

STRATEGIC GOAL 4

Ensuring innovative activities of UzhNU in the field of technology transfer. Implementation of the European model for the functioning of the UzhNU Science Park

Fundamental technical modernization of the regional economy - the priority of this decade, which requires not only training new competencies, but also the formation of a powerful source of innovation activity at the Uzhhorod National University.

Innovation activities in technology transfer is realized directly via applied and basic research, research laboratories, institutes, centers, technology platforms, relevant departments of Applied Sciences IT direction and is provided by the management of the Center for Technology Transfer at the "Science Park of Uzhhorod National University "(in collaboration with the center of innovation and development).

Special attention is focused on:

- ✓ commercialization of research and development;
- ✓ closely with production, based on the needs of the manufacturer and the market;
- ✓ development and implementation of prototypes;
- ✓ ensuring promotion (marketing) of products;
- ✓ protection of intellectual property rights.

The University has 34 research institutes, centers, laboratories, educational institutes.

As part of the research project "Innovation University - tool integration into the European educational and scientific space" in UzhNU order of MES of Ukraine №718 from 07.07.2015 created Limited Liability Company Science park "Uzhhorod National University" and approved the list of priority directions of its activity.

The conceptual direction for development innovation activities of Uzhgorod National University is to increase the contribution of the university in technological modernization of the real economy of Transcarpathian region by developing it own research and innovation potential.

Implementation of this trend implies compliance with those basic principles, such as:

firstly, the concentration of organizational measures and resources in priority areas of innovation areas in order to increase demand on the real economy of scientific and technological development of higher education institutions;

secondly, cooperation with leading scientific and educational institutions of the EU and the world through joint projects and agreements aimed at globalization of world science and practice;

thirdly, the efficiency of technology transfer, borrowing extra-budgetary financial resources, the creation of a database of innovation and organization system of monitoring;

fourthly, ensuring close cooperation with innovative industries, regions, corporations, enterprises and other economic entities;

fifth, attraction of investments, including foreign to the education system in order to use the results of joint activities in the domestic and international markets of high technology products;

sixth, a system of training and retraining in the field of innovative entrepreneurship.

Securing innovative transformation of the university in the center of the region and further setting up of technology transfer as part of cross-border cooperation will be ensured by achieving the following strategic objectives:

1. Infrastructure development relationship with the environment, the formation of a strategic partnership with university universities, academia, industry, business. Achieving this strategic goal involves the following major objectives:

- *Attracting university to solve problems of innovative development of region, country;*
- *infrastructure interaction with the environment;*
- *Monitoring of the environment and the marketing of relevant markets;*
- *expansion of cooperation and joint structures of the institutions of NAS of Ukraine;*
- *the involvement of existing small innovative enterprises in implementing innovation university and new "venture capital" companies;*
- *joint activities with major national and multinational corporations and industry;*
- *Creation of the Alumni Association of UzhNU and their involvement in the activities of the university;*
- *interaction with the pre-university educational institutions, establishment of educational systems;*
- *cooperation with foreign and domestic universities and research organizations.*
- *Together with research institutions and industry Uzhgorod National University need to develop research infrastructures, including centers for collective use, knowledge base and educational resources, small innovative enterprises;*
- *effective continuous operation with ministries and departments;*
- *interaction with various Ukrainian and foreign associations, foundations and NGOs;*

- *intensification of cooperation with the legislative and executive authorities at all levels.*

2. Creation of innovative infrastructure of UzhNU, settlement blocs responsible for research and development, intellectual property protection.

Innovative activities of Uzhhorod National University should be done via structures of different scales and, consequently, with different legal status. The system of innovation management at university should include both administrative units and structures methodical, information and consulting support of scientific innovation activities universities.

The entities of scientific innovation universities are:

- teachers, researchers, doctoral students, graduate students, undergraduates and students who are directly involved in innovation UzhNU;
- temporary research teams;
- department, research laboratory UzhNU and others subdivisions;
- university research institutes, research centers;
- innovative infrastructure units, which include marketing services, information, expert, certified maintenance, protection of intellectual property, innovation management and training for innovation;
- Scientific Park of the University;
- innovation centers, technology transfer centers, business incubators;
- enterprises and organizations with the university cooperation agreements and participate in innovation universities.

