



REPORT **on Sustainable Development for 2024**



Karaganda



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Introduction

The *Abylkas Saginov Karaganda Technical University* (Non-Commercial Joint-Stock Company) recognizes the significance of its impact on the economy, the environment, and society, and ensures its sustainable development over the long term while maintaining a balance among the interests of its stakeholders. The University's responsible, deliberate, and well-considered approach to stakeholder engagement contributes directly to the sustainable development of the institution.

The primary objective of the University's activities in the field of sustainable development is to ensure the continuity and stability of operations, to minimize risks, and to attract investment by promoting ESG principles and integrating them into the daily practices of the University.

Through the implementation of ESG principles, the University contributes to the achievement of several *United Nations Sustainable Development Goals (SDGs)*. ESG financing and investment mechanisms enable the University to undertake projects aligned with the global SDG agenda.

In accordance with the *Corporate Governance Code* dated August 8, 2024, the *Abylkas Saginov Karaganda Technical University* ensures the alignment of its economic, environmental, and social objectives to secure long-term sustainable development, including the enhancement of long-term value creation for shareholders and investors.

Sustainable development at the University comprises three interrelated dimensions: **economic**, **environmental**, and **social**.

1. **Economic dimension** — focuses the University's activities on enhancing long-term value, safeguarding the interests of shareholders and investors, improving operational efficiency, increasing investment in the creation and advancement of cutting-edge technologies, and raising labor productivity.

2. **Environmental dimension** — aims to minimize the University's impact on biological and physical natural systems, ensure the optimal use of limited resources, implement environmentally friendly, energy- and resource-efficient technologies, create ecologically responsible products, and promote waste minimization, recycling, and safe disposal, along with other related initiatives.

3. **Social dimension** — is guided by the principles of social responsibility, which include ensuring occupational safety and health, providing fair remuneration and respect for labor rights, fostering the professional and personal development of staff, implementing social programs for employees, creating new jobs, engaging in sponsorship and philanthropy, and conducting environmental and educational outreach activities, among others.

The University systematically analyzes its performance and risk factors across these three dimensions and seeks to prevent or mitigate any adverse impacts of its activities on stakeholders

1. Positioning and Partnership (Economic Component)

The founder of the Organization is the **Government of the Republic of Kazakhstan**, represented by the **Committee of State Property and Privatization of the Ministry of Finance of the Republic of Kazakhstan**. The **authorized body** in the respective sector, exercising ownership and usage rights of the 100% state shareholding, is the **Ministry of Science and Higher Education of the Republic of Kazakhstan** (hereinafter – MSHE RK, the Sole Shareholder).

The **Abylkas Saginov Karaganda Technical University** leases **14 land plots** with a total area of **17.13 hectares**, with an annual rent amounting to **1,923 thousand KZT**, in accordance with agreements concluded with the **Department of Land Relations**.

The **University's total income** increased by **14.9%** compared to 2023 and reached **10,531,898.69 thousand KZT**.

The University regularly conducts **competitive position analyses** at both national and international educational levels, including assessments of graduate employability, student and faculty satisfaction, and trends in student enrollment. In **2025**, the University ranked **851+** in the **QS World University Rankings (WUR)**. In **November 2024**, the results of the **QS Asia University Rankings** were published, where the University achieved a position of **264+**.



In **institutional and program-based rankings** conducted by Kazakhstani accreditation agencies, the University traditionally holds leading positions. According to the **Atameken NCE ranking (2024)**, **26 out of 30 educational programs** ranked in the **TOP-10** nationwide. Based on the **Independent Accreditation and Rating Agency (NAAR)** results, **all 50 programs** at three levels of higher education were recognized among the **top-rated programs**. In the **2025 National Ranking of Leading Universities of Kazakhstan**, published by the **Independent Agency for Quality Assurance in Education (IQAA-Ranking)**, **Abylkas Saginov Karaganda Technical University** ranked **5th** among technical universities in Kazakhstan.

The University strives to enhance the **quality of educational services** and expand its **research potential**. Research activities are developed based on a **cluster approach**, aimed at advancing both fundamental and applied research, as well as fostering innovation. Verified information on the progress and outcomes of research activities by faculty and students is publicly available on the University's official website, which presents the main scientific directions, innovative projects, and proposals. Furthermore, the University organizes **training seminars**, **research competitions** for master's and doctoral students, **student scientific conferences**, and **consultations on project development**, ensuring full access to required documentation.

