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The cooperation perspectives of the University with business in  
the production and training center of the University

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**Abstract**

The article is devoted to theoretical aspects of the interaction of educational institutions with business organizations in the innovation and practical training of future specialists in agriculture. The process of forming of regional cluster, consisting of educational institution and a number of leading companies in the region of Dnipropetrovsk and Zaporizhia regions is lighted. Examples of effective collaboration are described, analysis of the existing problems in the modern business and educational system of Ukraine is provided.

**Keywords:** *innovation process, innovation, partnerships, practical training center, cluster*

The system of higher agricultural education in Ukraine in recent years more and more distinctly felt the problems associated with practical training and development of the students' ability to creative innovative thinking. These two problems are closely intertwined, as imperfect material base of the majority of universities hinders the study of modern techniques and technologies. To eliminate the gap is possible with the help of practical training, which is organized on the agricultural and processing enterprises.

It should be noted that not all agricultural enterprises can be the bases for practical training because of its technical and technological backwardness. Because of the same reason they cannot be helpful for the development of students' skills for innovative thinking. In turn, the graduates have not acquired the above skills cannot be really useful for their job place.

Innovation, according to the drafters of the encyclopedia, - this is something that is implemented, has high efficiency. It is the end result of human intellectual activity, his imagination, creative



process, discoveries, inventions and rationalization in the form of new or different from previous projects. They are characterized by the introduction of the market entirely new (improved) products (services), human intellectual activity, with greater scientific technical capacity, new consumer qualities that eventually, in turn, become targets of improvement [1]. From the definition of innovation, creation of the innovation - a multifaceted process consisting of proper scientific development, funding, promotion of the final product on the market, getting good feedback for study of behavior development in terms of its use. Schematically, the creation of an innovative project as follows (Fig. 1):

The innovation process consists of three main phases, each of which includes a number of works, they are:

- I. Science and engineering development of innovative idea.
- II. Experimental and industrial testing.
- III. Implementation of serial production of innovative products.

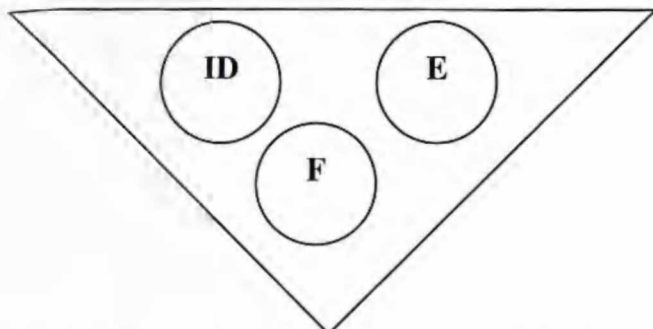
On the development of innovation affect both positive and negative factors. Firstly, scientific and educational institutions have great number of staff who, despite the lack of attention from the government, maintains their high level. Secondly, accumulated and continues accumulate a significant potential for scientific and engineering developments, including the Tavriya State Agrotechnological University (TSAU), which could be the basis for innovative projects. Thirdly, only a small part of scientific development is the subject of experimental-industrial testing and production of innovative products. The rest of the scientific research will never even reach the stage of testing because of the lack of interaction between the first and second stage of the innovation process. Fourthly, there is attrition of scientific development, then there are cases where they do not undergo experimental-industrial test for several reasons,

Fig. 1 Components of the innovation project

- ID - innovative scientific and engineering development;  
E - the enterprise that has relevant experience and production capacity;  
F- source of financing for the project.



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The practice of entrepreneurship suggests that student should learn during tuition all the components of innovation. And then there is mutual interest of universities and business structures. This interest could be supported by tax loyalty, for enterprises who invest in training. Business is really interested in such measures of tax incentives, because they require skilled personnel. Therefore, entrepreneurs are ready to cooperate actively with both the state and with educational institutions.

This partnership is very beneficial to the state because the state will use this mechanism to develop the market of educational services, replicate best practices, implement mechanisms of interaction between universities and employers, to improve governance in the field of innovation, for investors - to participate in research activities of universities, create and improve educational standards, develop on the basis of educational institutions innovation infrastructure, attract students and faculty to carry out research, for educational institutions - get additional funding and create new models of integrated educational complex.

As the part of formation an innovative model of students teaching is their participation in research work for creation the real products for agricultural production in the framework of participation in government research programs joint action programs of academic institutions and industrial enterprises.

For the implementation of the goals was set up the National cluster "New cars", which includes businesses, educational and scientific





institutions in the Dnipropetrovsk and Zaporizhia regions, the organizational structure is shown in Fig. 2.

