ORIGINAL PAPER

DOI: 10.26794/2304-022X-2022-12-2-6-20
UDC 338.242(045)
JEL E65, O25, M11, R12

Localization of Production: International Experience and Imperatives of Russia in the Conditions of Sanctions Regime

T.N. Topoleva
Udmurt Branch of Institute of Economics of the Ural Branch of Russian Academy of Science, Izhevsk, Russia

ABSTRACT

This article is dedicated to the study of production localization problem which became especially topical in conditions of new challenges characterized by the unprecedented strengthening of sanctions regime towards Russian economy and predetermining the necessity to create national manufacturing chains of full cycle, reconfiguration of the sectoral policies, transformation of business models in context of strategic goals of the import substitution. The purpose of the article is to generalize and evaluate international experience of localization of production, as well as to analyze the state of this process in the branches of the Russian manufacturing sector, which since 2014 has been under the action of the blocking and sectoral sanctions of the collective West. In the research process, a complex of general scientific methods was used, including: analytical, logical, monographic, interpretation, synthesis, as well as a method of graphical visualization. Methodological base of the study includes the set of classical and neo-classical concepts of the spatial organization of the economy, theory of innovative growth and cluster development. Fragmentary overview of production localization international experience is given. We have carried out analysis of mechanisms of the state industrial policy, contributing to the problems solution of the localization and import substitution, taking into account strategic priorities of Russia. The advantages of localization in practice of special investment contract (SPIC) conclusion were systematized. Its sectorial features in automotive industry, power engineering industry and aircraft building were stated. We have made a conclusion about the necessity of forming of effective localization strategy, overcoming of declarative character of import substitution in the key spheres of real sector of Russian economy which will help to solve the problems of national security provision and technological independence. Practical significance of the results of the study consists in the possibility of its use in the sphere of program and project management and development of strategies of national and regional levels development.
Keywords: production localization; industrial policy; import substitution; clustering; special investment contract; efficiency

***For citation*. Topoleva T.N. Localization of the production: International experience and imperatives of Russia in the conditions of sanctions regime. *Management Sciences*. 2022;12(2):6-20. DOI: 10.26794/2304-022X-2022-12-2-6-20**

INTRODUCTION

Turning to the etymology and semantic content of the term "localization", originating from Latin "locus" (place) and used in several contextual meanings of different scientific disciplines, it should be noted that, in a broad sense, its essence is to concentrate the object under study in space or to construction restrictions and limits. From an economic point of view, localization implies a hierarchy based on a given level of object:

- micro-level (individual enterprises or their groups);
- meso-level (urban agglomerations, regions, industries);
- macro-level (countries, cross-national associations).

In this reasearch, localization is considered for production systems, mainly meso-level, as an object of managerial influence in line with the spatial approach aimed at improving the location of productive forces and solving the state tasks of territorial development.

The process of localization of production as an application area of the control system mediates the logic of changes correlating with the basic aspects of typologization of innovations by J. Schumpeter: creation of new types goods or their new qualities, organization of production and introduction of new technologies, development of new markets and sources of raw materials, organizational transformation [1].

Scientific interest in the problem of localization of production dates back to classical and neoclassical foreign theories of spatial placement, described in the works of J.H. von Thünen [2], A. Weber [3], W. Christaller [4], A. Lösch [5] etc. The search for the optimal structure of the economic space continued in the works W. Isard [6], A. Pred [7], P. Pottier [8], F. Perroux [9] etc. Among the modern authors developing the theory and modeling of the location of economic activities, it should be noted P. Krugman [10], P. Romer [11], M. Porter [12] etc. Informative characteristics of localization of production are contained in the works of domestic researchers: N. N. Kolosovskii [13], A. G. Granberg [14], A. I. Tatarkin [15], V. I. Suslov [16], Yu. G. Lavrikova [17] etc.

INTERNATIONAL EXPERIENCE OF PRODUCTION LOCALIZATION PROGRAMS

In international practice, various aspects of localization have been on the agenda of governments since the 1970s XX century. Norway was one of the first countries to implement a comprehensive localization programme as part of industrial policy. This was due to a national strategy focused on supporting the productive sector, research development, technology transfer, development of regulatory requirements for localization and regulatory methods for their implementation.

Despite a favorable macroeconomic environment and a developed industrial complex, the Government of Norway recognized the lack of innovative and technological competence in the developing oil and gas sector, as a result, he was directly affected by State regulation. In particular, foreign oil and gas companies have been actively encouraged to integrate with Norwegian producers and R&D research institutes. Technology transfer and investment became an essential element of the licensing process. Thus, one of the main conditions for the issuance of a subsoil license was the implementation by companies of at least 50% of all required R&D on the territory of the country. Protectionist policies was accompanied by support of economic clustering, including

through special programs "NCE", "Arena", as well as the creation of a network of industrial parks and incubators [18]. Knowledge-based business developed in collaborative partnerships with the science and education sector and conversion enterprises. Furthermore, contrary to claims that there was a need for preferential tax treatment for investors in mining, the incentive mechanism was not applied. Nevertheless, a number of other advantages have played a role, in particular: political and legal stability of the country, effective administration, support of geological study of the shelf, proximity to European markets [19].

