the selected enterprises are limited liability companies (LLCs), additional liability companies (ALCs), and private joint stock companies. The combination of such different organizational and legal forms reflects different approaches to management, attracting investments and introducing innovations, which, in our opinion, will be important for comparative analysis.

Belonging to a large industry association (partially). Most of the selected enterprises (except for the Ichnia plant) are part of the Milk Alliance group of companies. Such affiliation may indicate joint development strategies, opportunities for exchange of experience and implementation of innovations at the group level.

Availability of information (partially). The availability of corporate websites provides a certain degree of public access to information about the companies' activities. On these resources, these websites provide information on the history of companies, the range of products, and, unfortunately, there is quite limited information about investment plans and implemented technologies. Especially valuable is the link to the page "Investors" of the Ichnia plant, which directly indicates its interest in attracting investments.

Potential for identifying different levels of innovation and investment development. In our opinion, the selected enterprises may be at different stages of their development and have different levels of innovation and investment activity, which will allows to identify the best practices, identify problem areas and formulate general trends in the functioning and development of the dairy industry.

Therefore, the choice of these five enterprises as objects of research is due to our desire to obtain a comprehensive and versatile analysis of the innovation and investment development of the dairy industry of Ukraine. The selected enterprises represent key segments of the industry, have different organizational and legal forms, and their activities probably reflect different levels of innovation and investment activity.

A comparative analysis of investment and innovation activity in 2021 – 2024 is summarized in Table 1.

ALC Zolotonosha Butter-Making Plant. In 2021, showed significant activity in the field of external financial investments, holding investment certificates with a total book value of UAH 97 million and minority stakes and blocks of shares in the amount of UAH 0.2 million [7].

In order to guarantee the production of safe and high-quality food products, the company "has implemented and certified an integrated food safety management system", which meets the requirements of the DSTU ISO 22000:2019 (ISO 22000:2018) standard. In 2021, ALC Zolotonosha Butter-Making Plant "passed an international certification audit under the food safety management system in accordance with the requirements of FSSC 22000 version 5, which is a reliable audit and certification scheme for the food safety management system in the food supply chain, which is based on ISO, ISO/TS internationally recognized standards." It also received confirmation from the Halal Global Ukraine Certification Center LLC, Kascert international regarding the production of "dairy products that meet the requirements of HALAL" by the enterprise [12]. Obtaining such certificates often requires equipment upgrades, the introduction of new procedures and staff training, which are forms of investment.

Table 1

Comparative analysis of investment and innovation activities, 2021-2024

Year	ALC Zolotonosha Butter-Making Plant	LLC Pyriatyn Cheese Plant	ALC Bashtanka Cheese Plant	ALC Yahotyn Butter Plant	PJSC Ichnia Milk Powder and Butter Plant
2021-2022	Obtaining the international certificate FSSC 22000	Research and development of innovative technologies (R&D) of new hard cheeses and strategies for entering export markets	Innovation activity likely focuses on responding to the consequences of war	Continuing to develop new products	Launch of A2 milk production, rebranding of packaging TM "Milk World"
2023	Continued support for FSSC 22000 standards	Continuation of R&D, possible development of cheese "Smetankovy"	Innovation activity likely focuses on post-displacement adaptation	Starting kefir 1%	Resumption of A2 milk production, expansion of the A2 line (kefir, yogurt)
2024	Likely to continue to maintain high food safety standards	It is possible to launch the cheese "Smetankovy"	Innovation activities are likely focused on recovery and stabilization	Launch of new products, including 1.5% Bifidoyogurt, assorted yogurts, lactose-free butter, and cheese	Continuation of the production of kefir and yogurts based on A2 milk

In 2022, the company purchased a pasteurization and cooling unit KMZ-POU-25 in the amount of UAH 9844.2 thousand, which made it possible not only to increase the volume of production, but also the volume of sales for export [21]. In 2023, in order to ensure uninterrupted operation and avoid losses of stocks and finished products in the absence of electricity during the war, the company purchased a "Cummins C62.5 D5P diesel generator with ATS in the amount of UAH 1112.6 thousand and Diesel generator 5KJDD825ASB in the amount of UAH 4257.2 thousand" [9].

LLC Pyriatyn Cheese Plant. As of 2021, LLC Pyriatyn Cheese Plant operated with the implemented international standards: the ISO 9001:2008 quality management system and the ISO 22000:2005 food safety management system. The enterprise was also characterized by the availability of modern technological equipment and qualified specialists. In the same year, capital investments were made in the modernization of production - an automatic line for packaging processed cheese in briquettes was purchased. At the same time, the construction of its own treatment facilities began [9]. These investment decisions reflect management's focus on increasing production efficiency and building environmentally responsible infrastructure.

