Consideration of the above-stated approaches allows to make the following conclusions:

– there is no common approach to the criteria choice at present. Every indicator taken as a basis allows to reflect specificity of the formations considered;

– there are quite many parameters applied as stratification indicator criteria;

– imposing of the received stratification results allows to define coincidence of separate groups including, as a rule, the identical list of regions that gives a chance to make an assumption that there is some regularity which appears while grouping by the newness of innovation.

The author's position in this point is based on use of the innovative susceptibility factor as a priority. In our opinion, it fully considers economic, social and motivational components. The approach is expounded in the author's publications n more detail [8].

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INTEGRATION BETWEEN HIGHER SCHOOL AND INDUSTRY IN REGION AS THE FACTOR OF IT'S INNOVATIVE DEVELOPMENT

In this article the problems of Integration between Higher School and Industry in innovative development of region are covered. Retrospective analyze of co-evolution between defensive-industrial complex and Higher School in the face of Siberian State Aerospace University is carried out for estimation of dynamic interaction.

Keywords: innovative development, integration, defense industry, higher school, co-evolution.

Increase of national economy competitiveness ability, retention the position of Russia in the row of the world leading countries is possible when the innovative way of development is realized and the growth of intellectual public potential becomes the most important state problem.

The modern Russian government understands the importance of innovations and tries to stimulate everyway the innovative development of the country. So in the article "Message of President of Russian Federation D. Medvedev to Federal Assembly" (November 2009th) the President accentuated the necessity of creation in Russia the big Centre of innovations, the analogous of famous Silicon Valley, where "the attractive conditions for labour of leading scientists, engineers, constructors, IT-specialists, managers and financiers will be formed and new competitive in the world market technologies created" [1].

Recently, at the meeting with the winners of school Olympiads the President said, that the Russian Silicon Valley will be built in the Skolkovo in the suburbs of Moscow [2]. However it's not clear, why the Committee for Creation the Russian Centre of innovations chose this place. As it is known, some Russian territories known as zones of high technologies competed for the opportunity to become such a centre. They are Tomsk and Novosibirsk regions, St.-Petersburg and others. There are famous Universities and scientific centers, also big enterprises for industrial application of new developments tied up by the longtime connections.

Integration between Universities, enterprises and other Institutions doing scientific and research activities is a very important factor for the formation of the Centre of innovations.

Just the integration between Stanford University and the Base of United States Air Force (USAF) in Palo-Alto permitted to create the "Stanford Research Institute", which worked first for defense and then became the biggest Centre of microelectronics in the world [3].

There are some famous Universities of such kind in the USA, for example: "Massachusetts technological Institute" st. Massachusetts, "Texas University" in Ostin,

st. Texas, University of Arisona and others, that demonstrate a wide range of different regions in innovative development of the country.

The innovative development orientation of regions is important especially for Russian territories, because they are characterized by extreme regional polarization, which is connected with essential disproportions in allocation of public-valued resources: fertile soils, climate conditions, natural resources , industrial enterprises and others. Innovative activity in Russian regions has to permit to eliminate the inequality of economic development of these territories.

Achievement the purposes of innovative development in a region demands realization of activities considering its competitive advantages. One of the most important competitive advantages in some regions of Russia is the defense industry which always has been a source of advanced scientific, technical, and technological achievements and developments. However, the powerful potential of defense industry is not employed totally under the conditions of activation the innovative development in regions.

Besides, some problems remain without attention, they are:

– estimation the scientific-innovative development influence of the of Higher School (HS) on the condition of research-and-production potential of enterprises in defense industry;

– stimulation of integration between HS and defensive-industrial complex (DIC) of region in innovative-technological direction.

All above-mentioned underlines the importance of researching the evolution of interaction between DIC and HS in region, and finding out the vector of their co-evolution in conditions of region's innovative development.

Krasnoyarsk territory is significant for such researches because it is characterized by the high concentration of defense industry enterprises, which have had tight connections with HS in the face of Siberian State Airspace University for a long time.

Formation of Siberian DIC began with the creation of two big enterprises for needs of space-rockets industry (SRI) in 50–60th. They were "Krasnoyarsk Machine-building plant" ("Krasmashzavod") and construction bureau of M. F. Reshetnev in Zheleznogorsk. In 1960 on thy basis of the "Krasmashzavod" the special secret educational establishment was opened. Later "Research and Production Union of Applied mechanics" named after M. F. Reshetnev and other defensive enterprises of the region entered the number of basic enterprises. The unique educational system "Plant-Institute" was accepted in this Institute, which had to connect the student's studies with the work at the enterprises of this branch [4].

Thus at the first stage of foundation the Siberian defense industry a certain system was formed, that involved the components of two bigger systems: defensive and educational one (fig. 1). Maintenance of this system integrity in the process of evolutional development depends on the degree of interaction stability of its components. The principle of co-evolution means mutual-adaptive variability of the system parts that leads to development acceleration of each of them and the system as a whole. According to this principle every mentioned component of the newly formed system ensured the development of another, and their interdependent development conduced to evolution of the whole system.