Norwegian multi-sector oil and gas cluster with more than 1300 companies and 120 thous. employees, developed through the consistent implementation of protectionist measures consistent with the objectives of the national strategy. Its member enterprises are located along the entire value chain of the oil and gas industry, including at the highest level. As a result, the country secured world leadership in the production of stationary oil production platforms. Sales volume of the cluster exceeds 20 bln dollars for domestic and 30 bln dollars for external market. Realization of oil and gas equipment and its service became the leading export items of the country, second only to the sale of hydrocarbons. While in the formative stage of the industry, mining was held back to avoid overheating of the economy, since the 2000s there has been a reversal to strengthen the competitive mechanism to maximize sources of industry growth [20].

Thus, the selection of an innovative vector through an integrated production localization programme contributed to Norway's achievement of global leadership in offshore technologies, growth of the economy and strengthening of competitive positions in the world economic space.

Example of stimulating localization in the wind turbine sector of Canada was of interest. The wind power industry doubles in the world every 3–4 years, its share of electricity production has exceeded 4%, the growth rate reaches 20% annually [21]. In the 2000s this market was controlled by five countries: USA, China, Spain, Germany, India. But by the middle of the 2010's Canada joined the group of the largest market players. The growth of the industry was driven by targeted state measures to support localization. Wind power now ranks second in the country after hydropower at present. According to experts, by 2025 more than 20 thous. wind turbines will be installed, and the industry will receive 20% of the world energy market as a result. Regulatory mechanisms for electricity generation are entrusted to regional state authorities, Federal Center controls mainly nuclear power sector. This determines both significant differences in tariff policy of regions and specificity of regional and municipal project regulation, also features of licensing of wind energy. Regional administrations apply the so-called "feed-in-tariff". For example, in Ontario, this economic and policy framework is being actively used to attract investors in renewable energy technologies [22]. Producers of "green energy" receive a long-term contract for its production, a guarantee of connection to the network and a certain premium to the cost. The set of measures contributes to the profitability of production given the high capital intensity of the industry. In addition, the state policy of stimulating localization is aimed at attracting investments in the manufacturing sector of "green" energy. The localization standard for equipment suppliers is 25% of production in wind energy projects, in solar energy projects it reaches the level of

60%. More than 30 bln dollars of investment accumulated in the sector thanks to the stimulus mechanism, which allowed the creation of a developed wind and solar cluster complex in Ontario.

Next, would like to highlight the experience of Brazil, which took the path of differentiating localization targets for individual product groups in the search for a balance between efficiency and realism of industrial policy methods [23]. In the automotive industry, the State, with almost no assets, has set quite clear strategic priorities for its development. Since the mid-1990s XX century production has been carried out in peripheral regions of the country, and its structure has undergone significant changes in terms of increasing the share of small and low-cost models. The public interest was to attract new companies not previously operating in Brazil to overcome the conservatism of industry leaders — subsidiaries General Motors, Ford etc., based in high-demand regions and focused on high-yield market segment. The main regulatory instrument of policy was the industrial products tax. The authorities interested in localization of the regions have zeroed the corresponding tax for producers (rate of 25%), provided them with subsidies and land plots free of charge. The result of the measures used was positive, since by 2010 the share of cars in the affordable price segment in the total output exceeded 75% [24]. By stimulating the development of the automotive industry, the Government responded in a timely manner to both the market needs of consumers and the desire of manufacturers to develop new territories with more affordable (cheap compared to the central regions) labour and land resources, often providing them with well-developed infrastructure in these places, which was certainly attractive in terms of reducing the cost of capital construction. Since 2012, a new phase has been underway to shift the focus of industrial policy towards supporting the localization of R&D in the automotive sector. Among other things, this is due to a loss of competitiveness, as despite high customs duties, 25% of all cars sold in the country were imported. The Government has developed a programme "Inovar Auto", recording all stages of the production cycle, according to which each producer had to increase the R&D budget to 5 per cent of annual revenue over a three-year period and to produce at least half of the "Mercosur" (South American economic agreement) [25]. Not only tax differentiation measures, but also the size of the country's domestic market and significant investment in the automotive industry contributed to the success of the programme.

In the microelectronics and IT-sector of Brazil, the industry incentive model is implemented, which since 1991 has been periodically modified by highly specialized programmes [26]. Separately created nomenclature of elements (stages) of production processes is the basis of the method of estimation of the degree of localization of production. Increasing localization rate entitles to fiscal benefits (reduction of taxes on industrial products and value added) on average for a period of up to 5 years for each producer's product position. The stated requirements provided that in order to obtain preferences, it is necessary to allocate 5% of the income from production to R&D with the participation of the State Fund for Scientific and Technological Development. Since the beginning of the 2000s, vector support of software development localization is realized. This sector has grown significantly in recent years due to the adoption of the law on cooperation between business and universities, according to which tax credits

are granted not only to large players, but also to small and medium-sized companies involved in joint software development projects. Brazil's largest technology park "Porto Dogital" demonstrates high level of performance, localizing export-oriented manufacturers of innovation, including in the field of IT-technologies. In 2020, strategic goals were achieved — creation of employment for 20 thous. specialists and generation of 400 innovative companies on the basis of the technology park. As a result, it can be argued that at present the technology park is the anchor of sustainable development not only of the economy of the Pernambuco region, but of the entire national [27].

Summarizing the fragmented coverage of international localization experiences, it is worth noting the long-term nature of situational protectionism, regional orientation and consistent innovation focus of relevant programmes in the productive sectors of the foreign economies in question, as well as the gradual shift in the focus of public policy from direct linkages (development of the national processing sector) to backward linkages (technology transfer, value addition in resource supply sector, growth of equity ownership of companies).

