

INNOVATIVE DEVELOPMENT OF THE RUSSIAN ECONOMY THROUGH THE MODERNIZATION OF ENGINEERING EDUCATION

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The situation in world economy is that now that Russia has only two ways: either to become a raw appendage of Europe, or to develop the manufacture. It is obvious to everybody, particularly, in connection with admittance of Russia into the World Trade Organization (WTO).

In the article «We need new economy», published in newspaper Vedomosti on 30.01.2012, Vladimir Putin noted: «Restoration of innovative character of our economy should be started from universities - as fundamental science centers, and as personnel basis of innovative development. The international competitiveness of our higher school should become our national problem».

Steps on interaction strengthening are undertaken both from employers, and high school community.

One of key problems in a direction on creation of the competitive production corresponding to the advanced world standards in the field of motor industry, certain Strategy of motor industry development of the Russian Federation for the period up to 2020 is creation in long-term prospect serious competitive advantages at world level at the expense of automotive branches support with highly skilled personnel, capable to solve assigned tasks. Thus the majority of branch personnel problems has system decisions and is demanding the coordinated actions of all participants of process, including educational institutions, the industrial enterprises in sphere of motor industry and executive authorities.

One of positive examples of interaction management with the employer is the management of target contract training (TCT).

Considering sharp requirement for highly-skilled personnel for Kamaz scientific and engineering center (SEC) and technological center (TC), since 2008 training of specialists for the mentioned subdivisions has been organized. Educational groups in demanded directions of training have been generated, theoretical and practical training, carrying out of workshops by leading specialists of SEC and TC has been included in the training program. Students carried out course and graduation work on the themes coordinated with supervisors from the enterprise.

Student level of progress, trained on TCT, as a rule, surpasses student level of progress trained under the usual program. It is connected with motivation growth to professional competence and competitiveness increase, and also with the work in real design groups over the decision of industrial problems that was set.

Leading specialists of SEC and TC are involved in carrying out classes and workshops, supervising diploma design, and also working as a member of the State certifying commission on defending of diploma designs. A number of defenses of diploma designs is spent directly at the enterprise.

Such TCT structure allows the enterprises to receive the competent specialists involved in production at an education level that allows to consider own requirements to potential workers during training, and also to improve program contents of the higher vocational training in conformity and changing requirements of innovative processes in engineering and technology area.

Requirements to competence of the personnel, the developments of car industry of Russia reflected in strategy of 2020 and in the Russian Federation Concept of personnel provision of motor industry development Strategy for the period up to 2020, cannot be implemented in existing system of training of the personnel without essential changes of an educational paradigm.

Engineers of new formation, capable to deduce our industry on level of world hi-tech manufactures are necessary for hi-tech enterprises. The general director of KAMAZ Sergey Kogogin on the open lecture noted: «Today we expect such students from university which obtain basic modern knowledge, and are capable to solve industrial problems, to know modern methods of designing, three-dimensional modeling, English language».

As requirements to a product change, requirements to the personnel should be also corrected. It is necessary for educational system to overcome inertness and to adapt for the economy and manufacture realities much faster, development of which is possible only due to development of educational system.

In this respect Naberezhnochelninsky institute of Kazan federal university possesses obvious competitive advantages as a site - in capital of cargo motor industry of Russia, and also presence of a spectrum of the specialities corresponding to all life cycle of the automotive engineering. Higher school was created for a solution of a problem of maintenance by qualified personnel of enterprise forming a company town, i.e. KAMAZ, developed in parallel with it and will be competitive only at the expense of close interaction in all directions.

The confidence of a purpose reality is caused by the fact, that key employers of a region are interested in modernization of educational process, and are ready to participate in the project for the purpose of improvement of engineering personnel training quality and brought level of graduates competence in conformity to real inquiries of a labor market, and the status of federal university of KFU defines unique possibilities for realization of the most ambitious projects and opens access to budgetary resources of different level.

Base reference point for definition of methodical interrelation between stages of a product life cycle by working out of innovative educational programs (including an applied bachelor degree) are qualifying requirements of professional standards of automotive branches that provides complete perception of branch training system of an automotive profile engineering personnel.