A **responsible and systematic approach** to stakeholder engagement contributes significantly to the sustainable development of the University. Stakeholders may exert both positive and negative influence on the University's

activities, affecting its **value growth, sustainability, reputation, and image**, as well as generating or mitigating potential risks.

In accordance with paragraphs 173–174, section 19 of the **Corporate Governance Code**, the University has developed a **Stakeholder Map**, which includes: potential investors and social partners; educational partners; faculty and staff; students and their parents; suppliers of goods and services; the professional union; local executive bodies (Akimat), communities and residents of Karaganda city and Karaganda region; public organizations; and the **Sole Shareholder**.

In defining and engaging stakeholders, the University adheres to **international standards** for stakeholder identification and engagement, including:

- **AA1000 Accountability Principles Standard (2008);**
- **AA1000 Stakeholder Engagement Standard (2011);**
- **ISO 26000 Guidance on Social Responsibility;**
- **Global Reporting Initiative (GRI) standards.**

Accordingly, the **identification and management of stakeholder-related risks** is recognized as an integral part of the University's sustainable development framework.

The **key outcomes** of implementing sustainable development principles include:

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1. **Attracting investments** – in global practice, investors increasingly assess sustainable development performance as a criterion of investment attractiveness.
 2. **Enhancing managerial efficiency and minimizing risks** – integrating environmental and social aspects into decision-making processes expands strategic planning horizons and enables comprehensive risk and opportunity management, creating a foundation for sustainable institutional growth.
 3. **Strengthening reputation** – improving corporate image is a direct result of sustainable development initiatives, enhancing brand value, fostering trust, and positively influencing collaboration with business partners.
 4. **Increasing stakeholder loyalty** – creating favorable working conditions and opportunities for professional and career growth helps attract and retain highly qualified personnel. Building effective dialogue with stakeholders fosters a positive institutional environment, enhancing performance through mutual understanding and support from clients, MSHE RK, investors, government agencies, local communities, and public organizations.
 5. **Improving operational efficiency** – implementing advanced technologies enables the creation of innovative products and services, thereby increasing competitiveness and efficiency.

To ensure transparent **communication of sustainability-related information**, the [University's website hosts](#) a **dedicated section** on sustainable development.

The Organization and its stakeholders also discuss the **integration of sustainability principles and standards** into relevant agreements and contracts with partners.



The **main forms of stakeholder engagement** include: joint programs and projects, memorandums of cooperation, joint working groups, activity reporting, meetings, briefings, publications, interviews, internships, training sessions, and other collaborative initiatives.



2. Environmental Sustainability

Due to the nature of its operations, the University does not have a direct or significant adverse impact on the environment. The primary resources consumed by the institution include **electricity, heat, and water**.

The University is currently exploring the implementation of a “**Green Office**” **concept**, an essential component of which involves an **awareness campaign** aimed at increasing the level of environmental consciousness among staff and students.

In its daily operations, the University strives to **reduce excessive resource consumption** and **minimize its environmental footprint** through the implementation of **energy-efficient technologies, water conservation measures**, and **reduction of paper use** in administrative processes by expanding the **electronic document management system**.

The Abylkas Saginov Karaganda Technical University applies the **principles and methods of rational resource use** to prevent environmental degradation and preserve natural resources within the University’s territory. This is achieved through the **expansion of green spaces**, as well as the **organization of environmental activities** involving students and staff.

The University continuously works to **improve its infrastructure** for the benefit of students, faculty, and administrative staff, while also ensuring that the campus becomes increasingly **accessible and inclusive** for persons with disabilities and individuals with special needs.

In 2024, the University identified a list of **professional development courses in sustainable development** for the upcoming academic year and submitted **grant applications for research projects**, including those directly addressing sustainability-related issues.

Campus Ecosystem

To enhance the quality of education, living conditions, and student recreation, the University has been actively **modernizing its infrastructure**. In 2024, the following projects were successfully implemented:

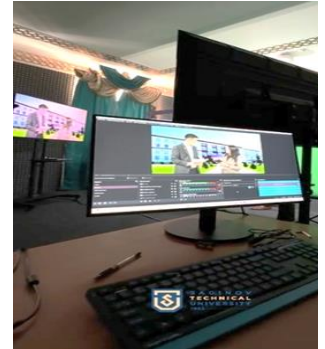
1. **Youth Center of the “Zhas Orda” Association;**
2. **Student Health Center “Meirim”;**
3. **Television Studio;**
4. **Sports and Recreation Center.**

In 2024, the **STU BANK IDEA** platform was launched to **collect and implement innovative ideas** from students, faculty, and staff aimed at improving the educational environment, infrastructure, and campus life. All proposals are reviewed by the University’s Executive Board, and the most feasible ideas are brought to practical realization.