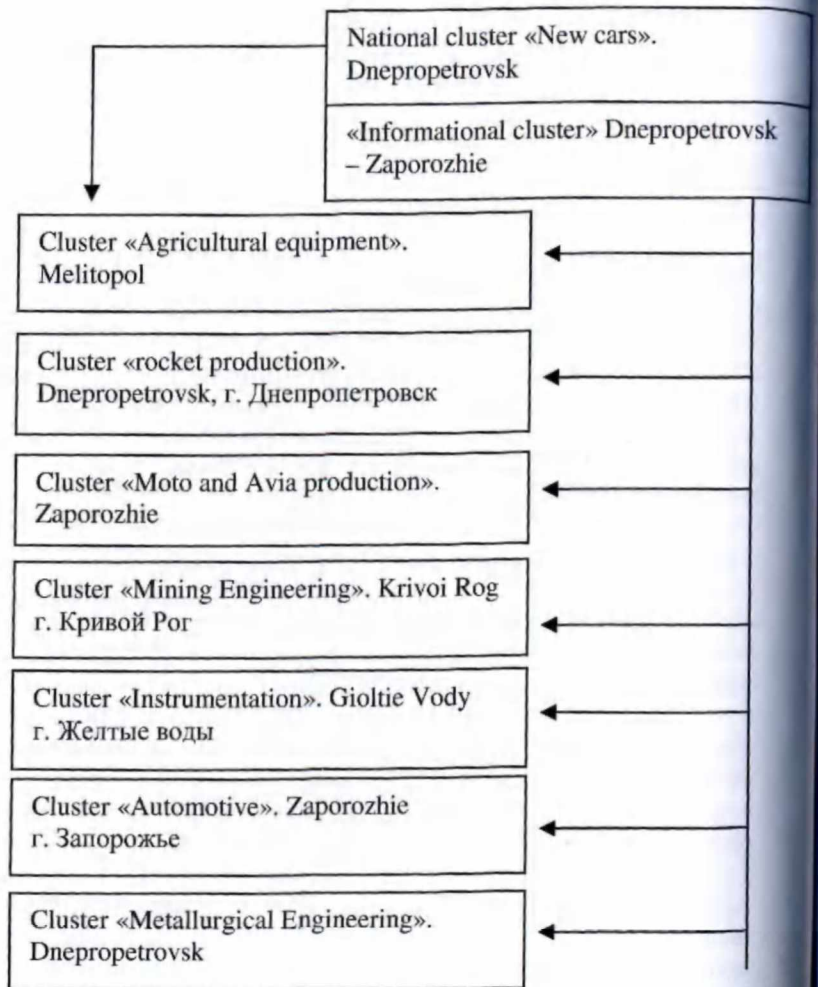


Fig. 2 Organizational structure of the regional cluster, "New Machines"



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Cluster "Agricultural machinery" represented by Tavriya State Agrotechnological University and industrial enterprises that works in the field of agricultural engineering. The cooperation within the cluster "AgroBUM", created out of enterprises and organizations in Melitopol, gave its first results. Coupling of the SS-7, 2, developed by scientists TSAU passed experimental-industrial testing and released the first prototype by the enterprise "ROSTA", which manufactured it, and in future will promote it. And "ROSTA" got the application for making a few more copies of this coupling. At a stage of experimental-industrial testing is the coupling of new generation CH-2, which also has unlimited prospects. As the tradition become "Field days". During these days is demonstrating the achievements of the university for managers of agricultural sector.

The higher education system should provide the main component of the innovation economy - human resources. It is possible to do it through a combination of fundamental education with the flexibility to respond to the needs of current scientific trends and technologies. At the same time there are several specific characteristics of the innovation in universities:

- the possibility having a full cycle of innovation: from idea to final result of innovation and promotion of the goods (services) to the market through the establishment of its organizational educational and scientific structures;
- high concentration of highly qualified specialists, capable of implementing all stages of the innovation cycle;
- availability of educational, scientific and industrial base and highly qualified teaching staff that can provide training for innovation in various sectors of the economy;
- implementation of the researching principles for students' tuition and providing collaboration with scientific organizations.

Providing by the staff of scientific innovation activity is appropriate to do in two directions: training of the professionals who capable to generate new knowledge and expertise in the field of innovation management, who able to organize and manage the innovation processes at various levels.



The first area involves the further development of the integration of science and education in the system, the development of student research work during their studies and after graduate education, the involvement of young researchers. The second area is suppose training of specialists who capable to entrepreneurship in the field of science and innovation: innovation managers, managers of the new generation, capable to work with modern accounting and marketing systems, experts and analysts in the field of intellectual property. Of course, this volume of work requires a new approach to training and personnel for research and innovation sphere. And we can not to do this without the cooperation of the University with the business that implements innovative projects, their joint activities in the field of innovation and commercialization of acquired skills.

Now it is the time to develop a system of managers training for innovation in science and technology that will be based in the university. At the same time building up the infrastructure in the form of scientific and technological parks, innovation and marketing centers. In the TSAU there is a need to organize tuition of master's degree students specializing in the innovative management. Master's degree students should receive a comprehensive education that combines on the one hand the knowledge of economics, management, marketing, business planning and on the other hand knowledge of specific scientific activities in order to be able to more effectively use its potential in future activities.

The most important direction of cooperation of the TSAU with business entities is to deploy a network of centers of practical training in agricultural enterprises of Zaporizhzhya region. Looking for the decisions of its challenges, the university creates in cooperation with advanced agrarian enterprise centers of production trainings for students of all specialties that are available in the university. The example of such cooperation is the creation of industrial practice center the base of agricultural enterprise "Stepne" in the Kamensko-Dnieper region. The company has a modern industrial material and technical base and social infrastructure and created all conditions for practical training of students and training teachers of the university. The company is diversified, has a crop and livestock production and servicing industry. With practical



training, students have the opportunity to develop their creative abilities, to test their scientific developments in industry. It should be noted that the TSAU and its partners made the first steps. But the direction of the motion is perspective. It is needed further development and implementation.

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