The purchase of a packaging machine was most likely intended to speed up the packaging process and potentially reduce labor costs in the production of processed cheese. The construction of the treatment plant demonstrates the company's attention to the environmental aspects of its activities and the principles of sustainable development – perhaps this was caused by the tightening of regulatory requirements or compliance with internal corporate standards of responsibility. As for financial investments, in 2020 LLC Pyriatyn Cheese Plant did not invest in securities of third-party companies, concentrating resources on its own development [9].

In 2022, LLC Pyriatyn Cheese Plant continued the construction of treatment facilities and made a number of investments, including the construction of local treatment plants, which began in 2021 and is local in nature. In the same year, the company purchased "Cryovac SVS45 packaging equipment" for the packaging of hard cheese [25].

The following year, investments in non-current assets were continued. Thus, to ensure the continuity of production, the "Kohler B900 diesel electric generator for backup power supply" was purchased [18]. An analysis of the notes to the financial statements showed that in 2024, the cheese factory purchased 12 units of fixed assets worth up to UAH 50 thousand per piece. During this period, the "IT-G500-15E digital data collection terminal" and the "Karcher HD 6/15-4 Classic automatic pressure washer" [19] were purchased.

In 2021, **ALC Yahotyn Butter Plant** made financial investments outside its own production. The company invested UAH 52,495 thousand in investment certificates of the Prestige Capital Investments Investment Fund managed by Etalon Asset Management LLC [13].

As for innovation activities, in the same year the plant launched a number of new products: curd dessert, thick yogurt in a large package (280 g) and ultra-pasteurized milk in tetra-fino packaging [19]. The expansion of the product line with such items demonstrates the company's efforts to diversify the assortment and respond to the growing interest of customers in convenient products with an extended shelf life. Entering the market with curd desserts and new flavors of yoghurts helped reach additional consumer groups, and the production of ultra-pasteurized milk in tetra-fino packaging reflected the understanding of the need for products that can be transported over long distances without loss of quality due to their long shelf life.

In 2022, ALC Yahotyn Butter Plant significantly expanded its product range. In particular, consumers were presented with such dairy novelties as "1.5% bifidoyogurt, lactose-free butter 73 and 82.5% fat and butter 62% (weighing 180 g), as well as lactose-free cheese with 5% fat and a new line of yogurt flavors" [14].

The release of lactose-free products indicates the company's desire to reach consumers with special dietary needs and follow the trends of the healthy food market. The development of new flavors of yogurts and other dairy products is also aimed at satisfying the diverse tastes of consumers and increasing market share.

ALC Bashtanka Cheese Plant. In 2021, the company successfully passed the certification audit for compliance with the requirements of the integrated food safety and quality management system ISO 9001:2015 and ISO 22000:2018 (HACCP), and also confirmed its international Halal certificate. In the period 2021-2022, the ALC Bashtanka Cheese Plant purchased new production equipment for the production of cheeses and yoghurts [11].

Investments in equipment for the production of both cheeses and yogurts indicate a strategy to diversify the product portfolio and potentially expand its presence in the dairy market. The company constantly studied advanced technologies and analyzed market trends.

In 2023, the activities of the ALC Bashtanka Cheese Plant were significantly affected by the full-scale armed aggression of the Russian Federation against Ukraine. Due to hostilities, the company was forced to suspend production, and its property was damaged. However, despite this, the liquidation of the enterprise was not planned, and measures were taken to resume activities after the end of the active phase of the war [20].

Over the previous five years, the company purchased "a line for the production of Pasta Filata cheeses, a unit for packaging Pasta Filata cheeses (Multivac R145), a dosing module for a fruit filler, printers for filling machines (Fill Pack), a new electric forklift and new cam pumps in the butter shop". The residual value of intangible assets at the end of 2023 amounted to UAH 235 thousand and fixed assets – UAH 86,745 thousand. The strategy of further activities of the enterprise was aimed at restoring production facilities after the end of martial law, establishing channels for the supply of raw materials and resuming production, and also considered the possibility of moving part of production facilities to other territories of Ukraine [20].

PJSC Ichnia Milk Powder and Butter Plant. The company's financial statements indicate a significant increase in intangible assets during 2021 and 2022. The study of notes to the financial statements (form No. 5) suggests that the company invested in intangible assets (patents, software acquisitions, etc.) at that time, which is associated with the introduction of new technologies or processes in the near future [16].