LOCALIZATION OF PRODUCTION IN RUSSIA: IMPLEMENTATION MECHANISMS

Before proceeding to the analysis of localization experience in modern Russia, it should be noted that the national economy for the last 8 years is under the influence of blocking and sectoral sanctions of the USA and the European Union, which apply to enterprises in its various industries. At the moment, we can state that sanctions pressure has multiplied. At the same time, localization of production remains one of the trunk directions of industrial policy of Russia.

Since 2012, a mechanism for clustering the economic space through the integration of production systems is being implemented, which, through the synergy of innovation and investment interaction, ensure the dynamics of the economic processes of the cluster accommodation [28]. Localization in this context has enhanced the economic self-sufficiency and competitiveness of regions. Currently, there are 115 clusters in the country, including 50 industrial and 27 innovative territorials: in aircraft, automotive, instrument-making, petrochemistry, photonics, pharmaceutical and medical industries, in other industries.[1] The volume of production annually produced by their participants exceeds 1.3 trillion rub. [29].

In 2021, the Government of the Russian Federation, declaring the "reboot of cluster policy", renewed their support. In particular, a new competitive selection process was approved, and targeted subsidies for strategic components were established, included in the sectoral import substitution plans of the Ministry of Industry and Trade of the Russian Federation. The focus shifted significantly to support localization of component base.

In addition to cluster systems, localization is carried out in territories with preferential regimes, such as: special economic zones (SEZ), advanced development territory (ADT), industrial parks and technoparks, innovative scientific and technological centers (ISTC) [30–32], which contributes to solving not only the related tasks, but also import substitution in accordance with the priority objectives of the State to achieve sustainable economic growth and technological independence [33]. The main economic

[1] According to the Russian cluster observatory. URL: https://cluster.hse.ru/ (accessed on 05.04.2022).

Table 1

Main results of economic activity of industrial clusters and territories with preferential regimes in the Russian Federation (as of 01 January 2021)

Territory development tools	Quantity, un.	New jobs, thous.	The volume of investments by residents (project initiators), billion rub.	Revenue, billion rubles	Taxes and fees, billion rub.
Industrial clusters	50	10.2	15.9	–	12.0
Technical and implementation SEZ	7	23.4	232.2	438.0	67.1
Industrial SEZ	15	20.8	304.6	812.0	80.0
Port SEZ	1	785	4.8	4.1	0.55
Industrial parks	258	9.3	181.0	–	–

Source: composed on the basic research of Ministry of Industry and Trade of the Russian Federation. URL: https://minpromtorg.gov.ru/ (accessed on 20.03.2022).

results of industrial clusters and territories with preferential treatment are presented in *table 1*.

Under conditions of increasing economic turbulence, the state is focused on the consistent formation of a favorable investment environment for companies, creating new and modernizing existing production facilities [34]. Ministry of Industry and Trade of the Russian Federation, based on the Federal Act of 31 December 2014 No. 488[2] "On Industrial Policy in the Russian Federation", developed a range of financial and non-financial support measures that give effect to preferences for domestic and foreign companies investing in localization projects.

So, sectoral project funding implemented through the Industrial Development Fund (IDF), providing soft loans under a range of programmes, among which "Priority projects",[3] "Development projects",[4] "Development projects with regional IDF",[5] "Conversion"[6] etc. IDF loans at 1–3% per annum are intended for companies implementing advanced technologies,

[2] Federal Act of 31 December 2014 No. 488 "On Industrial Policy in the Russian Federation" (latest version). URL: http://www.consultant.ru/document/cons_doc_LAW_173119/ (accessed on 02.04.2022).

[3] IDF website. Priority projects. URL: https://frprf.ru/zaymy/prioritetnye-proekty/? (accessed on 04.04.2022).

[4] IDF website. Development projects. URL: https://frprf.ru/zaymy/proekty-razvitiya/? (accessed on 04.04.2022).

[5] IDF website. Development projects with regioanl funds. URL: https://frprf.ru/zaymy-regfondy/proekty-razvitiya-s-rfrp/? (accessed on 05.04.2022).

[6] IDF website. Conversion.URL: https://frprf.ru/zaymy/konversiya/? (accessed on 05.04.2022).

Table 2

Advantages of localizing production in the Russian Federation in the context of implementing the special investment contracts mechanism

Direction	Advantages
Market potential	– the spatial aspect of Russia's geographical and geopolitical status between Europe and Asia; – access to the Russian and Eurasian Economic Union markets (EEU); – GDP of EEU countries – 1425 bln dollars, trade turnover – 64 bln dollars.
Tax preferences	– ability to reset the rate of income tax in the federal part; – possibility to reduce the rates of regional and municipal taxes (property, transport, land); – guarantees of non-payment of the aggregate tax burden from the conclusion of the contract to the expiry date of the SPIC (Special investment contract) or the expiry date of the preferences
Access to public and municipal procurement	– easy access to government order; – possible status of "single supplier" within SPIC; – non-competitive procurement; – possibility to conclude contracts for the lease of land parcels in state and municipal ownership without tender
Support of industrial complex	– loans and consultancy of IDF (industrial development fund); – state subsidies; – the optimal contract model for the conclusion of SPIC (federal, regional, municipal); – possibility of conclusion of the SPIC for projects of modernization of production on the existing areas (without reconstruction, construction of new facilities)
State industrial information system	– digital interaction of industry entities; – navigator of state support measures; – "single window" for reporting; – catalogue of industrial products, technologies and services; – navigator of investors, customers, suppliers of industrial products

