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Synergy of State Support and Novel Approaches to Implementing the Diversification Strategy by Defense Industry Companies

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ABSTRACT

The study's aim is to identify the features of interaction between state structures and companies of the military-industrial complex (DIC) in the course of diversification. Many scientific papers devoted to various aspects of this process show the need for its comprehensive study. Russian publications comment on certain aspects of these interactions. However, the approaches and initiatives of the dominant corporations of the military-industrial complex to carry out diversification, being supported by the state, have not yet fallen on the radar of analysis. The author focuses on solving the problem of removing institutional barriers that hinder the scale and direction of diversification. Also, the study updates new solutions for an active policy of stimulating and expanding the production of civilian products. The author identifies the specifics and advantages of unconventional methods in defense companies. The methodological basis of the work is an institutional approach using a structural and logical analysis. The author highlighted the research methods for using of systematization, grouping, comparative analysis. The paper reflects the results of monitoring relevant approaches to implementing the diversification strategy in state defense corporations. The research showed that it has to increase the share of civilian production for the successful implementation of plans as well as to change the fiscal model for the development of the defense industry to an investment-motivational one. The findings and results obtained indicated scientific novelty and may interest in leading defense companies in order to adjust their strategies, as well as to state agencies in the formation of state policy in defense industry diversification.

Keywords: military-industrial complex (MIC); diversification; institutional barriers; import substitution; dominant companies; government measures to support enterprises

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INTRODUCTION

The defence-industrial complex is one of the leading sectors of the manufacturing industry, where Russian companies have full control of the market for end products. It produces about 70% of all domestic science-intensive products [1]. High-tech potential of defence-industrial complex allows not only to effectively carry out processes of diversification and import-substitution, but also to create competitive goods, oriented both on the Russian and foreign markets.

Despite the legislative and organisational measures that have been taken, the DIC's diversification problems have not yet been fully resolved. A wide range of instruments has already been created to increase the share of civilian products manufactured by defence enterprises, but a number of issues remain open. It is these issues that attract the attention of many researchers, each of whom focuses on a particular aspect of diversification. M. Remizov emphasises the national character of the defence-industrial complex diversification, which is difficult to achieve with a consistent reduction of expenditures on the defence industry [1]. A. D. Murukina and L. M. Tipner focus on the analysis of internal and external factors of conversion success [2]. There are works where the authors draw attention to the risks of not providing defense industry enterprises with the necessary financial resources to implement diversification [3, 4]. E. A. Antipina, D. A. Zhurenkov and M. A. Sheloumov focus on the innovation infrastructure of diversification, arguing that a promising solution to this problem is the cooperation of participants in a common value chain, located in a certain territory and having a certain specificity in the form of dual-use scientific and industrial clusters [5]. A. E. Varshavsky and M. G. Dubinina focus on assessing the impact of civilian production on the efficiency of the military-industrial

complex, based on both foreign and Russian experience in diversification [6]. The works [7, 8] examine the estimation of defense industry enterprises' readiness for diversification and the strategy of its management using dual-purpose technologies. There is also an analysis of foreign approaches to diversification with the allocation of business models in its implementation, where examples of companies are given [9].

Nevertheless, despite the huge number of publications in the sphere of military-industrial complex enterprises' diversification, it seems that the problems associated with the specifics of interaction between the authorities and defense industry companies in the course of diversification of their civilian production activities need to be brought up to date.

Under the conditions of fierce competition on the markets of civilian products and services, Russian defense industry companies have become very creative in forming new approaches to diversification strategy, liquidating, and supplementing their assets, choosing financial mechanisms and industry focus of civilian production. The article provides a radar analysis of new approaches by initiative "from below" on the example of dominant companies in the military-industrial complex. It shows that relevant approaches could be fully implemented only with massive institutional and financial support from the government.

