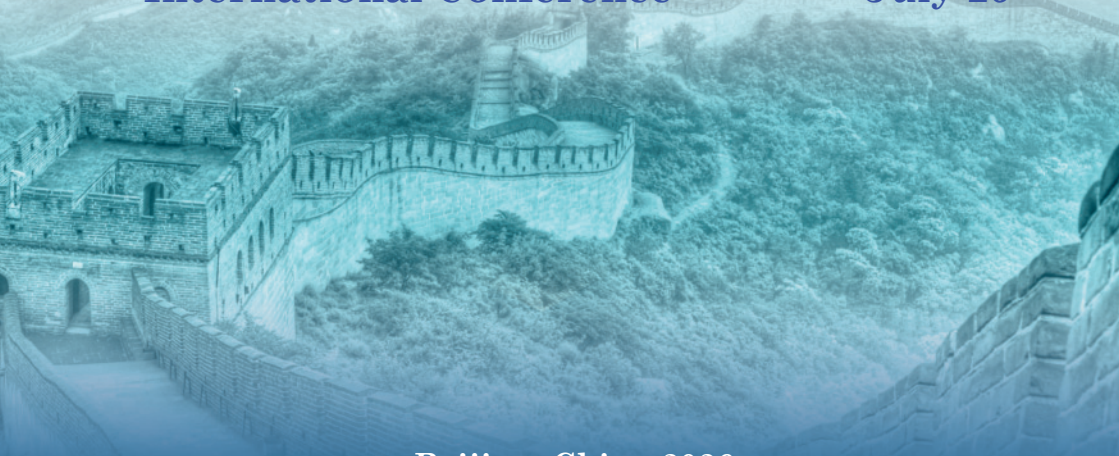
SCIENTIFIC RESEARCH OF THE SCO COUNTRIES: SYNERGY AND INTEGRATION

上合组织国家的科学研究：协同和一体化

Proceedings of the International Conference

Date: July 29



Beijing, China 2026

上合组织国家的科学研究：协同和一体化国际会议

参与者的英文报告

International Conference “Scientific research of the SCO countries: synergy and integration”

Part 2

2026年07月29日，中华人民共和国北京

JULY 29, 2026. BEIJING, PRC

Proceedings of the International Science Conference
“Scientific research of the SCO countries: synergy and integration” - Reports in English

(July 29, 2026. Beijing, PRC)

DOI 10.34660/INF.2026.48.70.074

这些会议文集结合了会议的材料 – 研究论文和科学工作者的论文报告。 它考察了职业化人格的技术和社会学问题。 一些文章涉及人格职业化研究问题的理论和方法论方法和原则。

作者对所引用的出版物，事实，数字，引用，统计数据，专有名称和其他信息的准确性负责

These Conference Proceedings combine materials of the conference – research papers and thesis reports of scientific workers. They examine technical, juridical and sociological aspects of research issues. Some articles deal with theoretical and methodological approaches and principles of research questions of personality professionalization.

Authors are responsible for the accuracy of cited publications, facts, figures, quotations, statistics, proper names and other information.

DOI 10.34660/INF.2026.48.70.074

©Scientific publishing house Infinity, 2026
©Group of authors, 2026

CONTENTS

TECHNICAL SCIENCES

基于LLM的决策支持系统框架，结合案例推理，支持用户对话式决策
LLM-powered DSS framework with case-based reasoning to support user-dialogue decision making
Glukhikh Igor Nikolaevich, Maltseva Anastasia Evgenievna, Shcherbakova Victoria Nikolaevna, Glukhikh Dmitry Igorevich *9*

别拉绍夫的无人机歼灭者
Belashov's unmanned aerial vehicle destroyer
Belashov Aleksey Nikolaevich. *17*

用户体验/用户界面设计原则在信息系统工程中的应用
Application of UX/UI Design Principles in Information Systems Engineering
Kondrashina Alisiya Maksimovna, Yaklyushina Mariya Sergeevna. *26*

