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Integral System of Assessment Indexes of the Military-Industrial Complex Enterprises' Innovative Potential

L.M. Kupriyanova[a], Yu.N. Sinkova[b]
[a, b] Financial University, Moscow, Russia;
[b] Tula branch of the Financial University, Tula, Russia

ABSTRACT

The aim of this article is a presentation of the methodologies used in the assessment of the innovative potential of the military-industrial complex enterprises. They are based on the integrated index. We achieved this purpose by listing the showings of the innovative potential assessment of the military-industrial complex enterprises, describing methods of their calculation, and reducing them to the consolidated tool. The academic novelty of our study comes down to studying the modern methodologies of the innovative potential assessment based on the integrated index and creating it for the military-industrial complex enterprises. The study results are as follows — integrated methodologies of the innovative potential assessment of the military-industrial complex enterprises and creation of the author's methodology of the innovative potential assessment of the military-industrial complex enterprises based on the innovative potential assessment of the military-industrial complex enterprises.

Keywords: innovation potential assessment; an integrated system of assessment indicators of enterprise innovative potential; methodology of the innovative potential assessment; military-industrial complex; MIC

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The stability of enterprises in leading countries depends on their efficient use of advanced technologies and resources. New scientific developments introduced are objects of intellectual property and their commercialization — the process of promoting innovation from creators to consumers. Enterprise innovation potential — it is the sum of its interrelated, innovative resources that provide procedures for enabling the effective use of these resources and to obtain results of innovation and competitiveness. [1–3] As a diverse characteristic are usually used as indicators for assessing the innovation potential of an enterprise, which are the staff, production and technological, scientific and technical, financial and economic elements of the activity of the enterprise of innovation type. It should be noted, that approaches to assessment of innovation potential and innovation activity of enterprises, published in the scientific literature, are predominantly one-sided and their application is limited to the system of tolerances used in their development and characterized by insufficient consideration of non-economic factors. This seriously reduces the credibility of the assessment results and the applicability of these approaches. The reason for the imperfection of these methods often lies in the wrong methodological approaches of the authors of these scientific works. It is important to provide comprehensive support for assessment of innovation potential of enterprise and introduction of objects into circulation, evaluating all sides of the risk management model. [4]

According to L. E. Basovsky, many economists are mistaken, making unfounded statements due to insufficient of knowledge of scientific methodology, since the choice of methodology (common approaches to the study of the problem) is rather difficult. [5] Furthermore, most of the methods are universal and aimed at industrial enterprises without taking into account the industry specifics of its functioning, while the indicator system should certainly be influenced by the type of product, the nature of the process, the knowledge intensity, etc. Methods that affect enterprises of the defense-industrial complex pay little attention to the fact, that Military-Industrial Complex (MIC) are knowledge-intensive, and this, in turn, affects the calculations and methods of analysis of innovation potential, which is inextricably linked to knowledge intensity, especially in the MIC sphere. [6] Despite the existence of a number of methods to assess the innovative potential of enterprises, received little attention MIC in this context, and those methodologies that take into account this focus of enterprises, have long since become obsolete. This justifies the importance and necessity of developing a methodology for assessing innovation potential at MIC enterprises — modern, taking into account the specific features of enterprises in this industry and based on the analysis of qualitative and quantitative indicators.

Thus, the objectivity of assessment of innovation potential and innovation activity of any enterprise, including MIC, resulted and calculated on qualitative and quantitative indicators. Today, however, there is no single integrated approach to the choice of indicators for this assessment, which is a big problem. Moreover, the establishment of a common framework for the indicators under consideration for further analysis — is a challenging task that has not yet been completed. This postulate is also valid for aggregation of calculated indicators of innovation potential of MIC enterprises into a single (general) indicator. In the absence of a universal method of assessment of innovation potential at the enterprise, the need to develop such a method, taking into account the specific possibilities of its use in each enterprise, which will provide better information for management decision-making.