For efficient organization of scientific innovation UzhNU must provide:

- transparency organizational and management structures of the University, eliminate duplicate functions of command and control, adjustment provisions on structural subdivisions of the changing of the functions and operations;
- implementation of IT workstations and university professionals, including workstations professionals working in innovation and technology transfer;
- uniform, distributed access all of scientific innovation to information resources MES;
- permanent work units and staff for innovative infrastructure of the university;
- improving internal (local) regulatory of UzhNU in the field of intellectual property, to stimulate the commercialization of science and technology development, transfer.

The main areas for integration of scientific, technical and innovation activity in UzhNU are:

- 1) participate in the development and implementation of regional programs of economic and social development;
- 2) research, experimental and innovative developments and more, including the state budget and own revenues;
- 3) participation in the creation of educational, scientific and research organizations, innovative structures and other organizational forms of cooperation;
- 4) the introduction of innovative products created in manufacturing, other industries, etc;
- 5) the acquisition, protection and enforcement of intellectual property rights to the results of scientific and technical activities;
- 6) conducting and publishing information and resource activities.

In order to promote innovation activities in Uzhhorod National University it is necessary actively promote technology transfer at all levels of cooperation following:

- ***first level - passive*** - scientific reports, publications, speeches and lectures at seminars and conferences;
- ***second level - "acceptance" technologies*** - collaboration between designer and customer;
- ***third level - implementation of technology*** - transfer of knowledge and resources to the user and / or customer;
- ***fourth level - the use of technology*** - responsible product commercialization stage.

For the successful decision the formulated tasks is necessary to organize hard links between participants of transfer. The most important are the following forms of direct technology transfer:

- 1) from Uzhhorod National University - industrial enterprises:**
 - development of technologies within the university direct contracts with enterprises; alienation of rights to use intellectual property rights; organization of small innovative companies;
- 2) personal technology transfer, which is carried out:**
 - in the professional development of staff; the appointment of young professionals to the company; at work teacher and part-time student at the enterprise; during mutual visits, personal contacts of scientists, specialists, students; in observations aimed at collecting scientific and technical information; during fairs, exhibitions, seminars, conferences, symposiums; an electronic transfer of technology (databases, e-commerce); a scientific and technical publications.

Technology Transfer Center (TTC) formed in the structure of the Science Park. Its purpose - searching, selection, transfer of technology on demand of enterprises at Transcarpathian region, foreign countries, venture investors. Priority of TTC is providing services to business entities that operate in the region..

3. Provision of European quality of training for efficient maintenance of innovation management.

The basis of personnel policy principles need to put targeted support for the most productive working scientists, real competition in the vacancy, promotion of specific research results. This should be carried out within the framework of certain contracts the university to conduct research, and within the introduction of a new system of remuneration of teaching staff, providing it greater differentiation.

To rejuvenate and update personnel should provide special support program for scientific activity of young researchers and teachers. UzhNU has to enter the international market skilled scientists, involving the work of the best world experts. A special role should be assigned to update the scientific management practices, including the work of students.

Staffing innovation sphere should be based on the following principles:

- include education and training in innovation and production processes;
- continuous training and skills development that integrated production system of innovative products;
- focus on the training of highly qualified and highly intellectual professionals, system managers of innovation;
- constant focus on generating advanced scientific and technical ideas and identifying ways and methods of their implementation in innovation;
- orientation training to manage the social and psychological aspects of innovation;
- UzhNU cooperation with companies that implement innovative projects, their joint activities in the field of commercializing innovation, testing innovation managers acquired skills.

4. Creation of an effective innovation financing system at UzhNU.

Improvement of financial support to innovation in UzhNU foresees:

- optimization and increase budgetary allocations for research and development and other costs related to the conduct of research by scientists UzhNU active participation in the competitions of the Ministry of Education and Science of Ukraine;

- implementation in practice of scientific research works that are carried out through activities on self-financing basis;
- improve the system of incentives scientists UzhNU;
- ensure efficient use of funds for the operation and development of science; a fund research funding from extrabudgetary funds university;
- attracting donor support from funds received for projects of international funds and programs, including the framework programs of the EU, the Central European Initiative, the International Visegrad Fund;
- attracting new sources of funding.

The Strategic Plan must explicitly identify the issues that require immediate prioritized resolution. These include:

assessment of intellectual property;

distribution rights for the created technology products;

the formulation of intellectual property on account (balance) in UzhNU.