Source: compiled by the author.

creating new products and organizing import substitution production.[7]

SPECIAL INVESTMENT CONTRACT MECHANISM (SPIC)

In this research, elaborate on the special investment contract mechanism (SPIC) — agreements between the State and the investor to attract large investments in new production systems, разработку и внедрение технологий производства industrial products that are competitive on the world market. SPIC fits into the logical contours of import substitution policy, being an example of practical implementation of state strategy in the national industrial complex [35]. Parties to SPIC, along with the Russian Federation, may be its subjects and (or) municipalities. The operator is the Industrial Development Fund.

In 2015, in the context of stimulating localization at the level of SPIC, the Government of the Russian Federation developed special requirements, determining the "Russian status" of industrial products.

[7] IDF website. Federal loans. URL: https://frprf.ru/zaymy/ (accessed on 05.04.2022).

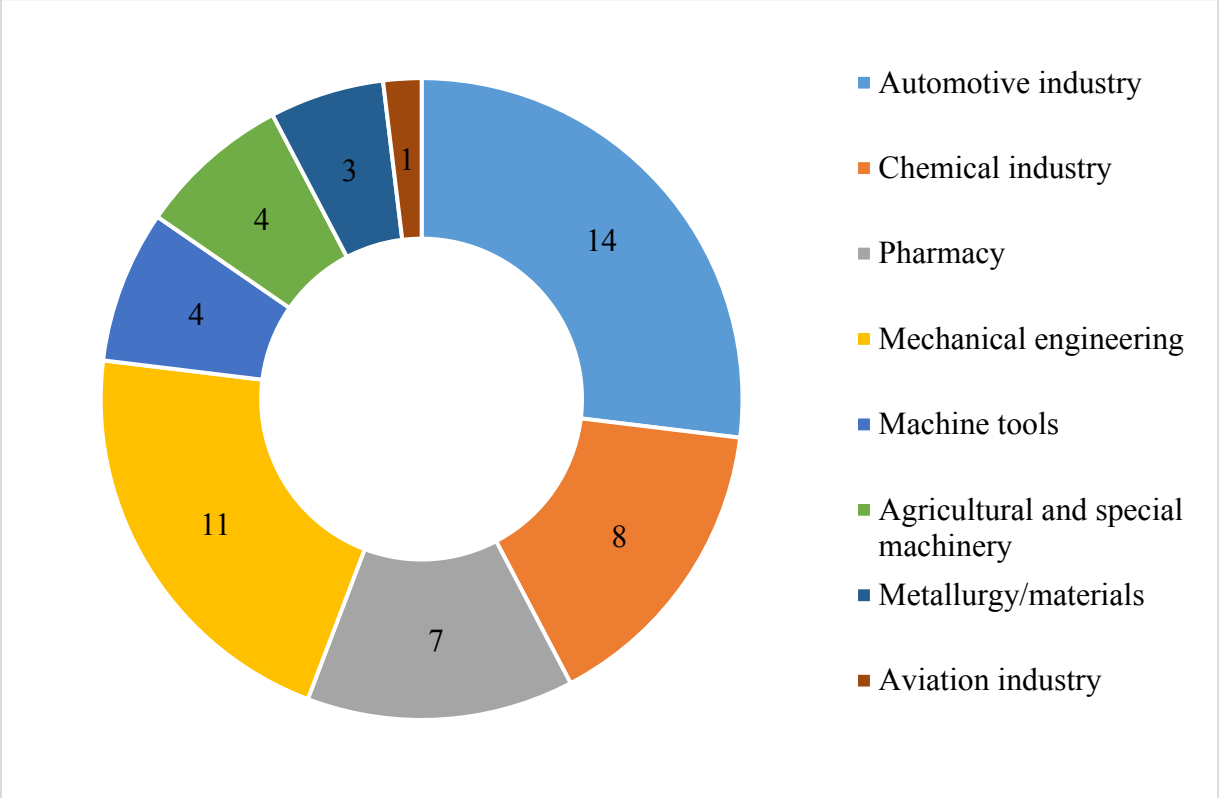

Fig. **The number of special investment contracts concluded in the Russian Federation by industry in 2016–2022, pcs.**

Source: compiled by the author according to the public register SPIC GISP. URL: https://gisp.gov.ru/spic2/pub/spic/search/ (accessed on 29.03.2022).

The original SPIC 1.0 format was upgraded in 2019 to an updated version of SPIC 2.0. The focus of the contractual mechanism shifted from solving purely investment development tasks to the innovation component — development and transfer of technologies in industry, as well as creation of new competencies for the Russian economy as a whole. In addition, in the interests of the corporate sector, the minimum investment threshold (750 mln rub.) was cancelled, the duration of contracts increased to 15–20 years.

List of modern technologies approved directly for the implementation of special investment contracts, which is periodically updated and correlated with the objectives of import substitution in order to focus primarily on the production of critical products under the sanction's regime. Of course, a forward-looking technology agenda is also relevant when selecting.