Today, it is also important to take into account the human factor, the combination of knowledge, practical skills, creativity

and activity of the young generation. The development and use of a new system of indicators for evaluating the effectiveness of innovation activities, providing a full characterization of the activity of enterprises, will influence the adoption of effective managerial decisions. At the same time, in order to develop an integral indicator and simplify calculations, the authors propose to narrow down the system of indicators that characterize the level of innovation activity. [7] In the process of assessing innovation potential and activity, it is quite important to define a system of indicators and their limits. The availability of standards facilitates the evaluation process, while at the same time, dissatisfaction with the existing assessment,— provides guidance for improvement.

Unforeseen economic environment makes it impossible to set specific values to assess the current situation, as they may not be true and may be outdated information. Therefore, in order to assess the innovation potential, the normative values of indicators should be developed based on national industry trends and statistics, which, at this stage of development of the Russian economy, can be used mainly as the limit criteria of the crisis state. Due to the fact that individual enterprises of the industry have their own vision, mission and strategic goals, for more in-depth analysis, it makes sense to refine the proposed indicators by establishing additional, more detailed indicators than those presented in the analysis and specific to the specific environment. When forming a set of estimates it is necessary to choose the most important and objective indicators. Their composition may vary depending on the aspects of the enterprise activity that are most important for the analysis of innovation activity.

Thus, the system of indicators needs to match a number of requirements. Where possible, its components should form a dynamic series so that their current values directly or indirectly influence the values of the remaining indicators. The chosen system will not only allow the assessment of the result, but also the development of a set of measures aimed at improving the defining indicators. In addition, all indicators should be rationed, i.e. for each of them it is possible to present standard values and industry coefficients. They should also be selected so that they can vary within the maximum permissible range.

D. B. Shalmieva and A. D. Abramov consider that the set of indicators depends on the specifics of the enterprise, its experience in the market. [8] The choice of indicators depends, on the one hand, on the significance of the characteristics that ensure the objectivity of the assessment and, on the other,— on the possibility of clearly quantifying them. In the process of assessing the innovation potential of the enterprise, the method first of all needs to assess the significance of the impact of each component of the innovation potential — financial, client; capacity of internal business processes, staff training and development,— and identify a list of indicators to be diagnosed.

The assessment intervals are based on the following considerations. Individual indicators have limits according to generally accepted criteria of economic and financial analysis. However, some indicators are generally not limited, as individual indicators can be set for each enterprise, and in addition, it is difficult to predict how they will change as a result of certain activities.

The *table 1* presents the described method of assessment of innovation potential and innovation activity of enterprise.

The method of assessment of innovation potential and innovation activity proposed in *table 1* contains a minimum, according to the authors of this article, and optimal set of indicators, which are universal for all enterprises.

To calculate the integral evaluation of innovation activity, it is necessary to determine the scores for each of the proposed indicators. The high level of innovation

Table 1

Methodology for assessing the innovative potential and innovative activity of an enterprise

Indicator	Innovative potential of enterprise			
	High	Median	Low	None
Evaluation, points	4	3	2	1
Financial potential				
Investment attractiveness of the enterprise	High	Median	Lower middle	None
Availability of credit	High	Median	Lower middle	None
Profit growth rate, %	> 50	11–49	< 10	-
Financial independence ratio	> 0.6	0.41–0.59	0.35–0.4	< 0.35
Availability circulating assets ratio	> 0.5	0.2–0.5	0.1–0.2	< 0.1
Profitability of innovation, %	> 5.0	2.0–5.0	< 2.0	-
Customer potential				
Degree of satisfaction of the needs	> 90	31–89	11–30	< 10
Consumer demand	High	Median	Lower middle	None
Customer innovation sensitivity	Highly sensitive	Moderately sensitive	Largely sensitive	Insensitive
Level of marketing service development	Advanced specialized service	Lack of marketing specialization	Several general marketers	No marketing department
Staff capacity to generate potential demand	High	Median	Lower middle	None
Potential of internal business processes				
Share of innovative products in industrial output, %	> 50	11–49	< 10	-
Share of universal equipment, %	> 60	31–59	11–30	< 10
Equipment lifetime, years	< 5	6–10	11–15	> 16
Share of fundamentally new equipment, %	> 50	11–49	< 10	-
Fixed assets renewal ratio,%	> 20	11–19	5–10	< 5
Percentage of innovation (technology, equipment)	> 10	5–10	< 5	-
Potential of training and development of enterprise's staff				
Ability of staff to generate new ideas	High	Median	Lower middle	None No
Implementation of retraining and advanced training programmes	Promotion and retraining for all staff	Promotion and retraining of managers and specialists	Promotion and retraining applies only to senior staff	None
Increased external and internal staff flexibility	Programme of measures developed and implemented	Measures relate only to internal staff flexibility	No reinforcement measures are envisaged	None

Source: the authors.

activity is estimated at 4 points, median — at 3 points, lower — at 2 points, and lack of innovation capacity for some indicators is estimated at 1 or 0 points (none). Thus, by the sum of point, can be summarized in a single conclusion the innovative potential.