以瓜子饼为原料的功能性粉末饮料中的矿物质成分及潜在毒性元素
Mineral profile and potentially toxic elements in a functional powdered beverage based on melon seed press cake
Isroilova Shoirakhon, Serkaev Kamar, Khamidova Madina Olimjonovna. *32*

利用人工智能的混合物流模型：以乍得共和国为例，构建适用于上合组织+国家的三级模型
Hybrid logistics models using artificial intelligence: a three-level model for SCO+ countries using the example of the Republic of Chad
Ahmat Abakar Nourene. *40*

ARCHITECTURE

城市建筑与空间环境的身份认同：感知建模原则
Identity of the Architectural and Spatial Environment of the City. Principle of Perceptual Modeling
Blagovidova Natalya Georgievna, Ivanova Olga Aleksandrovna *45*

ECONOMIC SCIENCES

全球军工复合体的转型与太空卫星威胁：军事人工智能与“灰色供应”向伊朗、台湾等不稳定地区的蔓延
Transformation of the global military-industrial complex and space satellite threats: military AI and the growth of “gray supplies” to instability zones from Iran to Taiwan
Kharlanov Alexey Sergeevitch *53*

线粒体功能评估技术的商业化：从实验室研发到工业化应用的转变
Commercialization of mitochondrial functional assessment technology: the transition from laboratory development to industrial implementation
Makanova Ilona Olegovna, Auezova Elmira Tugelbaevna, Panov Stanislav Alexandrovich, Danayeva Dayana Zhalgasovna *66*

工业企业增长战略制定方法
Approach to developing a growth strategy for an industrial enterprise
Moskalenko Margarita Nikolaevna, Tarasenko Mark Yuryevich *75*

旅游业创新型数字生态系统的技术层面
Technological aspects of creating innovative digital ecosystems in tourism
Zeveke Olga Yurievna, Balev Nikola Nikolaev *84*

创新战略类型分析
Analysis of typologies of innovation strategies
Motorina Irina Urievna *94*

上海合作组织成员国经济比较分析：金砖国家扩张的影响及制裁压力的影响
Comparative analysis of the economies of the SCO countries: the effects of the BRICS expansion and the impact of sanctions pressure
Mamatova Leila Shamilievna, Chernata Tatiana Nikolaevna *99*

塔吉克斯坦与上海合作组织成员国在加强经济安全领域的投资、贸易和物流合作构想
Concept of investment, trade and logistics cooperation of Tajikistan with the countries of the Shanghai Cooperation Organization in the field of strengthening economic security
Mirsaidzoda Muhammadnaim Nemat. *108*

木工行业：发展中的关键趋势
The woodworking industry: key trends in development
Vasilev Dmitrii Yuryevich *114*

以区域战略和产业潜力整合者的身份进行战略规划：相互依存的辩证法
Strategizing as an integrator of strategy and industrial potential of the region: the dialectic of interdependence
Aliabieva Anastasiya Yurievna *119*

财务韧性作为一种战略能力：构建后危机时代企业财务管理的概念框架
Financial resilience as a strategic capability: toward a conceptual framework for post-crisis corporate financial management
Shevchenko Dmitriy Mihaylovich, Shevchenko Viktoriia Igorevna *126*

企业财务决策中的行为偏差：将有限理性融入资本结构理论的概念框架
Behavioral biases in corporate financial decision-making: a conceptual framework for integrating bounded rationality into capital structure theory
Shevchenko Viktoriia Igorevna, Shevchenko Dmitriy Mihaylovich *131*

俄罗斯食品生产商进入中国和韩国市场模式的比较分析
Comparative analysis of market entry models for Russian food producers in China and the Republic of Korea
Vasiliev Danila Vitalievich *139*

远东优惠制度下俄中合资企业运作的特点和风险
Features and risks of functioning Russian-Chinese joint ventures in preferential regimes of the Far East
Sun Limei, Karsakov Kirill Borisovich *147*

