

STRATEGIC GOAL 2

Integration into the international scientific and educational space on the basis of increasing the effectiveness of research potential, generating new knowledge, achieving the status of a research and innovative university

One of the key directions of development for Uzhhorod National University is to promote the intensification of scientific, research, and innovative activities.

The university's scientific activities are supported by highly professional scientific and scientific-pedagogical staff who carry out state-funded research projects, international agreements, and grant agreements. In the process of conducting scientific research, the university publishes monographs, textbooks, and teaching materials, publishes scientific papers in journals indexed in scientific databases, obtains patents for inventions and utility models, develops various forms of scientific collaboration (including international), organizes and participates in scientific, scientific-practical, scientific-methodological seminars, webinars, conferences, Olympiads, and competitions.

Scientific activities at Uzhhorod National University are focused on several priority thematic areas:

- Fundamental issues of modern materials science.
- Key problems in physical, mathematical, and technical sciences.
- Fundamental issues in life sciences and the development of biotechnology.
- Fundamental research on current issues in social and humanitarian sciences.
- Modeling and forecasting technologies for the state of the environment, and more.

During 2022, the scientific and pedagogical staff carried out **103 initiative departmental research projects across 108 departments of 19 faculties of the university** and two educational and scientific institutes. The research findings of the university's academic and scientific staff were published in monographs, scientific papers, teaching guides, and textbooks. In 2022, the university's researchers **published 75 monographs, 16 textbooks, 100 teaching materials, and 83 educational and methodological guides, as well as 3 dictionaries and 3 handbooks**. Additionally, **86 collections of scientific papers were published, including 76 issues of specialized periodicals categorized as Category B (21 publications), among which 34 issues were 'Scientific Bulletins of Uzhhorod National University' from 11 series**. Furthermore, the university's researchers **published 1521 scientific papers and 1173 conference paper abstracts in scientific conferences in 2022**.

In particular, in 2022, university researchers, in accordance with the priority areas of scientific and technological development, carried out **13 research projects (3**

fundamental, 10 applied, and 3 young scientists' research) funded by the state budget, with an annual funding amount of **8,854,003 UAH** (fundamental - 2,593,703 thousand UAH, applied - 3,000,300 thousand UAH, young scientists' research - 3,260,000 thousand UAH).

In 2022, the academic staff actively published scientific papers in publications indexed in international scientific databases such as **Scopus and Web of Science**. This includes **250 publications in Scopus and 194 publications in the Web of Science**. In the same year, the academic staff became authors of 17 patents in Ukraine for inventions and utility models, including 9 invention patents and 8 utility model patents.

The scientific activities of young scientists and students are an integral part of the university's research work. It contributes to the development of future professionals' readiness for the creative application of acquired knowledge, skills, and abilities. It ensures mastery of the methodology of scientific inquiry and provides an opportunity to gain research experience. The coordinating bodies for organizing the research work of young scientists and students at the university are the Council of Young Scientists and the Scientific Society of Students, Postgraduates, and Doctoral Candidates.

Research activities are the main driving force behind the development of the university as a multidisciplinary research center of national importance. Therefore, in line with the trends in the development of the European and global higher education systems, and in pursuit of the transformative mission of higher education, it is necessary to gradually narrow the gap between the scientific and educational components of activity. It is important to create a scientific and educational environment in which the scientific achievements of university researchers significantly influence the content of the educational process, and the educational component enriches the scientific sphere and the high-tech labor market with talented youth - future scientists, production managers and business leaders.

Therefore, the existing scientific and research potential of UzhNU serves as a powerful motivator for integration into the international scientific and educational space.

This potential is capable of ensuring the university's long-term innovative development. An important reserve of UzhNU's scientific potential is its postgraduate programs, with over 300 individuals studying across 57 specialties, as well as its doctoral programs, with 10 individuals enrolled.

The main objectives of the university's long-term scientific, scientific-technical, and innovative activities are:

- Obtaining competitive scientific and applied results.
- Applying new scientific and technical knowledge in the education of higher education specialists.

- Forming a modern scientific personnel potential capable of creating and implementing innovative scientific developments.

- Developing and implementing priority scientific programs, conducting scientific research, experimental developments, etc., based on the combination of personnel, financial, technical and organizational resources in accordance with the legislation.

Therefore, the policy of scientific and innovative activities should be directed towards creating a modern knowledge and innovation environment, principles and mechanisms for their creation, preservation, utilization and transmission to the next generation.

The implementation of this strategic goal will result in the increased prestige of UzhNU both in Ukraine and worldwide, as well as positioning its scientific, educational, research and innovative work and establishing the foundations and mechanisms for transitioning to an innovative path in the training of globally competitive scientific and educational personnel.

Principles for achieve the strategic goal of Uzhhorod National University in the process of transformation into a research university:

- An objective review of the organization, direction and priorities of research and development of new forms and mechanisms of the research and innovation activities based on the prediction and prevention of possible challenges with the peculiarities of the Transcarpathian region.

- Staff training by a new type to ensure:

- a) Thinking outside of existing conventional representations;

- b) Meeting the challenges that still did not solve;

- c) Operating in practice, taking responsibility in a situation of uncertainty, limited resources and personal risk;

- d) Proving its effectiveness actual achievements and results.