76–100 points correspond to high innovation potential and high innovation activity, 51–75 — median; 16–50 indicate a inadequacy of innovation capacity and a low level of innovation activity, 0–15 — lack of innovation capacity as such. For an enterprise whose initial characteristics are low, achieving high-level indicators can be a challenging task that involves prioritizing the achievement of goals. [2]

It should be mentioned, that there are many ways and methods of aggregation of private indicators into integral. In view of the above, it is advisable to consider those groups of indicators that are most suitable for use in enterprises of the MIC. It should be noted that modern domestic and foreign scientists have paid enough attention to the problem of innovation potential of enterprises.

The integrated assessment of innovation potential (IIP) is based on the application of a common indicator, which is calculated according to the following formula:

$$\text{IIP} = \sqrt[6]{PE + STE + FE + SE + II + ME}, \quad (1)$$

where PE — production element; STE — science and technology element; FE — financial element; SE — staff element; II — information item; ME — market element.

This approach can be considered effective for the following reason: the enterprise's innovative potential — not just the sum of the elements, but their complex interconnected. The added value of this indicator is that, that the main elements and potentials are presented in as comparable a form as possible.

Another group of indicators was proposed by researcher O. V. Inshakov, author of the evolutionary theory of factors of production, which implies that the production function is a set of several factors necessary for the creation of the product [5], and is as follows:

$$Q = f(Inf, O, Ins, M, T, A), \quad (2)$$

where Q — manufactured product (including innovative); Inf — information; O — organizational; Ins — institutional; M — material; T — technologically; A — human.

The authors focus on the evolutionary theory of factors of production, implying that innovation potential can be considered and calculated as the sum of the factors of creation (production) of innovation listed above. Innovation activity is aimed at the implementation of innovation potential, and its result is represented by the release of innovative products. [9] And for innovation management to be qualitative, it is necessary to assess the groups of performance indicators of R&D, production and management, a new trajectory of advanced development. [10]

Thus, the system of these indicators allows not only to cover all the main production factors of an innovative product, but also to study the main directions of activity of an enterprise within the framework of its production. Moreover, it is the indicators of scientific and technical, production and management activity that are the most important when analyzing the innovation activity of enterprises of the MIC.

The ability to apply these indicators in MIC enterprises is due to the fact that they are engaged in the development, implementation of innovations and the release of innovative products; and proper management of these processes provides an opportunity to increase the effectiveness of the application of innovation potential and to maximize the use of all available factors of production. In terms of performance indicators, it should be noted that if the scientific and technical activity — "supplier" of ideas, the creation of an innovative product takes place at the production, which means — it

is one of the most important directions in enterprises engaged in the production of innovative products, in particular at MIC enterprises. And the fact is important that it is the evolutionary theory of factors gives the opportunity to eliminate the problem of the lack of a common methodology for assessing the innovation potential of any industrial enterprise, including enterprises of the military-industrial complex. For example, Y.S. Sahno presents his view on the development of an integral indicator for the evaluation of innovation potential, where it is proposed to calculate an integral indicator according to the following formula [11]:

$$I = (CI^* CP * i1) + (S * CS * CE * i2) + \\ + (CC * CM * CE * i3) + (CTU * CPR^* i4) \quad (3)$$

where I — coefficient of determining the level of innovation potential of the enterprise; CI — knowledge-intensity coefficient showing the share of R&D expenditure; CP — coefficient of enterprise performance; S — indicator, characterizing innovation of enterprise staff; CS — coefficient of structure of innovative research; CE — coefficient of qualitative evaluation of innovative research; CC — enterprise product competitiveness; CM — market share of enterprise products; CE — coefficient of efficiency; CTU — coefficient of technology upgrade; CPR — coefficient of production renewal; $i1$, $i2$, $i3$, $i4$ — specific coefficients for part of indicators of innovative development of enterprise ($i1 + i2 + i3 + i4 = 1$).