THE ROLE OF DIVERSIFICATION IN A COUNTRY'S TECHNOLOGICAL SOVEREIGNTY POLICY: INITIATIVES FROM ABOVE

In contrast to the conversion of defence enterprises in the 1990s, caused by a complete lack of financial resources for further development, the modern diversification of the Russian DIC occurred due to other factors. The most important among them



are the expected relative reduction of the state defense order in connection with the completed military rearmament cycle [10], as well as the urgent need to use progressive technologies to eliminate the dependence of production chains on the pre-dominance of imported components. Diversification, unlike the strategy of import substitution, which produces goods that are well adapted to the world market, involves the transition to the production of the next technological level, to the economy of high-tech profitable projects [11, 12]. In the long term, this would enable defence enterprises to obtain additional income, create modern jobs and implement important dual-use technologies [13, 14].

Since 2018, the dynamic development of diversification processes has been facilitated by the inclusion in national projects, substantive linkage with import substitution processes, a systematic approach to diversification management and its legislative formalization. In 2018–2020, the civilian segment of the defence-industrial complex had stable dynamic characteristics – the average annual growth rate of civil and dual-use products was 4.1%, their share in the total output of the defence-industrial complex increased from 23.1% to 25.6%, and in 2021, according to experts, the share of the civil segment was at least 26.2%.¹

The systemic approach to diversification management that has developed in recent years with the adoption of national projects has made it necessary to identify diversifiable companies in the defence-industrial complex by separate groups in each industry, taking into account the structure of national import-substitution plans.

Against the backdrop of ongoing and intensifying restrictions by Western countries, the Russian Ministry of Industry and

Trade approved a new import-substitution programme for industry in 2021. Unlike the previous one (2014–2020), the sectoral plans for import substitution measures are specified according to about 800 technological directions of import substitution, the degree of probable involvement of defence industry companies based on their existing sets of competencies (*Table 1*). The technological areas are represented by three functional blocks: end products; raw materials, materials, and components; equipment and means of production.²

An important point for defence-industrial complex enterprises in the sectoral plans for import substitution is the guaranteed demand for the presented items, including priority products for the implementation of national projects, state programmes and sectoral strategies of the Ministry of Industry and Trade of the Russian Federation.

Against the background of the technological blockade, there has been a paradigm shift with respect to diversification in 2022.³ Whereas during the last six years it was viewed as a hedge against financial instability of the defence-industrial complex companies against the background of a possible decline in the volumes of the state defense order, the current economic realities together with the import substitution processes make it a signal component of the defence-industrial complex and industrial productions development. At the same time, a national technological audit of diversification strategies by the military-industrial complex companies is urgently needed. It may involve experts from three areas: military-industrial (Military-Industrial Commission of the Russian Federation Ministry of Defense, Russian Federation Ministry of Industry and Trade), venture financing (“Skolkovo”) and

¹ Development of Russia’s DIC diversification processes in 2021. URL: <https://rustechnology.ru/diversification/razvitie-protssosov-diversifikatsii-opk-rossii-v-2021-godu/>

² Ibidem.

³ URL: <https://www.kommersant.ru/doc/5358214?query=Фрадков%20диверсификация%202022>

Table 1

Possible industry directions of participation of defense industry companies in import substitution processes

Technological areas of import substitution in Russian manufacturing industries	Number of items
Total:	800
Including a set of competences in the DIC for the development of import substitution processes in selected sectors:	
Oil and gas mechanical engineering	109
Automotive industry	100
Chemical industry	93
Shipyard construction	92
Agricultural machine construction and engineering	73
Heavy engineering	50
Production of construction, road, municipal, forestry and ground aerodrome equipment	48
Power engineering, electrical and cable industry	47
Pharmaceutical industry	38
Machinery for the food and processing industry)	37
Civil aircraft construction	30

Источник / Source: составлено автором по: URL: <https://rustechnology.ru/diversification/razvitie-protsessov-diversifikatsii-opk-rossii-v-2021-godu> / compiled by the author based on: URL: <https://rustechnology.ru/diversification/razvitie-protsessov-diversifikatsii-opk-rossii-v-2021-godu>

marketing of high-tech products and high-tech services (Scientific development and production center “Conversion”). Its results “should be the formation of thematic foresight maps, determining the innovative guidelines for business in the defense industry, as well as the routing of development of high-tech potential of specific enterprises”. [16].