The SPIC mechanism commits investors to increase production levels and localization. At the same time, producers receive a number of advantages, such as: tax preferences, the status of the sole supplier of products for government procurement (if the amount of investments exceeds 3 bln rub.), compensation for export costs, bank lending and R&D, etc. Systematization of advantages of localization of production in the context of implementation of SPIC is presented in *table 2*. The most important factors of investment stimulus are the stated immutability of business conditions for

the entire term of implementation of the contract and state guarantees of fixing (not exceeding) the aggregate tax burden.

The total volume of investment in industry under the SPIK in the current year exceeded 977 bln rub., including declared investments in signed contracts of SPIK 2.0 format amount to 169.9 bln rub.[8] Total number of federal SPICs in industry (see *figure*).

Another important aspect to note: the enhanced SPIC 2.0 mechanism does not allocate investment as the main criterion in the competitive selection of project applications. In the first, the project implementation time, the level of localization of production and revenue are estimated, as the result of a new market product is at the top of the current government agenda.

In order to facilitate the real sector of the national economy, at short notice the Federal Act of 14 March 2022 No. 57 "On amendment of article 2 of the Federal Act "On the amendment of the Federal Act "On Industrial Policy in the Russian Federation" in terms of regulation of special investment contracts"[9] was adopted, which allows for the extension of existing SPIC 1.0 contracts to a maximum of (12 years) as well as the conclusion of new ones. The tactical decision to renew the SPIC 1.0 mechanism in the current difficult situation for the Russian economy contributes to the support of companies, the implementation of investment projects negatively affected by restrictive measures by foreign partners.

LOCALIZATION OF PRODUCTION IN THE AUTOMOTIVE INDUSTRY, POWER ENGINEERING AND AIRCRAFT INDUSTRY: PROBLEMS AND SOLUTIONS

Since the beginning of the implementation of the SPIC mechanism, localization projects have been carried out most actively in the automotive industry, the total amount of investment under contracts in the industry exceeded 176 bln rub.[10] A point system was developed by the Ministry of Industry and Trade of the Russian Federation to assess localization level, characterizing the level of technological operations and equipment of the model range of cars with Russian components .[11]

Despite the fact that the problem of creating a national auto component industry was raised in 2014 when the first anti-Russian sanctions packages were introduced, there has been no significant movement in this direction. This significantly has exacerbated condition of the Russian car industry at the present stage. So, in 2020, with a maximum localization scale of 8 800 points, the most profitable Russian model "Lada Vest" it did not exceed 3 300 points (37.5%), corresponding to the industry average. In fact, localization was only formally declared, in fact there was a departure from its goals, and the accumulated competencies were increasingly lost. Foreign producers' output was localized to a minimum of 1 400 points (16%), allowing them access to public procurement and demand-side programmes. At the same time, industrial deepening of

[8] GISP. SPIC Register (public). URL: https://gisp.gov.ru/spic2/pub/spic/search/ (accessed on 02.04.2022).

[9] Federal Act of 14 March 2022 No. 57 "On amendment of article 2 of the Federal Act "On the amendment of the Federal Act "On Industrial Policy in the Russian Federation" in terms of regulation of special investment contracts". URL: http://www.kremlin.ru/acts/bank/47643 (accessed on 02.04.2022).

[10] GISP. SPIC Register (public). URL: https://gisp.gov.ru/spic2/pub/spic/search/ (accessed on 29.03.2022).

[11] Website of the Government of the Russian Federation. A point system for evaluating the localization of the automotive industry on the territory. URL: http://government.ru/docs/36855/ (accessed on 02.04.2022).

automobile production by foreign investors was not generally expected due to the fact that the Russian market is not able to provide a high level of demand for the products of automobiles.

Persistent recession caused by the coronavirus pandemic COVID-19, sanctions pressure, currency market volatility and increased geopolitical escalation contributed to the disruption of established production chains in most sectors of the national economy. Only 55% of production capacity was able to continue work in the motorway, many existing enterprises are forced to switch to part-time employment. Irregularity due to logistical failures and lack of components, which is why the management of companies is forced to make operational decisions on organizational reconfiguration. So, the management "AVTOVAZ" agreed to create a single auto-assembly production, integrated from 3 sites, this allows for a certain maneuverability of resources and does not interrupt the production cycle. On the suspension of activities on the territory of Russia stated the companies BMW, Mercedes, Volkswagen, Renault, Skoda, Volvo Group, Ford.[12]

Chinese companies remain promising partners for Russia — more than 50 car manufacturers, some of which are focused on the Russian market in the long term. Despite the negative trends of the Russian automobile market in recent years, the share of the Chinese automobile industry demonstrated stable growth. Thus,,116 thousand Chinese cars were sold in Russia, and this is a double increase from the previous year Thus, in 2021,116 thous. Chinese cars were sold in Russia, and this is a double increase from the previous year.[13] Expanding the model range for the Russian market and actively redoubling the dealer network, Chinese developers today have every chance to fill the niches of Western manufacturers in the event of their final exit from the market, because the quality of the Chinese assembly corresponds to the European level, and the price of products is much lower.

It should also be noted that until now in Russia, foreign investors have not implemented programs of localization of engines of innovative types, while the world's automobile companies have started to actively transition to environmental powertrain types. In the context of the announced tightening of control of hydrocarbon emissions, industry priorities should be redirected in the medium term to the development of transport using electricity and hydrogen fuel.