在俄中合作的背景下，改进对远东地区优惠制度有效性的评估
Improving the assessment of the effectiveness of preferential regimes in the Far East in the context of Russian-Chinese cooperation
Tao Lixia, Zhang Xinfang *155*

POLITICAL SCIENCES

远东青年移民情绪与价值观取向：当前挑战与建议（第一部分）
Migration sentiments and value orientations of the far east youth: current challenges and recommendations. Part 1
Kashtanyuk Valeria Alexandrovna, Sheludko Alexander Sergeevich *163*

JURIDICAL SCIENCES

俄罗斯联邦立法中关于切尔诺贝利核电站事故受影响公民优先养老金权利的不对称性
Asymmetry of preferential pension rights of citizens affected by the Chernobyl nuclear power plant accident in the legislation of the Russian Federation
Smashnikova Tatiana Borisovna *169*

恐怖主义行为的必要特征：目的的演变、内容、界定问题及完善法律监管的途径
Purpose as a mandatory feature of a terrorist act: evolution, content, qualification problems, ways to improve legal regulation
Jurchenko Irina Aleksandrovna *175*

移民数字档案的法律制度：个人数据控制与保护之间的平衡
Legal regime of digital profiles of migrants: a balance between control and protection of personal data
Polev Mikhail Sergeevich *186*

俄罗斯联邦公共行政体系内卫星发射的国家监管和机构组织
State Regulation and Institutional Organization of Satellite Launches within the Public Administration System of the Russian Federation
Voroshilo Antonina Sergeevna *192*

DOI 10.34660/INF.2026.45.45.181

远东优惠制度下俄中合资企业运作的特点和风险
FEATURES AND RISKS OF FUNCTIONING RUSSIAN-CHINESE JOINT VENTURES IN PREFERENTIAL REGIMES OF THE FAR EAST

Sun Limei
Postgraduate
Karsakov Kirill Borisovich
Assistant
Vladivostok State University

摘要：本文考察了在先进发展区和符拉迪沃斯托克自由港运营的俄中合资企业的特点。基于远东和北极发展公司的数据，本文确定中国企业在先进发展区和符拉迪沃斯托克自由港的外国投资居民总数中所占比例分别为57.1%和65.5%。分析表明，合资企业与传统公司存在根本差异：它们融合了不同的制度环境、管理实践和技术能力。本文还指出了评估合资企业对区域发展影响时必须考虑的其他因素：融入全球价值链的程度、技术转让的程度、制度支持的力度以及抵御外部冲击的能力。本文系统地分析了主要风险：技术依赖、社会经济依赖、文化组织障碍和政治风险。本文论证了优惠政策仅能创造基本条件，合资企业的真正成效取决于制度环境的质量和地方政府的适应能力。

关键词：合资企业、特点与风险、优惠制度、远东、制度不对称

Abstract. *The article examines the features of Russian-Chinese joint ventures operating in the territories of advanced development and the Free Port of Vladivostok. Based on data from the Far East and Arctic Development Corporation, it has been established that the share of China in the total number of foreign-invested residents is 57.1% in TAD and 65.5% in FPV. The analysis demonstrates that joint ventures fundamentally differ from traditional companies: they integrate heterogeneous institutional environments, managerial practices, and technological competencies. Additional factors that must be considered when assessing their impact on regional development have been identified: the level of integration into global value chains, the degree of technology transfer, the extent of institutional support, and resilience to external shocks. The key risks are systematized: technological dependence, socio-economic dependence, cultural-organizational barriers, and political risks. It is substantiated that preferential regimes create only*

basic conditions, while the real effectiveness of JVs depends on the quality of the institutional environment and the capacity of regional authorities for adaptation.