In 2020–2022, institutional measures such as the improvement of the contractual system, the introduction of restrictions and bans on the use of foreign goods and services (both for Russian defence and civilian enterprises) for state needs, changes in the regulation of prices for products supplied under the SDO (State Defence Order), reducing

their dependence on imports, etc. became significant factors of financial protection of defense industry enterprises (Table 2).

Acceleration of technology transfer from the military to the civilian sphere could be a significant factor for additional increase in the volume of high-tech products and the launch of new diversification projects. At the same time, the Russian legislative restrictions in force until 2022 did not allow the full use of dual technologies and their refinement for the production of serial civilian products [17].

In 2021, the RF Ministry of Industry and Trade, Federal state unitary enterprise, nationwide research and development centre “Tsentr” with the participation of a

Table 2

**Institutional support for diversification and financial security
of defense industry enterprises in Russia 2020–2022**

Institutional measures in implementing diversification	Name and focus of the regulatory initiatives
Renewal of the backstop programme for backbone enterprises under the sanctions' regime	Resolution No. 296 of 06.12.2022
A package of new changes to regulate product prices. The obligation to provide information on the price of products under the state defence order to the lead contractor, the state customer, has been enshrined. DIC companies are compensated for higher metal prices.	Decree of the Government of the Russian Federation of 23.08.2021 No. 1388 "On Amendments to the Regulation on State Regulation of Prices for Products Supplied under the State Defence Order". Federal Law No. 275-FL of February 16, 2022 on Amendments to the Federal Law on State Defense Order. Draft Resolution of the RF Government "On Amendments to the Rules for keeping separate accounting of results of financial and economic activities by entities involved in state defense order" of 22.04.2022. Federal Law of 11.06.2022 No. 172-FL "On Amendments to the Federal Law 'On the State Defense Order'".
Development of technology transfer	Decree of the Government of the Russian Federation of 28.10.2021 No. 1845 "On Approval of the Rules for Keeping the Register of Results of Intellectual Activities Directly Related to Defence and Security". Order of the Minister of Defense of the Russian Federation of 17.01.2022 No 22 "On Approval of the List of Information of the Russian Federation Armed Forces Subject to Official Secrets in Defense".
Reducing import dependency	Order of the Ministry of Industry and Trade of 19.04.2022 No. 1532 Parallel Imports 2022 – List of Goods. Federal Law No. 213-FL of 28.06.2022 on "Parallel Imports"
Use of the results of space activity in the interests of economic modernisation of the Russian Federation and the development of its regions for the period up to 2030.	Federal Law No. 76-FL of 01.04.2022 "On Amending the Federal Law 'On State Corporation for Space Activity Roscosmos'". Effective date: 12.04.2022. Approved action plan for 2022–2025 for implementation of Fundamentals of state policy in sphere of application of space activity results for the benefit of Russian economy modernization and development of its regions till 2030
Preferential treatment when processing the SDO	Decree of the Government of the Russian Federation of 03.12.2020 No. 2013 "On minimum share of procurement of goods of Russian origin" determining the list of goods for which the minimum mandatory share of procurement (of the annual volume of procurement attributable to such goods) is established. Decree of the Government of the Russian Federation of 13.12.2021 № 2273 "On Amendments to Regulation on exemplary conditions of state contracts (contracts) on state defense order". Decree of the Government of the Russian Federation of 04.03.2022 No. 408-r on permitting state customers for state defence procurement to conclude contracts with single suppliers at indicative (estimated) prices

Источник / Source: составлено автором по URL: <https://academiagoz.ru/docs> и URL: https://http://government.ru/sanctions_measures/
compiled by the author based on URL: <https://academiagoz.ru/docs> and URL: https://http://government.ru/sanctions_measures/

number of state corporations and defense industry companies developed a package of draft regulations on the introduction into civil circulation of scientific and technological reserve, created during the execution of the state defense order tasks, on commercialization of intellectual activity results in defense industry organizations (Table 2).⁴

Technical cooperation within the framework of international programs of the defense industrial complex enterprises with friendly partner countries (India, China, etc.) can become an additional impetus in the sphere of technology transfer.