The following **initiatives have already been implemented**:

- Installation of **six drinking water fountains** in academic buildings;
- Commencement of **heating system upgrades** and **modernization of dormitory bathrooms and shower facilities**;

- Creation of **student lounge and relaxation areas**;
- Installation of **Wi-Fi amplifiers** and expansion of internet access across campus;
- Renovation of the **University's fitness and training facilities**.



In accordance with the **President's directive**, **821 coniferous trees and saplings** were planted, expanding the green zone of the regional center. Industrial enterprises provided substantial assistance in this initiative. Annual **tree-planting campaigns** are carried out jointly with the youth organization “**Zhasyl EI**”.

The University also maintains continuous efforts to **improve dormitory living conditions**. Kitchens on every floor are equipped with **microwave ovens, stoves, and ovens**, and **automatic washing and drying machines** have been installed. Additional **household appliances and refrigerators** were provided to enhance comfort for students.

The University's **internal production facilities** are also being modernized. This includes workshops for the production of **soft and cabinet furniture, plastic windows, and window blinds**, as well as an **in-house printing and duplication center** and a **textile workshop** producing curtains and bedding.



In the development of internal infrastructure, the University has achieved the following:

- Inclusive education facilities** have been created, including **call buttons for staff assistance, tactile pathways, ramps, elevators, and accessible restrooms**;



•Comprehensive **renovations have been completed** across all academic buildings, including **facades, engineering systems, classrooms, and student dormitories.**



3. Social Sustainability

3.1 Responsible Practices

The social sustainability of the university implies the adoption of **responsible labor and business practices**.

Responsible labor practice is based on the understanding that employees are the university's **main value and essential resource**, directly influencing its performance and overall success. The university establishes labor relations with its employees on the principles of **legality, fairness, and the observance of universally recognized labor rights**.

In its operations, the university adheres to the **principle of equal opportunity** and strictly prohibits any form of **discrimination** in recruitment, remuneration, access to training, promotion, or termination based on **gender, race, language, religion, political or other beliefs, citizenship, national or social origin, or physical limitations**.

The university takes measures to ensure the **proper organization of work** and strives to create **safe and healthy working conditions** in full compliance with the labor legislation of the Republic of Kazakhstan.

Responsible business practice includes an important component — **zero tolerance for corruption**, which is one of the fundamental principles of sustainable development. Corruption destroys the value created by the university for its **sole shareholder, investors, other stakeholders, and society at large**.

Abylkas Saginov Karaganda Technical University (KTU) publicly declares **intolerance toward all forms of corruption**. Officials and employees involved in corrupt activities are subject to **dismissal and legal liability** in accordance with the law. Internal control systems include **preventive and monitoring mechanisms** aimed at detecting and preventing corrupt practices.

The university actively promotes **dialogue with stakeholders** to enhance their awareness and engagement in combating corruption. It fully complies with **anti-corruption legislation**, regularly identifies and assesses corruption risks, and implements **policies and procedures designed to prevent and counter corruption**.

Awareness of anti-corruption measures among **officials, employees, and stakeholders** is continually strengthened through **training sessions and informational programs**.

The university has established **feedback mechanisms** allowing officials, employees, contractors, and any individual or legal entity to **report potential corruption-related violations** committed by any university representative or counterpart.

University officials and employees are personally responsible for making **transparent, timely, and impartial decisions**, free from any **conflict of interest**.

3.2 Social Activities and Students' Engagement

A comprehensive system has been established at **Abylkas Saginov Karaganda Technical University** to promote students' professional development, personality formation, and creative potential. Social and educational activities are aimed at **preventing legal violations, fostering integrity and healthy lifestyles**, organizing student life in dormitories, and promoting student self-governance, volunteering, and debate initiatives.

To strengthen **patriotic, moral, and cultural education**, dormitory student councils and the **“Zhas Orda” youth association**, in cooperation with the **Department of Youth Policy**, conduct sports and cultural events, round tables, training sessions, lectures, and contests.