Further, in the framework of this research it is advisable to refer to the exhaustive classification proposed by A.M. Daurov and Z.L. Dzakoyev. These researchers presented a number of indicators that can be conventionally divided into the following resource groups: intellectual, staff, information, marketing, R&D, legal, institutional, material and technical, financial and investment, market, integration, organizational, managerial, organizational, management, productive, economic, social, as well as State support, stimulation, entrepreneurship and competition. [12, 13]

It should be noted that the above indicators are used as part of the expert review of indicators of innovation capacity. The authors of this method consider that this not only helps to solve some problems related to the evaluation of innovation potential, but also gives the opportunity for each case to choose them depending on the goals of the organization. [14] According to the authors of this research, all of them can be applied to MIC, and if there is a need for the most complete assessment of the condition of a particular enterprise, it is advisable to use as many indicators as possible.

It should be noted that the objectivity of assessment of innovation potential of MIC enterprises is based on the analysis of quantitative and qualitative indicators. At the same time, the creation of their system is a very difficult problem, not solved so far. To assess the innovative potential of MIC enterprises, indicators should be based on factors of innovation activity, stages of the life cycle of innovation, the purpose of the enterprise, etc., essentially the innovative potential of MIC enterprises. Although the indicators within these groups are the most complete and accurate from the point of view of the main factors of innovation activity of MIC enterprises, they are not universal. However, this can be mitigated by dividing innovation potential into blocks (elements) for their assessment. [15]

Given the above, the task of assessing the innovation potential of the MIC enterprise, as well as other enterprises, can be solved by combining several indicators to a common denominator (criterion). And since, as already mentioned, today there is no single integrated approach to the choice of indicators for this assessment (which can be considered a big problem), it is possible to estimate the innovation potential of an MIC enterprise by reducing several indicators to a common denominator (criterion). I.E. Karavaev

proposed the following system of indicators of innovation potential of MIC enterprises:

- indicators of the staff of enterprises MIC;
- indicators of material and technical resources provision of R&D processes at MIC enterprises;
- indicators of the level of information support for MIC enterprises;
- indicators describing the patent fund of enterprises and the effectiveness of patent and license security of MIC enterprises.

Considering indicators of factors of production of D. B. Shalmiev and A. D. Abramov and system of indicators of I. E. Karavaev, it can be determined that the first three groups correspond to the proposed by O. V. Inshakov evolutionary theory of factors of production, more precisely, with human, material, technical-technological and information factors of production within the framework of this theory respectively.

Thus, the version of I. E. Karavaev is to some extent a truncated form of the theory of O. V. Inshakov, corrected for differences in indicators. Nevertheless, the fourth group is of particular interest within the framework of the indicators proposed by I. E. Karavaev — due to its uniqueness and characteristics of the indicators.

This set of indicators can be considered distinct and therefore deserves special attention from theorists and practitioners. In other words, the groups of evaluation indicators overlap with the groups of factors in different methodologies for assessing the innovation potential of industrial enterprises (for example, the evolutionary theory of factors of production, proposed by O. V. Inshakov and discussed earlier in this research), but have their own specifics.

Thus, the authors of this research agree with the opinion of E. I. Karavaev [16] that the innovation potential of the enterprises of the MIC should be assessed by calculating private indicators together with their subsequent consolidation into a single indicator (criterion) according to such a formula:

$$EIP = P / IC \rightarrow max, \quad (4)$$

where EIP — effective application of innovation potential; IC — the level of innovation capacity that is measured through private indicators in the groups discussed above.