At the same time, it appears that some confidentiality should be established and maintained in the sphere of purchases by the DIC organizations of materials and components necessary for the development and manufacture of civilian products, to ensure and protect their commercial interests.

Among the new measures to support the development of diversification processes initiated “from above” and adopted in April 2022 are the following:

- Prompt elaboration and adoption of a legislative act to automatically extend the period of validity of Russian origin certificates by three years. This will allow defense industry enterprises to receive preferential treatment when entering into contracts.
- Additional capitalization of the Industry Development Fund, providing additional opportunities for defense industry companies to finance new diversification projects.
- The emergence of a program of direct financing of DIC projects by entering the authorized capital of an enterprise with subsequent purchase of this share by the state. The term of state funds for DIC diversification is up to 10 years.

⁴ Development of Russia’s DIC diversification processes in 2021.
URL: <https://rustechnology.ru/diversification/razvitie-protsessov-diversifikatsii-opk-rossii-v-2021-godu/>

- Adjustment of operational plans for timely implementation of state programmes “Development of the Aviation Industry”, “Development of Shipbuilding and Technology for the Development of Offshore Fields (shelf deposits)”, “Development of the Electronic and Radio electronic Industry”, “Development of the DIC” in order to prevent negative consequences for the Russian economy”. [15].

DIVERSIFICATION STRATEGY IN THE DEFENCE INDUSTRY: INITIATIVES “FROM BELOW”

When diversification is carried out in the companies of the military-industrial complex its growth rate and results depend largely on the motivating system of me-management. Efficiently conducted diversification of the military-industrial complex will help to minimize economic risks and enable companies to become financially protected [18]. Production of competitive products and services by defense industry companies for the domestic civilian market and exports allows them to compensate financial flows used to repay debts of previous periods and to obtain opportunities for investment in the production of civilian products [19]. Many companies in the defence sector are trying to reformat their production programmes in this direction.

In recent years, the creativity of the management of corporate structures of the military-industrial complex and the use of the project approach to diversification management have led to new approaches in expanding the production of high-tech civilian products. These include:

1. *“Buy and build” or the purchase of missing civilian assets.* This approach is characteristic of a state-based company “Rostech”, which has good financial resources.

In 2019, Rostech State Corporation added a stake in high-tech railcar manufacturing



assets to Uralvagonzavod (UVZ),⁵ having completed the acquisition of a stake in United Wagon Company (UWC; 9.33%) from ICT Group (Investment management company). This M&A transaction⁶ (one of the largest in the Russian railcar industry) has strengthened UVZ's railway rolling stock production business and contributes to achieving Rostech's 2025 civil products strategy targets, namely, to increase its share to 50%.

Another Rostech project is the purchase of important assets related to the implementation of the Russian high-capacity gas turbine project.⁷ Despite the need to produce exactly domestic equipment for critical infrastructure, Russia has not yet been able to achieve mass production of high-capacity turbines. In early 2020, the Rostech State Corporation established ODK — High-Power Turbines, which is capable of serial production of GTD-110M gas turbines (2 per year), their delivery to the customer, and repair and maintenance services throughout the turbine's life cycle. In June 2020, Rostech State Corporation decided to consolidate GTD-110M production in its hands by buying back shares from "Inter RAO" — 52.95% and Rusnano State Corporation — 42.34%.

2. *Strengthening of the existing area of civilian production.* This is characteristic of the United Engine Corporation (UEC, part of Rostech State Corporation), Roscosmos and others.

In the civil products segment, UEC is pursuing two major areas of diversification.