In 2022, the company started "easy-to-digest production of A2 milk" for consumers who are lactose intolerant. In the same year, the company increased production capacity and began to supply milk powder abroad, in particular, to Armenia, Egypt and China. At the same time, the plant began to implement a project to update the design of product packaging under the Molochnyi Mir trademark [10].

Conclusions. The results of the study prove that the innovation and investment development of industrial enterprises is an important factor in the formation of the security environment of the region. An effective combination of innovation activity and investment support contributes to the modernization of production, increasing the competitiveness of enterprises, strengthening their resilience to external and internal threats and ensures stable socio-economic development of territories.

Despite the positive financial results, the notes to the financial statements for 2024 indicate significant uncertainty regarding the continuity of the company's operations due to the military aggression. In the same year, the company's liabilities exceeded its total assets. During the specified year, the company purchased a Kohler B900 electric generator, which, in fact, was an investment in ensuring the continuity of production in the face of possible power outages. In 2024 the company planned to continue the comprehensive modernization of the enterprise.

Summarizing the results of the analysis, it can be stated that the dairy industry of Ukraine, despite the existing difficulties, continues to occupy an important place in the structure of the food industry and retains significant prospects for development and modernization. The expansion of the range of dairy products, the growth of consumer interest and the introduction of modern production solutions intensify the competition between enterprises in the industry. This situation encourages manufacturers to systematically improve the quality characteristics of goods, diversify the product line, increase production efficiency and apply new approaches to product promotion in order to cover wider market segments.

Differences in financial indicators and innovation and investment activity between enterprises representing different segments of the industry and organizational and legal forms indicate a different level of their resistance to adverse conditions and require the development of tailored development strategies in response to the challenges of the market and the external environment.

References

1. Bezus, A. M. "The Role of Innovative Development in Enterprise Sustainability." *Investytsiyi: Praktyka ta Dosvid*, no. 8, 2018, pp. 22-25, www.investplan.com.ua/?op=1&z=6039&i=. Accessed 15 May 2026
2. Bludova, T. V., and V. V. Tokar. "Modeling of Innovation and Investment Activity in the Context of Enterprise Economic Security." *Efektyvna Ekonomika*, no. 2, 2013, www.economy.nayka.com.ua/?op=1&z=1826. Accessed 10 May 2026
3. Vahonova, O. H., et al. "Current State of Innovation Activity at Industrial Enterprises of Ukraine." *Ekonomichnyi Visnyk*, no. 3, 2020, pp. 189-196, https://doi.org/10.32782/2524-0072/2018-18-21.
4. Vatchenko, O. B., et al. "Problems of Innovative Development of Ukraine." *Ekonomichnyi Prostir*, no. 95, 2015, pp. 71–81. *V. I. Vernadsky National Library of Ukraine*, nbuv.gov.ua/UJRN/ecpros_2015_95_9. Accessed 15 May 2026
5. Voloshchuk, Yu. O. "Strategic Directions of Innovative Development of Industrial Enterprises in the Context of Neo-Industrialization." *Innovatsiina Ekonomika*, no. 5/6, 2021, pp. 66–73, https://doi.org/10.37332/2309-1533.2021.5-6.9.
6. Hnatyshyn, L., et al. "The Role of Innovation and Investment Activities in Ensuring Strategic Development and Economic Security of Industrial Enterprises in the Context of Digitalization." *Naukovi Innovatsiyi ta Peredovi Tekhnolohiyi*, no. 8(48), 2025, pp. 323-335, perspectives.pp.ua/index.php/nauka/article/view/27502/27463. Accessed 5 May 2026
7. Management Report for 2020. *Molochnyi Alians Group of Companies*, milkalliance.com.ua/tools/cms/site/download.php?url=/uploads/site_factory_docs/file/0008/31.pdf&name=zvit-pro-upravlinnya-po-grupi-ko. Accessed 15 May 2026
8. Dubyna, M. V., and Ya. I. Fediai. "Financial Risks of Innovative Development of an Agro-Industrial Enterprise." *Uspikhy i Dosiahnennia u Nautsi*, no. 1 (11), 2025, pp. 922-934, doi.org/10.52058/3041-1254-2025-1(11)-922-934.
9. Management Report for 2020 of LLC "Pyriatynskyi Syrzavod". *Molochnyi Alians Group of Companies*, 2020, milkalliance.com.ua/tools/cms/site/download.php?url=/uploads/site_factory_docs/file/0008/24.pdf&name=zvit-pro-upravlinnya-za-2020-rik. Accessed 15 May 2026
10. Management Report of PrJSC "Ichnianskyi Zavod Sukhoho Moloka ta Masla". *Ichnianskyi Zavod Sukhoho Moloka ta Masla*, 2021, izsm.com.ua/wp-content/uploads/2023/02/zvit-pro-upravlinnya-za-2021-r.pdf. Accessed 11 May 2026
11. Management Report of ALC "Bashtanskyi Syrzavod" for 2020. *Molochnyi Alians Group of Companies*, 2020, milkalliance.com.ua/tools/cms/site/download.php?url=/uploads/site_factory_docs/file/0008/23.pdf&name=zvit-pro-upravlinnya-za-2020-rik. Accessed 12 May 2026
12. Management Report of ALC "Zolotoniskyi Maslorobnyi Kombinat" for 2020. *Molochnyi Alians Group of Companies*, 2020, milkalliance.com.ua/tools/cms/site/download.php?url=/uploads/site_factory_docs/file/0008/27.pdf&name=zvit-pro-upravlinnya-za-2020-rik. Accessed 15 May 2026
13. Management Report of ALC "Yahotynskyi Maslozavod" for 2020. *Molochnyi Alians Group of Companies*, 2020, milkalliance.com.ua/tools/cms/site/download.php?url=/uploads/site_factory_docs/file/0008/34.pdf&name=zvit-pro-upravlinnya-za-2020-rik. Accessed 15 May 2026