A clear advantage of this calculation is that there is a symbiosis between performance assessment and the resource approach, that provides an exhaustive characterization of the innovative potential of any enterprise (including MIC), and also gives the opportunity to competently make relevant management decisions. [16]

There are other ways and methods of aggregation of private indicators into integral. The integrated assessment of innovation potential can be so:

$$IP = FP + CP + BP + DP, \quad (5)$$

$$FP = k_f \cdot \sum f, \quad (6)$$

$$CP = k_c \cdot \sum c, \quad (7)$$

$$BP = k_b \cdot \sum b, \quad (8)$$

$$DP = k_d \cdot d, \quad (9)$$

where FP, CP, BP, DP — indicators of ability to innovations of financial potential, client potential, potential of internal business processes and training, and development of staff, respectively;

k_f, k_c, k_b, k_d — number of points according to financial, client potential, potential of internal business processes and staff training and development;

$\sum f$, $\sum c$, $\sum b$, $\sum d$ — weighting ratios, which were assigned to financial, client potential, potential of internal business processes and potential for training and development of staff.

As an economic characteristic, the innovative potential of MIC enterprises is also interesting due to the presence of internal contradictions: increasing

the rate of economic growth, it can impair the economic development of the industry's enterprises by diverting resources to innovation. For this reason, the characteristics of MIC enterprises require the definition of indicators of innovation potential in relation to them. It should also be noted that innovation potential in MIC requires not only the creation of innovations, but also the willingness of the industry to produce them.

In addition, the creation of the new methodology should take into account a number of problems related to the indicators of assessment of the innovative potential of MIC enterprises. This could be achieved, in particular, by decomposing the innovation potential into individual blocks (elements) for further evaluation. In addition, the innovation potential of MIC enterprises should be calculated based on its quantitative and qualitative characteristics.

In this case, the whole set of indicators should be reduced to a single (integral) indicator, which describes the innovative potential of MIC enterprises, for which it is proposed to use the point system and the distribution matrix described below. Indicators should be conventionally divided into four groups: mega-level (world economy level), macro-level (country economy level), meso-level (industry level) and micro-level (enterprise level). All the indicators that characterize the activity of MIC enterprises reflect their device and essence.

Thus, when selecting the indicators for the methodology were applied during the researches of I.E. Karavaev [16], A.M. Daurov, Z.L. Dzakoev [12], A. Triphilova [17], and O.V. Inshakov. [18] Indicators corresponding to the characteristics of MIC companies were also added, which none of the authors have previously used because the MIC industry is specific and has a number of distinctive features. It is on the basis of these features presented in the research of I.A. Baburina and E.E. Gubaidullina [15], the authors of this research propose to use indicators of innovation potential of MIC enterprises within the above groups and subgroups, displayed in *table 2*.

The research showed that many methods of aggregation of private indicators into integral indicators remain.

For the indicators presented above, the authors consider using the *distribution matrix* — a linear diagram, in this case designed to describe the level of innovation potential of MIC enterprises.

This method is characterized by a number of advantages.

First, quantitative indicators measure the existing innovation potential, and the assessment of individual elements and the overall assessment of innovation potential is not the same level of innovation development of the enterprise. Therefore, the author's methodology requires the inclusion of quantitative indicators (as in the methods of other scientists) and qualitative indicators, which are not available in the previously reviewed methodologies. This will allow more accurate identification of innovation potential of the enterprise.

Secondly, there is a need to define the role of each of the elements in the creation of a common indicator of the innovative potential of the knowledge-based enterprise MIC. Therefore, the authors take into account the indicators of the micro, meso, macro and mega-level (the indicators of the latter were not taken into account in any of the methods).

It is proposed to use a point method, presupposing:

- Micro-level indicators assign a multiplier "2";
- Other indicators assign a multiplier "1".

The use of the scoring method is explained by the fact that the micro-level indicators more determine the innovative potential of the enterprise, and meso, macro and mega-level indicators create an environment in which the MIC enterprise has to exist and on which it cannot influence.