The first involves an increase in annual production of new aircraft engines for civilian aircraft PD-14 and PD-35. UEC will ramp up production of PD-14 engines for Irkut Corporation to 50 aircraft for installation on

MS-21 medium-range commercial aircraft by 2025 and will start serial production of new aircraft engines PD-14 at UEC-Perm Motors in 2020–2021 in cooperation with other companies. The plant strives to receive the certificate for production of the PD-14 engines in compliance with the European norms and rules after completion of the audit by the European Aviation Safety Agency (EASA) in 2020. Concurrently with the audit, UEC is seeking to establish an after-sales service network for the new PD-14 aircraft engine by 2030, with the financial support of the Russian Ministry of Industry and Trade in the amount of 36 billion rubles. At the first stage of the after-sales service creation it is necessary to form a pool of reserve and replacement engines. The second stage includes the creation and filling of spare parts depots, the organization of repair production, modular repair points in the main aircraft operation areas, and the production of the PD-35 engine with 35 ton thrust for installation on the Russian — Chinese CR 929 long-range wide-body aircraft. The civil engine will be certified in 2027, with testing starting in mid-2023.⁸

The second area of diversification at UEC is the supply of gas turbine units for PJSC Gazprom's Power of Siberia gas pipeline. In 2019, demand for engineering products (onshore gas compressor units from Gazprom, their services, and repair services) increased sharply by about 20–25% compared to 2018. In 2019, UEC will deliver eight 16MW machines, in 2020, thirteen 25MW machines, and in 2021 over 20 gas-turbine units for the "Power of Siberia".⁹

Another example of using this approach is increasing the production of lifts as part

⁵ URL: <https://www.kommersant.ru/doc/3836740>

⁶ Mergers and Acquisitions.

⁷ URL: https://finance.rambler.ru/other/44488277/?utm_content=finance_media&utm_medium=read_more&utm_source=copylink

⁸ UEC to start serial production of new PD-14 aircraft engines in 2020. URL: <https://tass.ru/ekonomika/6747841>; Tests of the new PD-35 civil aircraft engine will start in 2023. URL: <https://tass.ru/ekonomika/6748425>

⁹ UEC (United Engine Corporation) to deliver more than 20 gas turbines for the "Power of Siberia" by 2021. URL: <https://tass.ru/ekonomika/6747817>

Table 3

The range of relevant approaches to implementing the diversification strategy in defense industry companies

Relevant approaches	Content	Advantages
1. "Buy and build-in" or the purchase of missing civic assets	Acquisition of a stable civil engineering company platform and subsequent purchase of necessary additional companies at favourable prices	High bargaining power of the platform company: access to the established customer and supplier networks
2. Strengthening the existing civilian production line	Integration of a platform company with the hope of high profitability in the long term. Availability of an experienced management team during the integration period (before and after the merger) and accurate execution of the business plan	The synergistic effect of integration will allow the military and defence industry to take a larger market share in relevant civilian products in the future
3. The formation of new capacities to produce the goods demanded by the market within a single company	Switching to products, goods and services that are in demand by end users (IT products, pharmaceuticals, medicine, etc.)	Guaranteed income, regardless of various factors (financial, macroeconomic, etc.); fast return on investment, high profitability
4. Establishment of wholly civilian-oriented subsidiaries	Within integrated structures, formation of specialised subsidiaries for the implementation of dual-use technologies in the civil sector	Short timeframes for investment and less risk than a primary investment
5. Creating a groundbreaking new direction for the production of civilian vehicles	Development of a modern range of vehicles based on a single unmanned modular electric platform	The application of ESG standards in the manufacture of civilian products. Implementing such projects is the answer to the major challenges of the fourth energy transition

Source: compiled by the author.

of the diversification at Roscosmos. Ust-Katavsky Carriage Works (UKVZ, part of the United Rocket and Space Corporation) has completed the certification procedure for lifts of its own production. By the end of 2020 JSC UKVZ plans to reach the production of 50 lifts per month. By 2025 the plant expects to produce 5 thousand lifts per year in different configurations (from simple to luxury) and supply them to all regions of Russia. Within the framework of diversification, the enterprise is mastering production of high-speed railway platforms. The markets that UKVZ plans to enter are promising, but highly competitive, and yet, according to experts, the plant will be able to occupy its niche.

