



# **KHALEL DOSMUKHAMEDOV ATYRAU UNIVERSITY**





Қазақстан Республикасы Ғылым және жоғары білім министрлігі  
«Х.Досмұхамедов атындағы Атырау университеті» КеАҚ



AI HACKAT  
2026

Atyrau University named after H. Dosmukhamedova contributes to the achievement of the UN Sustainable Development Goal No. 9 "Industrialization, innovation and infrastructure" through the development of scientific research, digital technologies, innovation and the training of specialists for high-tech sectors of the economy. The University promotes the development of digital transformation, supports research initiatives and strengthens cooperation with government and industry organizations.



## Infrastructure development and innovation environment



Atyrau University is consistently developing a modern research infrastructure, creating conditions for conducting applied research and training highly qualified personnel.

An important step was the opening of the Robotics and mechatronics laboratory, created on the initiative of the Caspian Center for Sustainable Innovation. The laboratory is equipped with modern equipment and is designed to carry out research and development work in the field of robotics, automation and mechatronic systems.

The PCF BR28713197 program implements research aimed at developing innovative solutions to increase productivity, efficiency and safety of production processes. The new infrastructure provides students and researchers with opportunities to conduct applied research and develop technological solutions for the industrial sector.



## Scientific research and innovation

The University's research activities cover a wide range of areas related to innovation, digital transformation, industry, and sustainable infrastructure.

Among the ongoing projects:

- AP22685531 "Research of integrable models with self-consistent potential";
- AP19679897 "Development of an intelligent decision support system for managing the production process of petroleum coke";
- AP26100713 "Fundamental principles of creating durable asphalt concrete pavements using secondary polymers and lignin";
- AP19174589 "The effect of defects on the atomic and electronic properties of platinum-based transition metal dichalcogenides".

Scientific publications and applied research on the digital economy, intelligent control systems, electric transport infrastructure, innovative development of transport and logistics systems, digital transformation of the agro-industrial complex and the development of innovative infrastructure in Kazakhstan also make a significant contribution to the development of innovation.

An additional result of scientific activity was the patent "Method for obtaining sodium formate in an alkaline environment".

Within the framework of the Science Week, a scientific seminar "Research and innovations in the field of composite materials based on polypropylene" was held, dedicated to modern research on polymer materials, STEM approaches and digital modeling.





## Artificial intelligence and digital transformation



One of the priorities of the university's development is the introduction of artificial intelligence technologies and digital solutions.

In 2026, the university became the venue for the regional AI Hackathon 2026, which brought together schoolchildren, college students and universities in the region. The participants developed solutions in the field of artificial intelligence, web development, mobile technologies and cybersecurity.

The university's team achieved high results at the AI in Healthcare international hackathon as part of the CAU Tech Summit 2026. The team was among the strongest participants in the international finals, taking 18th place among the 54 best teams selected from more than 300 teams from 17 countries.

The university's teachers and students also participated in the Digital Qazaqstan 2026 international forum dedicated to digital transformation, innovation, artificial intelligence and technological entrepreneurship.



## Partnership with the industry

The University is actively developing cooperation with government and industry organizations to integrate education, science and production.

An important step was the signing of a memorandum with the National Center for Geodesy and Spatial Information under the Ministry of Digital Development of the Republic of Kazakhstan. The agreement provides for the improvement of educational programs, the organization of industrial practice, the introduction of elements of dual education and the implementation of joint research projects. This cooperation contributes to the training of in-demand specialists and the development of modern educational infrastructure.





## **Personnel training for the economy of the future**

The University pays special attention to the development of digital competencies, engineering skills and innovative thinking of students. An important area is the professional development of teachers and specialists in the field of digital educational technologies. As part of the Upgrade program, the course "Gamification in elementary school lessons in a digital educational environment" was implemented, aimed at developing digital literacy and mastering modern educational tools. Hackathons, scientific projects, research seminars and forums allow students to master modern technologies and participate in solving current technological problems.



## FUTURE STEPS TOWARDS ACHIEVING SDG 9

Atyrau University named after H. Dosmukhamedova will continue to develop scientific and innovative activities, digital infrastructure and partnership with the industry to train specialists who are able to work effectively in the context of technological transformation of the economy.

The priority areas for further development are:

- expansion of research in the field of artificial intelligence, digital technologies, robotics and mechatronics;
- development of the University's research infrastructure and laboratory facilities;
- support for student startups, hackathons, and innovative projects;
- strengthening cooperation with government agencies, IT companies and industrial enterprises;
- expansion of dual training and industrial practice programs;
- development of international scientific cooperation and participation in international technological forums;
- implementation of modern digital solutions in the educational process and scientific activity.

The implementation of these areas will allow the university to strengthen its contribution to the development of innovative infrastructure, the digital economy and the achievement of the UN Sustainable Development Goal No. 9 "Industrialization, Innovation and infrastructure".