Table 2

Indicators for assessing the innovative potential of military-industrial enterprises in the context of subgroups at the micro-level, meso level, macro-level and mega level

Indicator subsets	Indicators within groups and subgroups
Macro-level indicators	
Indicators of macro-economic stability	– Features of conducting research and design work, rules of their implementation and planning, organizational and managerial decisions, as well as the level of their implementation in practice, technical and technological support of research and development work and the timeliness of the delivery of equipment for their implementation. – Provision of R&D material and resources; training of R&D staff and research and development staff. – Average annual output of employees, share of researchers and employees engaged in R&D. – Share of R&D employees with higher qualification, higher education, with secondary education, patent fund (indicators) and effectiveness of patent and license security (economic effect of inventions and rationalization proposals and economic effect of purchased patents and licenses). – Volume of work on patent research (number of patents on development, copyright certificates and patent-clean objects of new equipment, volume of products produced based on these patents)
Innovation performance indicators	– Coefficient of availability intellectual property – CAIP, coefficient of staff development, engaged in innovation – CSD, coefficient of equipment for the innovation sector – CE, coefficient of development of new technology – CDNT, coefficient of development of new product – CDNP, coefficient of innovative growth – CIG, share of innovative products, works, services in the total volume. – Features of involving personnel in the innovation process, the state and methods of stimulating the creation and release of innovation. – Level and presence of innovation risk: cheaper methods of producing goods or services than the methods used, new product or service on old equipment, new product or service creation through new technology
Production performance indicators	– Technological and technical regulations of the production process. – Health and environmental standards and regulations. – Health and safety. – Efficiency of the organization of the production process, including: characteristics of the relationship of management and subordinate, features of interaction of production units. – Level/degree of automation of production, provision of production sites with new equipment and technologies, level of use of equipment that is already in operation: coefficient of intensity of use equipment. – Level of utilization of equipment already available: coefficient of intensity of use equipment. – Product quality and rhythm: level of defect, availability and number of breaks in the production process. – Ability to effectively use all economic resources for the development of innovation, regular accounting; providing comprehensive production reports; analysis and coordination of production to control deviations, delays or reduction of financial public order, therefore, further output is entirely self-produced (risk of termination). – Strict compliance with deadlines, quality standards (products must meet the expected costs). – Timely training of employees employed at the production, the level of qualification of employees creating innovative product. – Ensuring growth of average annual output of employees (indirect indicator of the level of qualification), estimation of proportion of employees with secondary, higher education and employees with higher qualification in production. – Availability of conversion production, a certain share of civilian products in the total output. – Raising the level of staff engaged in specialized activities at enterprises of MIC
Management and organizational performance indicators	– Application in practice of scientific and scientific-practical knowledge and information on the organization of management, creation and maintenance of communication of participants of the innovation project. – Existence and features of explicit job descriptions for management staff, rules designed to regulate the management of innovation. – Features of providing and planning the implementation of the innovative potential of the innovative project, and also control over the process, resources and organizational and communication support for the management process. – Quantitative indicators of management efficiency [sales revenue (profit) per one management employee, management expenditure per 1 ruble sales revenue]. – Planning, standardization, accounting, monitoring and level of computerization. – Raising the level of qualification of managerial staff, level of competence and qualification of managers of different levels (especially – managers of innovative projects) in the implementation of innovation potential of enterprise. – Average annual output of such staff (indirect indicator of the level of qualification), proportion of employees with secondary, higher education in the managerial structure of the organization

Table 2 (continued)

Indicator subsets	Indicators within groups and subgroups
Economic efficiency of enterprise activity indicators	Absolute (difference between project results and implementation costs) and relative (ratio of project cost estimates to total project costs) performance measures: assets, net worth, net profit, earnings, net working capital, profitability
Resource availability indicators	– Financial and investment resources (volume, components, nature of involvement in innovation). – Information resources (quality, volumes, components, nature of involvement in the innovation process). – Intellectual resources (quality, volumes, components, nature of involvement in the innovation process). – Material resources (quality, volume, components and nature of involvement in the innovation process)
Meso-level indicators	
Integration group indicators	Ability of MIC enterprises to cooperate in the field of creation of innovative products (number and quality of connections with other enterprises in the process of creation of innovative products)
Investment performance	Nature and volume of investments attracted to the MIC as a whole
Technological development in the industry indicators	Analysis and assessment in relation to the world level of development
Macro-level indicators	
Institutional environment indicators	Level of development of institutions (innovation infrastructure) ensuring the implementation of innovation activities effectively
State support performance	Features and ways of state support of innovation activity of MIC enterprises
Legal group indicators	The state of legal acts regulating the activity in the innovation sphere and MIC activities, features of the conduct and protection of the defense complex, reflected in the Constitution of the Russian Federation
Social performance	– Condition of the social sphere, its development and functioning. – Consumer price index. – Average per capita monetary income. – Number of unemployed and estimation of crime situation (number of recorded crimes)
Macroeconomic stability indicators	– The presence of sanctions by other states targeting MIC enterprises, which can affect the overall performance of enterprises in the industry and, as a result, reduce the income of enterprises, which, in turn, will spend less different resources on R&D, which will ultimately affect the innovation potential. – Changes in legislation which might have a harmful effect on enterprises or industries, or unfavourable government intervention in the industry, which can be as damaging to innovation as sanctions
Mega-level indicators	
Marketing opportunities indicators	Marketing concepts based on alignment of innovations and demands of the target market in terms of the following criteria: quality, availability and level of advertising and ways of promotion
Market group indicators	Market conditions: situation on the market (offers and needs) of innovative products
Competition performance	Conditions and nature of competition between economic entities. Level of competitiveness of products