3. *The formation of new capacities for the production of goods demanded in the market within a single company.* One of the largest Russian aircraft building companies,

"Aviakor",¹⁰ — will be the first in Russia to start manufacturing aviation containers in cooperation with suppliers of aluminum products. Until recently neither aviation containers, nor pallets for transportation of air luggage were produced by Russian companies. Having analyzed the market, "Aviakor" was the first Russian company that made the decision to expand its own range of civil products and start manufacturing aircraft containers for luggage transportation on its own premises. The staff has undergone all the necessary training for production of a new product for the plant. The company plans to pass the certification procedure in compliance with European Aviation Safety Agency (EASA) norms due to the fact that the Russian civil aviation mainly operates aircraft of foreign manufacturers. This will allow "Aviakor" to fill

¹⁰ URL: <https://tass.ru/ekonomika/6748062>

Table 4

Business centers in Russian defense industry corporations and their specialization

Location of business centres	Business centre areas of operation
1. PJSC UAC ("United Aircraft Corporation" Public Joint Stock Company)	Phased development of projects in the civil segment (within 7 business areas), including: civil aircraft construction; import substitution of components and materials (Russian share after 3 years – over 63%); development of composites and materials for work in aggressive environments
2. JSC "United Engine Corporation"	Integration of 5 business structures into a holding company on a contractual basis. It will test import-substituting engineering products and their potential for growth by 2025: gas turbine internal combustion engines for cars (to replace up to 50% of imports); gas-transporting pumps (60%), mobile hybrid power plants for operation in difficult climatic conditions (42%)
3. "United Shipbuilding Corporation" JSC	A property holding company based on 12 business centres. Its goal is to increase production of civilian vessels by 2025: hovercrafts by 40% and hydrofoils by 28%
4. "Almaz-Antey" Concern	A project group of 25 businesses will test the launch of: artificial intelligence systems for traffic control; UAV (uncrewed aerial vehicle/ unmanned aircraft system) production for re-equipping fire and rescue services; state-of-the-art technology for video monitoring and public safety

Source: [16].

a large market with its products, especially if the perimeter of the law enforcement practice is expanded in this direction.

4. *Establishment of subsidiaries focused entirely on the civilian sector.* Spin-off of subsidiaries as independent business units with a portfolio of high-tech services and products for the civilian sector. This restructuring of assets motivates the subsidiary to develop its civilian product line and form a highly profitable portfolio of high-tech products. Separation of the subsidiary allows in the process of budgeting to assess the efficiency of its functioning as a whole and the financial performance of individual activities.

As an example of such an approach to the implementation of state corporation diversification is the creation of a commercial operator of geoinformation services TERRA TECH by "ROSKOSMOS" SC.¹¹ These services

are designed to assess the volume of economic activity of the RF constituent entities within the framework of the "Digital Economy programme".

"Roscosmos" SC subsidiary TERRA TECH has a niche in the services market in the spatial data analysis sector. Among the innovations are: continuous scanning of agricultural land data, monitoring of agricultural land resources, continuous monitoring of forestry activities, changes in construction facilities and infrastructure. In addition, TERRA TECH will forecast potential property or land taxes, use cloud technology and the RSS (Russian Space Systems) data centre.

5. *Creating a ground-breaking new direction for civilian production.* For example, "Almaz-Antey", which produces surface-to-air missile systems (S-300PM, S-400 and S-500), has created a wide range of vehicles powered by alternative fuel sources (electric vehicles, gas vehicles and hydrogen vehicles).¹² On the

¹¹ "Roscosmos" has created a commercial operator of services based on remotely sensed data. URL: <http://russianspacesystems.ru/2018/02/21/roskosmos-sozdal-kommercheskogo-operatora-dzz>. Roscosmos company certified to produce lifts. URL: <https://tass.ru/ekonomika/8632787>

¹² A Russian manufacturer of anti-aircraft systems will produce a civilian electric gas vehicle. URL: <https://www.vedomosti.ru/business/news/2021/09/21/887523-proizvoditel-s-400-almaz-antey-reshil-proizvodit-elektromobili-e-neva>

basis of a single unmanned modular electric platform, a modern line of vehicles has been offered: a B+ class urban electric vehicle, a light commercial electric vehicle, hybrids with a gas or hydrogen extender.

