Consulting in international specialization and cooperation of high-tech industries

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Abstract. The article deals with the issues of international division of labor, international specialization and international cooperation in the field of high-tech industries. The main forms of international cooperation on the example of the market of aerospace equipment production are presented. The role of consulting in international cooperation is revealed, such areas as administration, personnel management, evaluation, financial, legal, tax, marketing consulting are considered.

Many researchers agree that production (technical), investment and marketing consulting are the most important for the sphere of high-tech industries. Production consulting is considered as a set of measures to improve the efficiency of current or newly designed production at the expense of modernization and reengineering of production. Investment consulting is considered as a set of measures to improve the efficiency of existing or newly designed production due to the redistribution of existing financial resources, attracting or investing, while investment activity of high-tech and high-tech enterprises is associated with the modernization of production. Marketing consulting consists in the analysis of the market, carrying out PR-actions, development of promotion strategies, advertising campaigns, creation of a brand and its development. Consulting allows carrying out full-fledged system information support of activity of high-tech productions that promotes establishment of new social and economic relations and the international cooperation of high-tech productions.

The modern international labor division characterizes the specialization of individual countries in the world economy on certain types of products and services, which determines and assumes the exchange of these goods and services on the world market. The main content of the international division of labor is the isolation of different types of labor activity, their complementarity and interaction. This is the highest stage of development of the social territorial division of labor between countries, which proceeds from a stable, economically profitable specialization of production of individual countries on different types of products and leads to mutual exchange of production results.

The basis of the international labor division is the objective necessity of international cooperation between different countries in the process of their economic interaction, when a country produces those types of commodity products that are profitable to produce in a given country in terms of socially necessary costs.
The modern international labor division is based on the country's involvement in international specialization, which today is increasingly determined not by natural factors, but by the factors of production created by the country [1]. Thus, among the main types of international division of labor are international specialization and international cooperation.

Modern international relations are characterized by the development of international cooperation and specialization of production, which reflect different aspects of the same process of the world economy. Cooperation is a powerful factor of economic growth, as it contributes to the deepening of specialization of production and the international division of labor, a more rational use of economic resources (including reducing the cost of production and accelerating the transfer of new technologies), increased productivity and production efficiency [2].

Based on the trends of transition of the world community from the resource-intensive industrial economy to the global knowledge economy, it is necessary to reorient the foreign economic activity of the Russian Federation to export transnational investment activities related to knowledge-intensive industries [3, 4].

International cooperation of production is defined as the integration and combination of production relations of different countries, consisting in long-term economic ties, the consistent transfer of semi-finished products of labor, the development and implementation of joint programs [5]. International division of labor and specialization of production are the most important factors in the development of various forms of international cooperation, as they represent a system of interrelated production of specialized products or services, which are elements of the global world production system [6].

The main forms of international cooperation in the field of high-tech industries include strategic partnership, contract production and subcontracting. The most common form of cooperation is strategic partnership, as it allows integrating the resources of the participants and their innovative activities for common economic and strategic purposes. Contract production is a special form of cooperation between the contractor and the customer, leading innovative activities.

A number of researches note that in science-intensive and high-tech industries there are strict technological requirements for production, as well as there is a threat of preservation of intellectual property, in connection with which the parent enterprises-customers conduct an assessment of all risks before implementing cooperation with the contractor. Another form of cooperation is subcontracting, which economically developed countries use as one of the main tools to reduce their production costs by transferring orders for components and parts to less developed countries and their enterprises - subcontractors [7].

Modern international cooperation is an active generator of innovative ideas, since its most important component of international cooperation is scientific and technical cooperation [8, 9], including in the field of high-tech industries, one of which is the aerospace industry, which, in turn, covers the sphere of high technologies and innovative industries.

Currently, the main players in the aerospace technology production market are united by a complex network of international, transnational relations, in which the largest aerospace transnational corporations act as integrators of the development processes of individual components, which are manufactured by subcontractors from other countries. As the scale of this activity increases, there are qualitative changes in the investment of research and development, the expansion of joint research and the inclusion of rapidly developing Asian countries [10].