A positive example is the activity of Russian companies in the energy engineering and engine industries: with active cooperation with foreign partners, almost complete localization of processes in production, exploitation and service was achieved. Successes in this direction are noted in the activity of PJSC UEC "Saturn". The enterprise in the structure of the state corporation "Rostech" implements the full cycle on creation of new products: from design to serial production and service of turbine engines for aviation, power generating plants, ships, marine industrial facilities. R&D series conducted in 2014–2017, contributed to the development of a line of domestic engines for seagoing vessels, which made it possible to completely

[12] Kommersant.ru website. What foreign business interrupted work in Russia. List of companies and organizations. URL: https://www.kommersant.ru/doc/5240137?tg (accessed on 01.04.2022).

[13] Avtostat.ru. Sales of "Chinese" doubled in 2021. Their share — also doubled. URL: https://www.autostat.ru/news/50416/ (accessed on 01.04.2022).

abandon these devices of foreign production and to close the needs of the fleet in the short and medium term. "Saturn" is a part of the innovative territorial cluster "Gas turbocharging and power engineering" of the Yaroslavl region, whose key players of the technological cycle actively interact with the leading organizations of the scientific and educational sector in the profile areas of production, and with small and medium-sized innovative companies.

The situation with the implementation of projects for the Russian aircraft industry is not so clear. At present, with the tightening of sanctions on operation of civilian aircraft manufactured abroad the Russian aviation industry faces large-scale tasks to expand the production of already existing models of aircraft in a short time. And in 2017 Joint Russian-French enterprisee PowerJet (Saran Aircraft Engines and UEC "Saturn") outlined plans to localize the production of SaM 146 engines in Russia for short-haul aircraft "Sukhoi Superjet 100" up to 55% in the first stage and up to 80% in the second. At the beginning of this year, the French side announced the withdrawal of support for the project. In these conditions, the Ministry of Industry and Trade of the Russian Federation announced the order for the preparation and testing of 97% of the import-substituted version "Sukhoi Superjet New", developed with 2018. It is planned to certify the model in 2023, and to start deliveries to Russian airlines in 2024.

Also, from 2024 in the serial production will be launched Russian medium-haul aircraft "MS-21", created by the corporation "Irkut" together with JSC "EDB named after A.S. Yakovlev". Like all major developments in the aviation industry, this project was heavily dependent on imported engines and avionics. The imported substituted version of the liner is already equipped with the domestic engine of the Perm plant PD-14, at present the question of using the domestic component base in it is being considered.

In addition, the Government of the Russian Federation announced the restoration of serial production of a medium-range aircraft "Tu-214", which is produced on single special orders at the Kazan aviation plant (PJSC "Tupolev" branch). In terms of public expenditure — this is the most budgeted aircraft construction project at present, as the production of the already completed model is to be increased. "Tu-214" consists mostly of Russian components, import substitution of avionics is expected to be implemented within a year. It was decided to resume work on the project suspended in the 2010s to create an updated version of "Tu-214 SM", which is close to the analogues of Boeing and Airbus.

ONGOING INITIATIVES OF THE GOVERNMENT OF THE RUSSIAN FEDERATION WITHIN THE FRAMEWORK OF THE STATE INDUSTRIAL POLICY

Due to a significant increase in demand for Russian industrial products, associated with supply restriction due to strengthening increase of sanctions pressure, In March 2022, the Ministry of Industry and Trade of the Russian Federation organized the work of the digital service "Import substitution exchange" on the basis of GISP resources.[14] This site allows without additional costs and intermediaries to link requests for products and components with suppliers' price offers. In the functionality of the catalogue "sanction goods" it is possible to carry out a search for potential domestic producers. The catalogue "import-substituting products", in turn, allows going to analogues, the production of which in the country is already taking place.

[14] ETP GPB. Import substitution service. URL: https://etpgpb.ru/portal/import-substitution/ (accessed on 04.04.2022).

Launch of comprehensive science and technology program (CSTP) to create innovative integrated chains of full cycle was announced, the purpose of which is to build a vertical of domestic developments from basic science to experimental batches of innovative products. Its implementation is carried out in the integration cooperation of the Russian Academy of Sciences, the Ministry of Industry and Trade of the Russian Federation and the Agency for Technological Development. Emphasis is placed on maximum acceleration getting the import substitution projects to the production stage as quickly as possible. The CSTP working groups are focused on 6 key areas: machine tools, laser and optical technologies, microelectronics, medical engineering, low-tonnage chemistry and pharmaceuticals.

In total, 20 bln rub. were allocated to support investment projects in the field of advanced technologies through import substitution in the national industrial complex, which will be made available to producers as soft loans through mechanisms IDF.[15]

Thus, initiatives currently being implemented by the Government of the Russian Federation within the framework of the State industrial policy are aimed mainly at maintaining the sustainability of the economy, development of innovative solutions capable in the medium term to increase the technological level of Russian production based on domestic developments. The acknowledgement of the inevitability of the structural transformation of the Russian economy under the impact of the sanctions economic shocks and its strategic reorientation towards cooperation with partners from the Asian region makes it necessary to search for new points of economic growth. According to forecasts of representatives of technological entrepreneurship and venture market, at the exit from the current crisis, Russia has every chance to form an economy, not only integrated into new market niches, but also provided with real innovative domestic demand, through localization of production and import substitution [36].