Key words: *joint ventures, features and risks, preferential regimes, Far East, institutional asymmetry*

Introduction

Joint ventures (JV) are traditionally regarded as a mechanism for integrating the resources, technologies, and knowledge of partners from different countries [1; 2]. However, their operation under conditions of significant institutional asymmetry between partner countries generates specific challenges that are not fully addressed in existing studies.

Russian-Chinese economic cooperation in the Russian Far East constitutes an illustrative case of such asymmetry. On the one hand, Chinese investors encounter a relatively liberal Russian regulatory system for foreign investments. On the other hand, Russian partners must adapt to China's strict state control over cross-border projects, which has intensified especially after the introduction of the 'Measures for the Security Review of Foreign Investments' (2020) [3].

To stimulate the inflow of Chinese investments and technologies into the Russian Far Eastern regions, territories with a special economic and legal status have been established – the Territories of Advanced Development (TAD) and the Free Port of Vladivostok (FPV). According to the Corporation for the Development of the Far East and the Arctic, by 2025, 18 Territories of Advanced Development are operating with 937 residents and 1,979 Free Port of Vladivostok residents [4]. Chinese companies (including Hong Kong) account for 57.1% of all foreign residents in Territories of Advanced Development and 65.5% in Free Port of Vladivostok [5].

Despite the scale of Chinese participation, existing studies of Russian-Chinese joint ventures focus primarily on quantitative aspects (investment volumes, number of projects) and insufficiently consider the qualitative effects of their operation. In particular, the issues of real technological transfer, localization of production chains, and institutional consequences for the host regions are poorly studied.

Traditional methods for assessing the effectiveness of preferential regimes rely on standard criteria (jobs created, tax revenues, investment volume), which do not capture the specifics of joint ventures as integrators of heterogeneous institutional environments, management practices, and technological competencies [6]. An unresolved question remains: what additional factors should be taken into account when evaluating the impact of JVs on regional development amid institutional asymmetry?

The aim of the study is to identify the specific characteristics of the functioning of Russian-Chinese joint ventures within preferential regimes of the Russian Far East, to systematize key risks, and to justify an expanded set of factors for assessing their influence on the socio-economic development of the host regions.

Research objectives:

1. to conduct a comparative analysis of the institutional foundations for the establishment of JVs in Russia and China to identify sources of asymmetry;

2. to identify additional factors for assessing the effectiveness of JVs specific to cross-border cooperation within preferential regimes;

3. to systematize the key risks associated with the functioning of Russian-Chinese JVs based on an analysis of empirical data;

4. to develop recommendations for improving the management mechanisms of JVs in TAD and FPV.

Literature Review

The theoretical basis of the study is institutional theory [7; 8], which explains the influence of formal and informal institutions on firms' strategic decisions under conditions of institutional asymmetry. Classical works on joint ventures [1; 9] focus on the motives for their creation and the distribution of control, but insufficiently consider the specifics of JV functioning in preferential regimes of developing economies. Studies of technology transfer in alliances [10; 11] demonstrate that the effective transfer of knowledge depends not only on formal agreements but also on the absorptive capacity of the receiving party. In the context of Russian-Chinese cooperation, studies [12; 13] highlight the growing role of JVs in the agro-industrial complex of the Far East; however, systematic analysis of risks and factors affecting effectiveness remains fragmented.

Methodology

The study is based on the triangulation of methods. Secondary data from the Development Corporation of the Far East and the Arctic (2020–2025) on the structure of TAD and JV residents were utilized. A comparative legal analysis was conducted of Russian (Federal Law No. 160, Civil Code of the Russian Federation) and Chinese legislation (Measures for the Security Review of Foreign Investments). Interviews were held with representatives of the DFEDC and managers of Russian-Chinese JVs to identify risks. The systematization of factors and risks was carried out by means of qualitative content analysis of expert assessments.

Main Section

Unlike traditional enterprises operating under national legislation, joint ventures have a fundamentally different nature. As noted in the study by A. P. Latkin, they integrate diverse institutional environments, managerial practices, technological competencies, and financial resources [6]. This integration generates both synergistic potential and additional transaction costs related to the alignment of legal norms, tax regimes, and corporate cultures.