Source: the authors.

Table 3

Matrix of the distribution of the level of innovative potential of the military-industrial enterprise

Number of points	Level innovative potential	Necessary to for measures to increase innovation capacity
1–40	Extremely low	Set of measures needed
41–80	Low	Measures is needed
81–120	Median	Some measures are needed
121–160	High	Small changes are needed
161–200	Very high	No need for measures

Source: the authors.

The proposed methodology is new for the current level of development of the methodology for assessing the innovative potential of MIC enterprises. In addition, the application of the methodology in practice implies the solution of existing problems, related to the assessment of innovation potential of enterprises in general and at MIC enterprises.

The method involves the use of a distribution matrix taking into account the fact that the total amount of points in the evaluation of the innovative potential of the MIC enterprise within the proposed methodology is 200. As an example, consider the distribution matrix of the level of innovation potential of the MIC enterprise (*table 3*).

MIC enterprise innovation potential distribution matrix based on *table 3* data, allows you to assert that the level of innovation potential of an enterprise depends on the number of points scored on the basis of its analysis. Depending on the calculated level of innovation potential, MIC enterprises should take or not take measures, aimed to an increase. However, the measures should be aimed at eliminating problems related to those aspects in which 0 points were obtained.

The research should note, that despite the existence of a number of methods to assess the innovation potential of enterprises, including industrial ones, MIC enterprises in this context paid little attention, and the methodologies that take into account this focus of enterprises are long out of date. Therefore, the study proposed a methodology that takes into account the quantitative and qualitative indicators of the mega-level (world economic level) macro-level (country's economy level), meso-level (industry level) and micro-level (enterprise level), which are also reduced to a single (integral) indicator. The matrix of distribution of innovation potential of MIC enterprises allows not only to estimate its level, but also to determine the need to take measures that impact it on "pain points".

In the course of this research, the authors drew the following conclusions.

The scientific literature presents indicators of assessment of innovation potential of enterprises as a whole, less often — industrial enterprises, and practically no indicators (except for the work of E. I. Karavaev) are available to assess the innovation potential of MIC enterprises. Although these methods are applicable to MIC companies, they do not take into account their specifics, because of

which there are errors in the results. Attention should be paid to the situation of aggregation of these criteria into a single indicator (in other words, they are presented in a very narrow range of works).

Based on the aggregate, it is possible to determine whether a particular MIC enterprise under analysis needs to improve its innovation potential, and, if so, in which areas of activity. The proposed method of assessment of innovation potential of MIC and the method of aggregation of private quantitative and qualitative indicators into a single criterion is new and has not previously been proposed either by domestic or foreign researchers.

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ABOUT THE AUTHORS

Lyudmila M. Kupriyanova — Cand. Sci. (Econ.), Associate Professor, Department of Business Intelligence, Deputy Head of the Department of "Economics of Intellectual Property", Financial University, Moscow, Russia
https://orcid.org/0000-0002-9453-6425
kuprianovalm@yandex.ru

Julia N. Sinkova — Senior Lecturer, Tula branch of the Financial University, Tula, Russia; Accountant-expert, postgraduate student, Department of Accounting, Analysis and Audit, Financial University, Moscow, Russia
https://orcid.org/0000-0002-1583-1160
yuliyasinkova@yandex.ru

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