CONCLUSION

The research allowed formulation to the following conclusions:

1. International experience of introduction of complex development programs of localization in general indicates positive structural transformations of the productive sector of economy in terms of increase of innovation component and export-oriented potential. The effectiveness of the projects implemented abroad was mainly determined by the market situation, the level of development of technologies, the investment climate, timeliness and focus of protectionist measures to support promising industries, and opportunities to integrate into global production chains.

2. In connection with the changing geopolitical situation and the strengthening of the sanctions regime for the Russian economy, localization of national production chains of the full cycle, formation of key competencies for achieving technological independence, high level of competitiveness of final products and reorientation to new markets is becoming a priority. The most important condition is the transition from declarative to real import substitution in the branches of the real economy.

3. At the present stage, Russia needs an effective strategy for the localization of production, corresponding to new challenges and goals of national security. At the same

[15] Order of the Government of the Russian Federation from 01 April 2022 No. 711. URL: http://government.ru/docs/all/140201/ (accessed on 04.04.2022).

time, measures to support industries and systemically important enterprises in the framework of the state industrial policy should be clearly related to plans for import substitution targets, scaling up innovative technological solutions and opportunities for rapid adjustment of regulatory and financial components.

4. Successfully overcome the crisis it is necessary to significantly strengthen the interaction of Russian science and production, especially in innovation. And ensuring coherence of priorities, tools to support science and technology development at all levels of the management system; increasing regional involvement in the implementation of scientific and technical programmes, projects; activating the role of interregional cooperation, including the use of the existing infrastructure of the territories with preferential regimes for the launch of new industries, as well as the promotion of technology transfer between the defense and civil sectors in the context of the development of dual-use technologies.

REFERENCES

1. Schumpeter J.A. Theorie der wirtschaftlichen Entwicklung. Berlin: Duncker & Humblot; 1912. 548 p.
2. Thünen J.H. von. Der isolierte Staat in Beziehung auf Landwirtschaft und Nationalökonomie. Hamburg: Perthes Verlag; 1826. 678 p. (Russ. ed.: Thünen J. Izolirovannoe gosudarstvo. Moscow: Ekonomicheskaya zhizn'; 1926. 325 p.).
3. Weber A. Über den Standort den Industrien. Tübingen: Verlag von J.C.B. Mohr; 1909. 246 p. (Russ. ed.: Weber A. Teoriya razmeshcheniya promyshlennosti. Leningrad-Moscow: Kniga; 1926. 223 p.).
4. Christaller W. Die zentralen Orte in Süddeutschland. Jena: Gustav Fischer; 1933. 340 p.
5. Lösch A. Die räumliche Ordnung der Wirtschaft: eine Untersuchung über Standort, Wirtschaftsgebiete und internationalem Handel. Jena: Fischer Verlag; 1940. 348 p. (Russ. ed.: Lösch A. Geograficheskoe razmeshchenie khozyaistva. Moscow: Foreign Literature Publ.; 1959. 455 p.).
6. Isard W. Location and space economy: A general theory relating to industrial location, market areas, land use, trade, and urban structure. Cambridge, MA: Technology Press; New York: John Wiley & Sons; 1956. 350 p.
7. Pred A.R. The spatial dynamics of U.S. urban-industrial growth, 1800–1914. Cambridge, MA: The MIT Press; 1966. 225 p.
8. Pottier P. Axes de communication et developpement economique. *Revue économique*. 1963;14(1):58–132. DOI: 10.2307/3499503
9. Perroux F. Economic space: Theory and applications. Transl. from Eng. *Prostranstvennaya Ekonomika = Spatial Economics*. 2007;(2):77–93. (In Russ.).
10. Krugman P. Increasing returns and economic geography. *The Journal of Political Economy*. 1991;99(3):483–499. DOI: 10.1086/261763
11. Romer P. Increasing returns and new developments in the theory of growth. NBER Working Paper.1989;(3098). DOI: 10.3386/w3098
12. Porter M.E. The competitive advantage of nations. New York: The Free Press; 1990. 896 p. (Russ. ed.: Porter M. Mezhdunarodnaya konkurentsiya. Moscow: Mezhdunarodnye otnosheniya; 1993. 896 p.).
13. Kolosovskii N.N. Theory of economic zoning. Moscow: Mysl'; 1969. 395 p. (In Russ.).
14. Granberg A.G. Economics and sociology of space. *Ekonomicheskoe vozrozhdenie Rossii = The Economic Revival of Russia*. 2010;(4):55–57. (In Russ.).
15. Tatarkin A.I. Spatial factors of the system modernization of the Russian Federation. *Biznes, menedzhment i pravo = Business, Management and Law*. 2012;(1):36–45. (In Russ.).