Special attention is given to **supporting the adaptation of first-year students**. For example, on **September 14, 2024**, the university held its first **“STU Vibe”** event as part of the **“Welcome, Student!”** campaign. The goal of the event was to help new students, particularly those arriving from rural areas and regions of Kazakhstan, **become familiar with the university's history and campus environment**.



To encourage **academic, research, and social engagement**, the university has introduced a variety of **student incentive programs**. Each semester, based on quotas allocated by the **Ministry of Science and Higher Education**, students are awarded **Presidential Scholarships**. Additionally, **Abylkas Saginov Scholarships** were established — in the 2024–2025 academic year, 50 scholarships of **47,135**

KZT each are granted monthly by order of the **Chairman of the Board–Rector** based on the recommendation of the **Saginov Scholarship Committee**.

In accordance with the **Resolution of the International Scientific and Practical Online Conference “Alimkhan Yermekov and the Formation of Kazakhstani Statehood”** (April 16, 2021), the **Alimkhan Yermekov Scholarship** is awarded each semester to students for **academic excellence, civic engagement, and achievements in the natural and human sciences**.

To foster student self-expression and cultural development, the **Youth Palace “Zhastar Alemi”** (over 800 m²) hosts creative clubs and studios, including:

- Vocal studio “*Tenor*”
- Folk dance ensemble “*Gakku*”
- Modern dance group “*SJ Dance*”
- Oratory and acting club “*Dilmar*”
- Dombra ensemble “*Sary-Arka Sazy*”
- Debate club “*Samuryk*”
- KVN (student comedy club)
- Media club

Annually, the university organizes **talent contests, sport marathons, intellectual games, traditional heritage festivals, student leadership schools, and beauty and talent competitions** such as “*STU Talents*”, “*STU Vibe*”, “*Zhas Wave*”, and “*STU Sultany men Sulu*”. These events promote **intellectual, cultural, professional, and physical development, strengthen student representation in university governance, and foster Kazakhstani patriotism and respect for national traditions**.

The university also conducts a wide range of **health promotion and sports activities**. The **KTU Sports Complex** includes **10 specialized halls, two open-air mini-football fields** (one with artificial turf), **a tennis court, a mini-stadium with running tracks, a chess club, a shooting range, and a ski base**. Students can freely participate in various **sports sections** — football, basketball, volleyball, tennis, chess, wrestling, togyzkumalak, weightlifting, and therapeutic physical training.

Special attention is given to **developing students’ legal awareness**. On **October 22, 2024, a brain ring competition “Youth Against Corruption”** was held with the participation of the **Anti-Corruption Agency of the Republic of Kazakhstan** for the Karaganda Region, faculty, and students.



On **March 13, 2024**, a meeting was organized with officers from the **Department of Police of the Karaganda Region**, including **Lt. Col. G. Dilmaganbetov**, **Capt. A. Boranbayev**, and **Capt. A. Abdrakhmanova**, addressing the topics of **crime prevention, anti-drug education, bullying and cyberbullying, hooliganism, and intentional harm prevention**.

On **April 14, 2024**, the university hosted a memorial event at the “**Zhastar Alemi**” Youth Palace dedicated to the **Day of Withdrawal of Soviet Troops from Afghanistan**, titled “*Those Who Passed Through the Fire of Afghanistan.*” The event honored Afghan war veterans and included a **moment of silence** to commemorate the fallen.

Finally, in **December 2024**, the “**Aqniyet**” charitable youth organization of the “**Jas Orda**” association held its annual “**Letter to Father Frost**” campaign to provide **New Year gifts to children** from social institutions and low-income families. In 2024, a **record number of 602 letters** were processed and fulfilled.



3.2 Projects and Case Studies

The University has implemented a comprehensive system of control and prevention mechanisms to ensure academic integrity, including:

- **An anti-plagiarism system** mandatory for all scientific and academic papers.
- **The Research Ethics Committee**, responsible for monitoring the ethical conduct of scientific research and publications.
- **The Anti-Corruption Compliance Service**, which monitors corruption risks and prevents academic misconduct.

An essential aspect of the University’s strategy is the promotion of **academic culture** grounded in the principles of **honesty, transparency, and professionalism**. Within this policy framework, the following initiatives are implemented:

- **Educational courses on academic integrity**, integrated into all degree programs.
- **Anti-corruption seminars, mentoring sessions, training workshops, and round tables** aimed at raising awareness among students, faculty, and administrative staff (Anti-Corruption Standard).
- **The Ethics Council**, which reviews cases of academic misconduct and corruption-related risks.