Such interpenetration between HS and defense industry resulted in the fact that each of this integrative system components was getting its advantages from fixed connections. The advantage for region defense enterprises from this interpenetration was foremost in permanent renovation of human resources, which had allowed to satisfy the needs of enterprises for modern specialists in concrete directions of engineer's activity (production, designing, researching). High level of specialist's university preparation for defensive-industry was most of all defined by unique educational programs, which were composed for development level of these enterprises, which were equipped enough with modern equipment conforming technological period.

The evolution of basic branch gave the unique opportunities for development of airspace Institute owing to presence of permanently acting integration in educational, research and production sphere. The Institute got especially intensive development in 80th under the exterior influence of DIC (fig. 2).

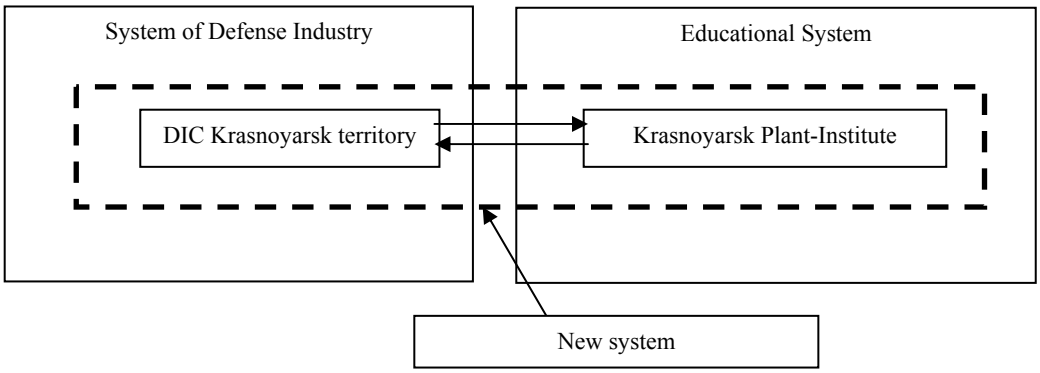

Fig. 1. Formation of the new production-educational system in region

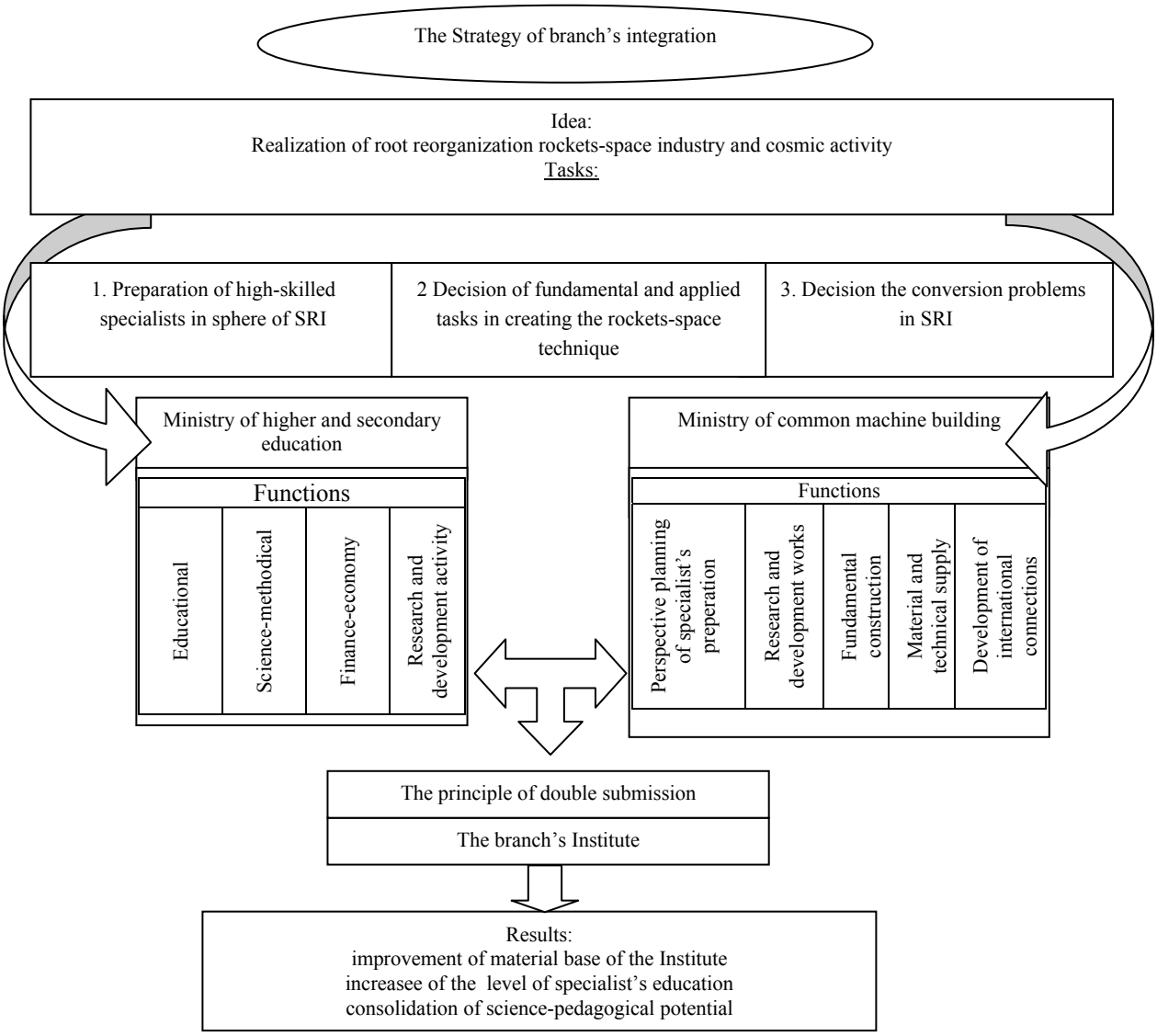

Fig. 2. The Institute as an object of co-management by two branches of economy (the principle of double submission)

Just then the Institute was transferred in double submission by attaching to two departments – the Ministry of higher and secondary education of RSFSR and the Ministry of common machine building of RSFSR, each with certain number of functions. This was the precedent for whole system of higher education in the country and showed the efficiency of strategy of branch's integration for the development of educational establishment, owing to that the multichannel financing of Institute became possible

The change in economic and political conditions in the country in 90th, connected with disintegration of Soviet Union, realization of new liberal market reforms, liquidation of the Ministry of common mashing building in RSFSR put both DIC and HS in a very complicated situation that resulted in considerable deformations of integrative co-evolution connections.

The integrity of Institute-enterprises system DIC was broken. Stagnation of one of the components hampered another. DIC was not interested in keeping up the connections with profile Institute, because it was on the verge of survival itself.

However, in spite of all difficulties of crisis period, the Institute showed its flexibility, mobility, and readiness to transformations developing even faster then the basic branch, whose enterprises were necessary to re-profile the production on the lower technical level.

Searching new ways of basic branch development according to the interests of civil economic sector, transition to market relations gave the impulse to enlargement the spectrum of educational directions among which besides conventional – rocket-space appeared such as: the exploitation of air transport, IT and computers, economics and management, humanitarian sphere. In period since 1990 per 2009 the list of specialties opened in the Institute enlarged essentially.

Economic specialties got intensive development connected with fast increase of the need in economic

specialists and managers during the transition to market relations.

The necessity in enlargement of science-educational activity, attracting additional investment determined the Institute entering the international level. Nowadays the Institute is the member of European Convocation Business Education (ECBE) and International Company Engineers Pedagogic (ICIP). Stable connections were contacted with Czech technical University in Prague, High technical School and University of state New York in Oneonta (SUNY), the Rocket-Space Centre and International cosmic camp in Huntsville (USA). The Institute collaborates effectively with different foreign partners, such as Universities of Germany, Holland, Finland and Great Brittan.