The comparative analysis of the legal foundations for the establishment of JVs in Russia and China, conducted by the authors, reveals a fundamental asymmetry. Russian legislation (Russian Civil Code, Federal Law No. 160-FZ [14]) enshrines

the principle of equality of all economic entities and provides relatively standardized registration procedures. In contrast, the Chinese model is characterized by reinforced state control, especially following the introduction in 2020 of the 'Measures for the Security Review of Foreign Investments' [3], which require foreign companies to undergo a security review for alignment with state interests. Regulatory authority in the field of foreign investment is exercised by the Ministry of Commerce (MOFCOM) and the National Development and Reform Commission (NDRC).

This institutional asymmetry generates an 'institutional vacuum' for joint ventures: formal economic indicators do not reflect the actual transaction costs associated with reconciling heterogeneous management practices and regulatory requirements. Therefore, when assessing the impact of JVs on the socio-economic development of host regions, it is necessary to shift from a narrow understanding of 'efficiency' toward a broader concept of 'strategic impact,' which includes not only quantitative but also qualitative institutional consequences.

An analysis of the sectoral structure of TAD and FPV resident enterprises shows that in recent years agriculture and the food industry have clearly become a priority [15]. There is a transformation in Russian-Chinese cooperation from leasing Far Eastern lands and raw material imports to the establishment of joint export-oriented processing enterprises producing food products with high added value. According to the authors, this trend requires special attention to indicators such as the depth of production localization and the proportion of local components in the cost of the final product.

The traditional practice of evaluating the effectiveness of preferential regimes relies primarily on quantitative indicators:

– the volume of attracted investments,
– the number of jobs created,
– tax revenues.

However, these criteria are insufficient for an objective evaluation of the actual contribution of Russian-Chinese JVs to the socio-economic development of host regions, since they do not reflect the degree of localization within production chains, the quality of the jobs created, or the enterprises' involvement in the development of social infrastructure. In his work, Quan Ch. justifies that when evaluating export-oriented projects, it is necessary to analyze the structure of added value, including wages, social contributions, depreciation, taxes, and the profit margin [16]. However, for a comprehensive analysis, additional parameters reflecting the specifics of joint entrepreneurship under conditions of cross-border interaction are required.

Based on the conducted analysis, the authors propose identifying the following additional factors to be included in the methodological toolkit for evaluation:

1. level of integration into global value chains.

Export-oriented joint ventures contribute to the diversification of the region's exports and to increasing the share of high value-added products. This fundamentally

distinguishes them from traditional raw material companies, where the added value remains low.

2. the degree of technological transfer.

A key motive for the Russian Federation is access to advanced technologies. However, experience shows that Chinese partners often seek to minimize technology transfer, restricting themselves to the provision of turnkey equipment. Therefore, it is necessary to monitor not only the volume of technology imports but also the actual level of localization of innovative processes.

3. the extent of institutional support.

Differences in legal systems create additional costs. The effectiveness of JVs directly depends on the quality of the institutional environment – transparency of procedures, speed of decision-making, and availability of dispute resolution mechanisms.

4. resilience to external shocks.

Geopolitical risks (sanctions, trade restrictions) can paralyze the activity of the JV even when all formal requirements are met. This factor is especially relevant for Russian-Chinese joint ventures under the current geopolitical tensions [17].

Taking these factors into account enables a transition from merely stating investment volumes to assessing the real contribution of JVs to qualitative changes in the regional economic system.

Despite evident advantages, the successful and sustainable functioning of JVs in territories with a special economic and legal status involves a range of risks. Based on the analysis of empirical data and expert interviews, the authors distinguish four key groups of risks:

1. Technological dependence. This risk is manifested in the use of imported finished products and equipment from China without significant transfer of advanced technologies and competencies. In this case, Russia functions as a turnkey plant, receiving no technological progress. This risk warrants particular attention from Russian regulatory authorities, who must include requirements for technology transfer and production localization in the conditions for receiving preferences (as is done, for example, in China).