Such cooperation of high-tech industries involves serious study of issues of legal, economic and investment activities of enterprises, their strategic planning, research and forecasting of markets, etc. The solving of these problem is in the field of consulting as a type of intellectual activity, the main task of which is to analyze, justify the prospects for the development and use of scientific, technical and organizational and economic innovations, taking into account the subject area of the customer.

It should be noted that the range of services provided by domestic consulting organizations is quite wide and practically does not differ from the services provided by foreign companies. Traditionally, there are such areas of services as administration, personnel management, evaluation, financial, legal,
tax, marketing consulting, but for the sphere of high-tech industries, in our opinion, the most important are production (technical), investment and marketing consulting.

Production consulting is a set of measures to improve the efficiency of existing or newly designed production through automation, mechanization, design of devices, development (reengineering) of production technology [11]. This type of consulting includes the solution of issues of modernization of production, development of analogues of products or services, as well as new, unparalleled products or services. Production consulting can be a significant part in the international cooperation of high-tech industries in terms of research of current technological production, design of production line changes with maximum economic effect (contact production, subcontracting), development of the concept of development of technical development of the production system in the medium and long term (strategic partnership).

Investment consulting plays a special role in international cooperation of high-tech industries as a set of measures to improve the efficiency of existing or newly designed production by redistributing existing economic and financial resources, attracting or investing in the subject area of the customer. The investment activity of high-tech enterprises is connected with the necessity of modernization of production, as well as increasing the government attention to certain industries, and as a result, they receive subsidies, subventions and other forms of material and non-material support, the increase in public and private investment in the framework of the development of scientific and technical cooperation [12].

Marketing consulting is a consultancy for the promotion of all areas of knowledge-intensive production. The work of such consultants is to analyze the market, to conduct PR actions, to develop promotion strategies, advertising campaigns, to create a brand and its development.

The high-tech enterprises, including aerospace ones, have a number of distinctive features that are associated with certain properties of their technologies, services and products (goods) for industrial and technical purposes. In this regard, it is necessary to adapt existing promotion tools to the specifics of the industry. The process of popularization and promotion of products and services in the aerospace industry can be divided into two stages:

1) formation of appropriate communication space;
2) development of a system of measures to promote and sell products.

The formation of communication space implies:

- organization of thematic expositions and exhibitions promoting the achievements of the space industry, its history and significance;
- involvement of youth and public organizations;
- lectures, seminars, intellectual games;
- organization and holding of professional international conferences and conferences;
- cooperation with academies of sciences of different countries, space agencies and corporations, professional communities and enthusiasts.
- organization of grant competitions;
- ensuring the total presence of messages (news stories on television and radio, publications in newspapers, the use of printing products (posters, leaflets), placement of information on Internet portals, production of social videos, fiction and popular science films).

The main tool for promoting products in the market for the purpose of concluding contracts for the supply of space technology is participation in international exhibition and fair events, which are important events in the industry and at which customers announce upcoming tenders, as well as their requirements.

It should be noted that the position of Russia in the market of space services is currently low [13], although its overall social and economic development is determined by the introduction of world-class science-intensive technologies. The projects implemented on their basis are based on the advanced achievements of science, technology and technology, and the main result of their implementation is a
new, high-tech product of high quality with unique properties or a new technological process focused primarily on economic benefits.

And since the place of any country in the world technological space is determined by science intensity and science yield, it is necessary to provide full-fledged system information support for the activities of innovative projects and high-tech industries [14-16]. Such support contributes to the establishment of international social and economic relations, which in turn allow responding to market changes in a timely manner, predicting the "demand" for such projects and technologies as well as identifying target audiences and concluding new contracts. It also allows to inform the general public about the maximum efficiency of innovative projects with minimal damage (including environmental) from their implementation.

Thus, the considered types of consulting play a significant role in the development of international specialization and cooperation of high-tech industries, including aerospace industry.

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