Successful international cooperation and dynamic development of economic specialties in the Institute allowed to open new perspective direction of educational, research and development and foreign economic activity by means of formation the Faculty of International Business, now Higher International School of Business. This faculty formation was the important strategic decision of the Institute's leadership, because the space industry in Russia is acquiring the features of market economy due to the increase of services realized on commercial basis. In such a situation the defense enterprises are to start the commercialization of their production, doing business in sphere of space high-tech industry trying to enter and consolidate their position on the world space market.

Actually there is big necessity in engineers, who have got profound economic knowledge, also the knowledge in sphere of international relations, can perform the system analysis of the native and foreign high-tech space markets, and who have high level of speaking foreign languages.

So the High International School of Business in structure of the Airspace University is becoming especially actual in conditions of almost total absence of specialists of such level on the native enterprises in space industry.

On this stage of development the Siberian State Airspace University is characterized by high degree of innovative potential, so it has:

– innovative structure of organization, that includes the educational, production and scientific components;

– high share of innovative specialties (more than 50 %), which are oriented upon the modern requirements of high-tech innovative sector of economy;

– innovative technologies, which are realized in the University;

– a great number of high skilled stuff, professors and tutors, among them there are many representatives from industrial enterprises, branches and academic research and development institutions;

– considerable experience of realization fundamental and applied researches, experimental developments according to science-technical programs at different levels: International, Federal, Industrial, Regional and so on, so the University has got high potential in partial realization of linear model of innovations;

– innovative infrastructure as the combination of interconnected and complementary subdivisions consolidated in functional blocs, which ensure the realization of scientific-research and applied works combined with education;

– the University is a member of Association "National United Airspace University", that is the innovative structure of Higher Airspace Education in Russian Federation and includes 9 Russian Airspace Universities.

Taking into account the fact that the space industry entering the market has to be based on modern conceptual basis, science-methodical support and the highly-qualified stuff that is adapted to the new conditions, it is necessary to emphasize the progressive urgency of consolidation the integrative connections between DIC and Higher Airspace School. At the same time Airspace Universities bares the role of initiator and equal partner of this integration, that permits to inculcate their educational, scientific-research experience and accumulated innovative potential in development of DIC. So the raise of the industry makes the positive dynamic effect on development of airspace higher education as a whole.

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