2. Socio-economic dependence. If JVs become the primary employer in the region, a ‘corporate’ economy emerges, where the life of the local population heavily depends on a single enterprise. Any problems in the operations of this enterprise can have catastrophic consequences for employment and social stability in the region. Furthermore, unequal relations may be formed between the JV and local enterprises, which find themselves at a disadvantage when competing for resources.

3. Cultural and organizational differences. Research indicates that cultural differences can affect the performance and stability of joint ventures. For example, ‘harmony and cooperation’ are significant for Chinese enterprises, shaping business

practices and conflict management within teams. Failure to understand these nuances from the Russian side may result in conflicts among managers and diminish the effectiveness of joint work.

4. Political risks. Although the partnership currently enjoys high-level government support, any changes in the political course of China or Russia may impact the stability of the cooperation. Certain projects may be primarily aimed at fulfilling political objectives rather than economic efficiency, resulting in financial losses.

Furthermore, the operation of Russian-Chinese enterprises within the Far Eastern special economic and legal regimes exposes additional administrative barriers:

– bureaucratic complexity (the necessity to coordinate the interests of two partners and the management company),

– a potential conflict of interests between state goals and the commercial interests of the investor,

– geopolitical vulnerability.

The considered risks require systematic monitoring and the development of mechanisms to mitigate them at the levels of management companies and regional authorities.

Conclusion

The study conducted demonstrated that Russian-Chinese JVs in the preferential regimes of the Far East have distinctive features determined by institutional asymmetry between the partner countries. Four additional factors for assessing their effectiveness have been identified: the level of integration into global value chains, the degree of technology transfer, the extent of institutional support, and resilience to external shocks. Key risks have been classified as technological dependence, socio-economic dependence, cultural and organizational barriers, and political risks.

Practical recommendations include incorporating mandatory requirements for R&D localization and the proportion of local components in preferential agreements (in line with Chinese practice); the creation of mechanisms for monitoring the qualitative effects of JVs beyond standard indicators; the formation of mediation institutions for resolving cultural and organizational conflicts.

References

1. Kogut, B. Joint ventures: Theoretical and empirical perspectives / B. Kogut // Strategic Management Journal.– 1988.– Vol. 9, № 4.– P. 319–332.– DOI: 10.1002/smj.4250090403.

2. Beamish, P. W. The characteristics of joint ventures in developed and developing countries / P. W. Beamish // Columbia Journal of World Business.– 1985.– Vol. 20, № 3.– P. 13–19.

3. Regulations on the Security Review of Foreign Investment: Order of the State Council for Development and Reform of the PRC and the Ministry of Commerce of the PRC dated 12/19/2020 No. 37.– Text: electronic.– URL: https://www.gov.cn/zhengce/2021–01/18/content_5713271.htm (accessed: 07/15/2026).

4. Activity Reports // Corporation for the Development of the Far East and Arctic: [official site].– URL: https://erdc.ru/about/reports/ (accessed: 07/15/2026).

5. New vectors of development in Russian-Chinese cooperation in the food supply of the Far East / L. Sun, L. Tao, C. Zhou, V. Yan // Territory of New Opportunities. Bulletin of Vladivostok State University.– 2025.– Vol. 17, No. 1.– Pp. 17–26.– DOI 10.29039/2949–1258/2025–1/017–026.– EDN DQHUUE.

6. Latkin, A. P. A new approach to the classification of factors of regional socio-economic development / A. P. Latkin, L. Sun // Eurasian Science Bulletin.– 2024.– Vol. 16, No. 3.– P. 18.– EDN AQJHQK.

7. North, D. C. Institutions, institutional change and economic performance / D. C. North.– Cambridge: Cambridge University Press, 1990.– 152 p.– ISBN 978-0521397346.