- The priority of the university is fundamental, problem-oriented and applied research aimed at technological modernization of the real sector of the Transcarpathian region.

- Long-term planning (5-10 years) concrete measures and future research topics focus on the need for innovative regional, business and economic environment.

- The formation of stable, mutually beneficial relationships innovation-oriented university with leading universities of neighboring countries: Slovakia, Czech Republic, Hungary and Poland on the basis of the International consortium created in UzhNU

- Supporting promising new areas of research that are consistent with the priorities of the region and the state, innovative trends in the world of science; conducting scientific research relevant to Ukraine and the Visegrad Four.

- Innovative system reform and deepen the content of scientific research in the context of internationalization;
- Modernization of the material base of scientific research at the university, the widespread introduction of innovative techniques, multimedia, test and distance learning.
- Using innovative national and international experience and scientific research cooperation.
- Ensure effective research collaboration.
- Promoting the work of the Science Park "UzhNU" and ensure the transfer of technological development of the university, the commercialization of research and interaction with the business environment.

Therefore, the strategic goal of UzhNU long-term development perspective is to increase the competitiveness of scientific activity in the process of integration into a single international scientific and educational space and a collective contribution to the modernization of the real sector of the Transcarpathian economy.

Implementation of the strategic goal foresees:

1. *Extensive involvement* of students, masters, postgraduate students to applied research of enabling them to:

- Learn how to refresh the new technologies in the Transcarpathian region;
- "See" their future profession dynamics; understand the importance of the development of fundamental knowledge.

2. *Internationalization* of research.

3. *The study and use* of international experience leading universities at Visegrad countries in the context of innovation in the following areas:

- Organization of research and management;
- Personnel policy;
- Interaction with the real sector and academic science;
- Modernization of the educational process.

4. *Introduction* of forecasting areas and volumes of basic and applied research UzhNU monitoring of the implementation of promising research products; coordination of these processes.

5. *Create* a system of scientific management of university management capabilities of Science Park "UzhNU" and the potential of research, educational and scientific institutions, and other innovative structures; ensuring collaboration work.

6. *Significant expansion* of the list of legitimate paid services in the field of scientific research and commercialization of competitive products due to the transfer of intellectual property products UzhNU. Creating and filling the endowment fund of the University.

7. *Reforming* the system of innovation and deepen the content of student research.

Achieving the strategic goals of UzhNU and the status of the research university will be entitled to:

- use in its name the word "research";
- receive basic funding under a separate budget program from State Budget of Ukraine for conducting scientific activities in the amount of not less
- than 25 percent of the funds provided for its maintenance, for scientific research, support and development of their material base;
- the competitive form the subject of fundamental and applied research, scientific and technological developments and independently approve the annual thematic plan;
- form the basis for its innovative structure of different types (scientific and technological parks, business incubators, small businesses, etc.) based on the convergence of interests of technology companies, science, education, business and government in order to fulfill and implement innovative projects;
- take a final decision on awarding scientific degrees;
- independently form a single specialized academic council for defense of theses for the degree of Doctor of Philosophy involving at least five persons with the appropriate level, two of whom work in another institution of higher education (research institutions);
- establish regulations the number of persons enrolled on a post of scientific and pedagogical and scientific employee;
- article and to determine the volume of spending their income;
- within defined the established order of the general fund for salaries and within existing higher education of own revenues to form and approve the staff list of scientific and educational, scientific, pedagogical and other employees, including to determine the staffing standards, name and number office workers according to the structure of higher education;
- exercise other rights provided by law.

Research and innovative activities of the University provides major review of its areas of research. If **research activities** aimed at obtaining new knowledge and scientific and technical results then **education** - the use of knowledge and results in the learning process, the **innovation** should focus on the commercialization of knowledge, ie the cost-effective use of new knowledge in scientific and educational spheres.

Criteria of innovative scientific and technical activities

1. Relevance of the research.

- The presence of scientific schools, which have the status of leaders in Ukraine and the world.

- The presence of grants from ministries, departments over the years.
- The presence of grants from international funds and programs.
- number of scientific monographs published by the central and foreign publishers (including English).

2. *The number of articles in scientific periodicals that are indexed by international databases per 1 scientific-pedagogical employee (Webometrics, Scopus, impact factor, Hirsch index).*

3. *Proportion of fundamental and applied research according to the priority areas of development in the total number of scientific studies and commercialized.*

4. *Indicators of the importance and the level of scientific research.*

- Prizes at international and national level (over 1 mln. UAH.).
- Major international and national scientific and technological projects and availability of patents and licenses.
- Medals and prizes of international and national scientific and technological exhibitions (number per year).
- The presence of in the structure of university research institutes, the number of scientific laboratories equipped with high-tech equipment, staff and scientific staff.
- The presence of high-performance technology centers.

5. *Performance indicators of research, especially by Masters and PhD.*

- state prize for young scientists (number, level).
- number of presidential grants received on support of young scientists.
- number of national and international grant funds received by students and young scientists.
- the number of student conferences, competitions, contests.
- number of students and young scientists were trained at leading scientific centers of Ukraine and abroad.
- availability of preparatory centers in university.

6. *Availability of scientific, educational and material base.*

- The capacity of scientific library (funds, technical and software activities).
- The capacity of Internet center and telecommunication network.
- Publishing (including foreign publications); the total number of periodicals at university.