The company has registered the design of the E-NEVA hybrid gas-electric vehicle, which is a purely civilian product, as natural-gas-based motor fuel is not used for military purposes. The use of combined power units, e.g., gas-electric, would substantially increase the range of the vehicle.

For example, the fuel system of a gas vehicle with electric transmission provides a range of 1000 km on a single fill-up, and the fuel system of an electric hybrid vehicle includes a 70-kW battery and a 52-litre gas tank, which provides for an 810 km range with electric recharging.

In addition, at the end of 2022, Ust-Katavsky Carriage Works (UKVZ), an enterprise of Roskosmos Group, will start assembling the first pilotless high-speed tramcar. On the basis of a single platform for the spaceport staff, modern three-section, five-section, low-floor tram cars will be used. A project to build an unmanned city tram on UKVZ's premises and capacities is also under consideration.¹³

An analysis of relevant approaches to diversification using the example of the dominant military-industrial complex companies ("Rostech", "Roscosmos" and "Rosatom", and aerospace defence conglomerate "Almaz-Antey") allows them to be differentiated and identify specifics, i.e., the merits of each (*Table 3*) and common metrics, including:

- certification procedures for civilian products [under European Aviation Safety Agency (EASA) or Russian standards], which makes them more competitive;

- a guaranteed market for civilian products (by state or intergovernmental agreements, tied contracts, etc. along with mandatory quotas on state procurements and purchases for the military-industrial complex);
- financial assistance from the state to a greater or lesser extent, with some exceptions.

CONCLUSIONS

Despite the unprecedented anti-Russian sanctions in 2022, defense industry companies continue to dynamically increase the production of high-tech civilian and dual-use products. In the new realities, it is more important than ever to place maximum emphasis on providing the country with high-tech products that are leaving the Russian market due to sanctions.

A number of significant legislative and institutional support measures on the part of the state, the backbone banks of the defense industry, and development institutions contribute to this. According to estimates by the Ministry of Industry and Trade, the potential contribution to the Russian economy as a result of the diversification of the military-industrial complex could be approximately RUB 1 trillion by 2030.¹⁴

In the changed geopolitical conditions, the military-industrial complex companies become the basis for easing the technological blockade. The real advantages of military-industrial complex enterprises in the current economic conditions are the possession of competences, human resources, and the ability to create new promising products. Business centres have begun to be formed within large corporations to test the launch of competitive high-tech new generation products intended for the civilian sector of the economy (*Table 4*). They function either as

¹³ "Roscosmos" company to start assembling unmanned tram at the end of the year. URL: <https://iz.ru/1320966/2022-04-15/predpriatie-roskosmosa-nachnet-sborku-bespilotnogo-tramvaia-v-kontse-goda>

¹⁴ Ministry of Industry and Trade: Diversification of the military-industrial complex will bring 1 trillion rubles by 2030. URL: <https://rg.ru/2022/04/08/minpromtorg-diversifikaciia-opk-prineset-1-trln-rublej-do-2030-goda.html>



independent units within a corporation, or as a project group, holding or pool of enterprises capable of offering truly competitive high-tech products, often unparalleled in the world.

The emerging portfolio of civil projects, new approaches to implementation of diversification strategy in the defense industry companies will make a significant contribution to ensuring technological sovereignty of the country with guaranteed sales of innovative products. Especially if the

existing diversification management system in 2023 begins to be guided by the State Program of defense industry companies (DIC) diversification, which will provide for a single state plan for production of civil and dual-use products.¹⁵

¹⁵ The adoption of a new Russian State Armaments Programme in 2023 may well be linked to a programme document on diversification. Borisov announces the emergence of a state programme to diversify the military-industrial complex. URL: <https://www.rbc.ru/politics/30/11/2018/5c01319a794785bc58a6ea>

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