16. Suslov V.I. Problems and scenarios of spatial development of Russia. *Ekonomika Vostoka Rossii = Economics of Russian East*. 2017;(1):47–51. (In Russ.).
17. Lavrikova Yu.G., Andreeva E.L., Ratner A.V. Localization of foreign production as a tool to develop export base of the Russian Federation. *Economic and Social Changes: Facts, Trends, Forecast.* 2019;12(3):24–38. DOI: 10.15838/esc.2019.3.63.2 (In Russ.: *Ekonomicheskie i sotsial'nye peremeny: fakty, tendentsii, prognoz.* 2019;12(3):24–38).
18. Kondratyev V.B. Localization policy in oil and gas industry. *Gornaya Promyshlennost' = Russian Mining Industry.* 2016;(3):64–70. (In Russ.).
19. Belyakova M. Yu. The role of the state in the development of the oil and gas complex in Norway. *Delovoi Zhurnal Neftegaz.RU = Business Magazine Neftegaz.RU*. 2020;(11):84–88. (In Russ.).
20. Skjeldal G., Berge U. Feber. Historia om norsk olje og gass. Oslo: Cappelen Damm; 2009. 326 p.
21. Klassen J. Joining empire: The political economy of the new Canadian foreign policy. Toronto: University of Toronto Press; 2014. 329 p. DOI: 10.1017/S 0008423917001275
22. Walker C., Baxter J. Toolkit for turbines: Wind energy development in Ontario and Nova Scotia, Canada. Ontario: Western University; 2017. 22 p. DOI: 10.13140/RG.2.2.23338.41921
23. Alvarez R.B. Estructura y recomposición de la industria automotriz mundial. Oportunidades y perspectivas para México. *Economia UNAM*. 2013;10(30):75–92. DOI: 10.1016/S 1665–952X(13)72204–7
24. Nutenko L. Ya. Brazilian industrial policy: a course towards localization and innovation. *Latinskaya Amerika*. 2015;(10):36–47. (In Russ.).
25. Santos R., Junior R., Adami V. Analysis of the effects of the New Automotive Regime (1996–1999) and Inovar-Auto (2012–2017). *Brazilian Journal of Political Economy*. 2021;41(1):137–154. DOI: 10.1590/0101-31572021-2992
26. Bellini C., Moreno V., Graeml A., Jacks T. Information technology issues in Brazil. In: The World IT Project. Singapore: World Scientific; 2020:43–55. DOI: 10.1142/9789811208645_0004
27. Maia D., Alves E., Rolim S., Silva F., Melo F., Fernandes M. A inovação tecnológica atrelada ao estímulo sustentável: uma análise no Centro Tecnológico do Porto Digital em Pernambuco. *Research Society and Development*. 2021;10(12): e104101219666. DOI:10.33448/rsd-v10i12.19666
28. Ovchinnikova A.V., Topoleva T.N. Clusterization of the economic space as a factor in the growth of the national economy competitiveness. *Upravlencheskie Nauki = Management Sciences in Russia*. 2020;10(2):41–52. (In Russ.). DOI: 10.26794/2404-022X-2020-10-2-41-52
29. Berezina E. Cluster-class: The Ministry of Industry and Trade will change the support system for industrial parks. Rossiiskaya gazeta. 2020;(175). URL: https://rg.ru/2020/08/09/minpromtorg-izmenit-sistemu-podderzhki-promyshlennyh-i-industrialnyh-parkov.html (accessed on 04.04.2022). (In Russ.).
30. Shatalova O.M. On the organizational and economic mechanisms of formation of an innovative scientific and technological center for ensuring the sustainable development of the regional economy. *Vestnik Udmurtskogo universiteta. Seriya Ekonomika i Pravo = Bulletin of Udmurt University. Series Economics and Law.* 2021;31(4):610–620. (In Russ.). DOI: 10.35634/2412-9593-2021-31-4-610-620
31. Sutygina A.I. National food independence in crisis. *Ekonomika sel'skogo khozyaistva Rossii = Economics of Agriculture in Russia*. 2020;(6):2–8. (In Russ.). DOI: 10.32651/206–2
32. Il'ina S.V. Economic efficiency of manufacturing enterprises: Theoretical and practical aspects. *Vestnik Udmurtskogo universiteta. Seriya Ekonomika i Pravo = Bulletin of Udmurt University. Series Economics and Law*. 2022;32(1):27–32. (In Russ.). DOI: 10.35634/2412-9593-2022-32-1-27-32
33. Bun'kovsky D.V. Development of oil and gas industry enterprises: Prospects for import substitution. *Ekonomika i upravlenie: problemy, resheniya = Economics and Management: Problems, Solutions*. 2020;1(10):80–86. (In Russ.). DOI: 10.34684/ek.up.p.r.2020.10.01.009

34. Trofimova N.N. An innovative model for the development of the socio-economic space. *Al'manakh Krym = Almanac Crimea*. 2021;(24):113–117. (In Russ.).
35. Evstafieva Yu.V. Experience of application and development of special investment contract. *Vestnik Instituta ekonomiki Rossiiskoi akademii nauk = Bulletin of the Institute of Economics of the Russian Academy of Sciences*. 2019;(3):152–167. (In Russ.). DOI: 10.24411/2073-6487-2019-10038
36. Krom E. Forecast of entrepreneurs: "2023 will be a year of growth". RBC. Apr. 09, 2022. URL: https://www.rbc.ru/spb_sz/09/04/2022/624e90dd9a79479f7e8ac2df (accessed on 05.04.2022). (In Russ.).

ABOUT THE AUTHOR

Tat'yana N. Topoleva — Cand. Sci. (Econ.), Senior researcher of the Udmurt Branch of Institute of Economics of the Ural Branch of Russian Academy of Science, Izhevsk, Russia
https://orcid.org/0000-0003-1518-0019
tn-topoleva@mail.ru

Conflicts of Interest Statement: The author has no conflicts of interest to declare.

The article was submitted on 11.04.2022; revised on 13.04.2022 and accepted for publication on 15.04.2022.
The author read and approved the final version of the manuscript.