14. Annual Information of the Security Issuer. *Molochnyi Alians Group of Companies*, milkalliance.com.ua/tools/cms/site/download.php?url=/uploads/site_factory_docs/file/0008/74.pdf&name=richna-informatsiya-emitenta-tsi. Accessed 15 May 2026
15. Popelo, O. V., and Malysh, V. V. "Adaptive Management of Innovation and Investment Development of Industrial Enterprises as a Factor of Ensuring Economic Security." *Economic Synergy*, no. 1, 2023, pp. 48–56, doi.org/10.53920/ES-2023-1-4.
16. Annual Report 2020. PrJSC "Ichnianskyi Zavod Sukhoho Moloka ta Masla", 2020, izsm.com.ua/wp-content/uploads/2022/01/2021-richnyj-zvit-2020.pdf. Accessed 15 May 2026
17. Private Joint-Stock Company "Ichnianskyi Zavod Sukhoho Moloka ta Masla", izsm.com.ua/investoram/. Accessed 15 May 2026
18. Annual Information of the Security Issuer for 2022. *Molochnyi Alians Group of Companies*, 2022, milkalliance.com.ua/tools/cms/site/download.php?url=/uploads/site_factory_docs/file/0008/57.pdf&name=richna-informatsiya-emitenta-tsi. Accessed 15 May 2026
19. Annual Information of the Security Issuer for 2023. *Molochnyi Alians Group of Companies*, 2023, milkalliance.com.ua/tools/cms/site/download.php?url=/uploads/site_factory_docs/file/0008/80.pdf&name=richna-informatsiya-emitenta-tsi. Accessed 15 May 2026
20. ALC "Bashtanskyi Syrzavod". Annual Information of the Security Issuer for 2022. *Molochnyi Alians Group of Companies*, 2022, milkalliance.com.ua/tools/cms/site/download.php?url=/uploads/site_factory_docs/file/0008/65.pdf&name=richna-informatsiya-emitenta-tsi. Accessed 11 May 2026
21. ALC "Zolotoniskyi Maslorobnyi Kombinat". Annual Information of the Security Issuer for 2021. *Molochnyi Alians Group of Companies*, 2021, milkalliance.com.ua/tools/cms/site/download.php?url=/uploads/site_factory_docs/file/0008/65.pdf&name=richna-informatsiya-emitenta-tsi. Accessed 11 May 2026
22. Additional Liability Company "Bashtanskyi Syrzavod". *Molochnyi Alians Group of Companies*, milkalliance.com.ua/company/enterprises/bashtanskij-sirzavod/. Accessed 15 May 2026
23. Additional Liability Company "Zolotoniskyi Maslorobnyi Kombinat". *Molochnyi Alians Group of Companies*, milkalliance.com.ua/company/inform/zolotoniskij-maslorobnij-kombinat/. Accessed 15 May 2026
24. Additional Liability Company "Yahotynskyi Maslozavod". *Molochnyi Alians Group of Companies*, milkalliance.com.ua/company/inform/yagotinskij-maslozavod/. Accessed 15 May 2026
25. Limited Liability Company "Pyriatynskyi Syrzavod". *Molochnyi Alians Group of Companies*, milkalliance.com.ua/company/inform/piryatinskij-sirzavod/. Accessed 15 May 2026

Submission date: 30.05.2026
Date of acceptance for publication: 20.07.2026