The main subject of innovation activity in Uzhhorod National University is Science Park "UzhNU", created to support innovative business by creating logistical, social, cultural, service, financial and other facilities. The main task - support and training for voluntary activities of small and medium innovative enterprises, commercial development of scientific knowledge, inventions, know-how and high technologies and their transfer to the market of scientific and technical products to meet the needs in this product area.

The relevance of establishing a Science Park in the Transcarpathian region is also driven by the mismatch between the existing scientific and technological potential in the region and the ultimate outcome of the innovation process - commercialization or implementation of innovations in industrial production. Despite the large number of scientific and research institutes, their effectiveness in interacting with enterprises that have the potential to implement innovative products and services is insufficient.

The work of the Science Park is aimed at establishing a chain of technology transfer, which involves adding commercial value to developments and identifying and developing their competitiveness in the modern market of products and technologies.

The Science Park is intended to occupy a central position in the innovation infrastructure of the Transcarpathian region. The cluster of organizations in the immediate vicinity of the Science Park will include large industrial enterprises and higher education institutions in the region, venture funds and associations, service companies, and anchor companies as park residents.

The activities of the Science Park are focused on long-term support for the innovation activities of enterprises and organizations in specialized areas. In line with its goals and objectives, the activities of the Science Park will be geared towards creating and developing infrastructure facilities for the national economy, incubating small innovative enterprises, establishing and supporting specialized databases, organizing and conducting educational and business events, interacting with entities engaged in innovation activities, and managing the property complex.

The Science Park of Uzhhorod National University will provide highly favorable conditions for startups and developing IT companies. During the stages of project design, creation and market launch of a new high-tech product, resident companies will be provided with all necessary resources for their work, including project catalogs, modern technologies, services, equipment, and scientific and resource base.

To implement the European model of functioning of the Science Park, it is advisable to outline the long-term functions and tasks of the park in the University's Strategic Development Plan. Among them are:

- Informational, methodological, legal and consulting support for the founders and partners of the Science Park, including patent and licensing assistance; creation of new types of innovative products; and implementation of measures for their commercialization.
 - Support for science-intensive production and facilitation of attracting foreign investments.
 - Involvement of Uzhhorod National University's students, graduates, graduate students, researchers, and staff in the development and implementation of projects within the Science Park.
 - Implementation of investment and innovation projects to enter the domestic and global markets with new high-tech, science-intensive products.
 - Organization and provision of production for science-intensive, competitive products in domestic and international markets.
 - Creating favorable conditions for the establishment and development, promoting the growth and support of small and medium-sized innovative enterprises operating in the scientific and technical environment.
 - Organizing the training, retraining and upgrading of skills of specialists required for the development and implementation of projects within the Science Park.
 - Creating new and preserving existing jobs.
 - Fostering international and domestic cooperation in scientific, technological and innovative activities, facilitating the attraction of foreign investments.
- The achievement of the goal will be realized through the development of the

Science Park as a scientific and production complex in the field of high technologies, serving as the 'core' of the innovation sector in the Transcarpathia region's economy.

- Implementing energy-efficient and resource-saving technologies, exploring alternative energy sources.
- Mastering new materials production technologies, establishing the industry of nanomaterials and nanotechnologies.
- Technological renewal and development of the agro-industrial complex.
- Implementing new technologies and equipment for high-quality medical services, treatment and pharmaceuticals.

By the way, specific tasks of the functioning and development of the UzhNU Science Park are outlined in the Concept of the UzhNU Science Park, so there is no need to detail them in the Strategic Plan.

Evaluation criteria of innovation in technology transfer and commercialization:

1. The presence of innovation infrastructure (Science Park) and the volume of work and services carried out based on the innovation infrastructure of higher education institutions (HEIs).

2. The number of students, graduate students and academic staff who have undergone internships and professional development in the field of innovation entrepreneurship and technology transfer based on the facilities of leading domestic and foreign HEIs.

3. The effectiveness of commercializing research results. The number of active licensing agreements.

- Number of registered patents for inventions (results of the implementation of technology transfer).
- Scientific novelty and publication of research results. The customer's interest in the development of technologies.
- Industrial attractiveness and ease of organization of production.
- Market potential and subsequent revenue generation.
- Number of inventions that are presented to the Center for Technology Transfer for the purpose of examination on the subject of whether the results obtained; number of inventors who have received counseling or other services in the TTC;
- Number of submitted patent applications.
- Number of established small innovative enterprises.
- Amount of income received from various types of commercialization in absolute terms and as a percentage of the research budget.