8. Peng, M. W. Institutional transitions and strategic choices / M. W. Peng // Academy of Management Review.– 2003.– Vol. 28, № 2.– P. 275–296.– DOI: 10.5465/amr.2003.9416341.

9. Hennart, J.-F. A transaction costs theory of equity joint ventures / J.-F. Hennart // Strategic Management Journal.– 1988.– Vol. 9, № 4.– P. 361–374.– DOI: 10.1002/smj.4250090406.

10. Inkpen, A. C. Learning and knowledge acquisition through international strategic alliances / A. C. Inkpen // Academy of Management Executive.– 1998.– Vol. 12, № 4.– P. 69–80.– DOI: 10.5465/ame.1998.1333953.

11. Lane, P. J. Relative absorptive capacity and interorganizational learning / P. J. Lane, M. Lubatkin // Strategic Management Journal.– 1998.– Vol. 19, № 5.– P. 461–477.– DOI: 10.1002/(SICI)1097-0266(199805)19:5<461::AID-SMJ953>3.0.CO;2-L.

12. Zuenko, I. Yu. China's Agricultural Engagement in the Russian Far East / I. Yu. Zuenko // Mezhdunarodnye Processy.– 2024.– Vol. 22, No. 3–4(78–79).– P. 68–84.– DOI 10.46272/IT.2024.22.3–4.78–79.4.– EDN DWTMHI.

13. Portyakov, V. Russian-Chinese Relations. Current stage and future prospects / V. 13.Portyakov // R/evolutions Global Trends & Regional Issues.– 2013.– Vol 1, Issue 1.– P. 234–244.

14. On foreign investments in the Russian Federation: Federal Law No. 160-FZ: adopted by the State Duma on June 25, 1999.– Moscow: Kremlin, 1999.– Electronic text.– URL: https://www.consultant.ru/document/cons_doc_LAW_16283/ (accessed: 07/15/2026).

15. Sun, L. Sectoral priorities of Russian-Chinese business projects in preferential regimes of the Far East / L. Sun // Current Issues of Socio-Economic and Political-Legal Development of Modern Russia: Collection of Scientific Papers Based on Materials of the 5th International Scientific and Practical Conference, Petropavlovsk-Kamchatsky, December 11, 2024.– Petropavlovsk-Kamchatsky: All-Russian Academy of Foreign Trade of the Ministry of Economic Development of the Russian Federation, 2024.– pp. 147–152.– EDN HFRGPM.

16. Quan, Ch. A methodological approach to substantiating export-oriented business projects for the production of high value-added food products in Russia's Primorsky Krai / Ch. Quan, L. Sun // Territory of New Opportunities. Bulletin of Vladivostok State University.– 2024.– Vol. 16, No. 4(72).– pp. 18–26.– DOI 10.29039/2949–1258/2024–4/018–026.– EDN CUDERW.

17. Karsakov, K. B. New challenges of risk-management: joint projects in a preferential environment / K. B. Karsakov // Science, Technology, Society: Ecological Engineering in the Interests of Sustainable Territorial Development (NTO-VI-2025): collection of scientific articles based on the materials of the VI All-Russian (National) Scientific Conference, Krasnoyarsk, November 6–7, 2025.– Krasnoyarsk: Public Institution Krasnoyarsk Regional House of Science and Technology of the Russian Union of Scientific and Engineering Public Associations, 2025.– pp. 356–366.– DOI 10.47813/nto.6.2025.3019.– EDN SVMZKC.

科学出版物

上合组织国家的科学研究：协同和一体化

国际科学大会的材料

2026年08月01日，中华人民共和国北京

编辑A.A.Siliverstova
校正A.I.尼古拉耶夫

2026年08月01日，中华人民共和国北京
USL。沸点：98.7。 订单253.流通500份。

在编辑和出版中心印制
无限出版社