According to the **2024 survey**, **82.3% of students** expressed satisfaction with the quality control of academic programs. The University conducts annual satisfaction monitoring, analyzing feedback from students, faculty, and staff. The **reliability of sociological survey analysis** is verified by the **Internal Audit Service**.

The University has developed a **unique comprehensive risk management framework** that covers both **institutional and operational levels** of its activities. Data collection is carried out through **internal audits, stakeholder surveys, and regulatory monitoring**. In 2024, a **digital risk analysis module** was introduced, enabling real-time classification and tracking of risks across multiple categories.

The **risk identification mechanism**, which includes **risk registration, PEST analysis, a risk map, and an automated tracking system**, allows the University to **forecast potential threats, mitigate their impact, and strengthen institutional resilience**. All identified risks are recorded in the **annually updated Risk Register**, which forms part of the **University's Corporate Risk Portfolio**.

The **distinctiveness of the Risk Portfolio** lies in its **comprehensive assessment of the University's micro- and macro-environment**. To analyze macro-environmental factors, stakeholder groups were engaged in a **PESTEL analysis** to assess collaboration areas and external influences.

The **Risk Register** is developed within the **Automated Risk Management System (ARMS)**, based on data provided by **risk owners** and environmental analysis using a **multifactor SWOT approach**, which enables the identification of risks through a structured assessment of the potential conditions under which they may arise.

4. Education and Research

Educational activities at *Abylkas Saginov Karaganda Technical University (STU)* are conducted under a three-tier system of higher education: **bachelor's – master's – doctoral (PhD)** programs, offered in Kazakh and Russian languages in a full-time format. The University holds a valid **state license for educational activities**.

At present, STU provides training in up-to-date educational programs, including **16 military specializations** for reserve officers and sergeants. The university's structure (see official website) includes **6 faculties, 26 departments, 7 research units, and the College of Innovative Technologies**. A military department also functions within the university, offering training across all 16 military registration specializations.

Education for sustainable development is a **strategic priority** of the university's sustainability policy. In 2024, STU implemented educational programs aimed at integrating sustainability-focused technologies, including:

- 6B05101 – Biotechnology;**
- 6B07110 – Chemical Technology of Organic Substances;**
- 6B11201 – Life Safety and Environmental Protection.**

In the 2025–2026 academic year, the **academic staff** of the university comprises **738 individuals**, of which **603 are full-time faculty members (80%)**. The teaching staff includes **30 doctors of science** (31 professors), **154 candidates of science** (including 114 associate professors), **96 PhD holders**, and **246 master's degree holders**. The overall academic qualification rate stands at **46.9%**. Student admission is carried out through **state educational grants** and **contract-based enrollment**.

In the **2024–2025 academic year**, educational activities were carried out across **111 educational programs**, including **47 undergraduate, 27 master's, 18 doctoral**, and **13 military registration programs**. An important indicator of the university's competitiveness is its **external evaluation by international ranking agencies**.

Within its **internal quality assurance system**, particular attention is given to the formulation of **learning outcomes** based on the descriptors of the **National Qualifications Framework**. The awarding of academic degrees is determined by the accumulation of academic credits and achievement of declared outcomes, in full compliance with **international quality standards** and **student-centered learning principles**.

Based on labor market analysis, the university identified **priority employment sectors** for graduates. Systematic work in this direction has ensured a **steady employment rate of 90% in 2024** (according to the National Corporation “Government for Citizens”).

4.1 International Cooperation

Abylkas Saginov Karaganda Technical University actively develops **international cooperation**, seeking deeper integration into the **global educational and research community**. The number of **active international agreements** totals **152**, spanning partnerships with **23 countries**.



Under international agreements and memoranda of cooperation, the university participates in **international research and educational projects**, as well as programs for **academic mobility and research internships for master's and doctoral students**. Partner institutions include leading universities in **Germany, Austria, Poland, Lithuania, the Czech Republic, Slovakia, Malaysia, China, South Korea, Uzbekistan, Kyrgyzstan, Pakistan, Ukraine, Russia, and Belarus**.

One of the university's **strategic objectives** in internationalization is to **increase the number of international students** enrolled in undergraduate, master's, and doctoral programs. Currently, **over 80 international students** study at the university, representing **Germany, Belarus, Ukraine, Russia, Afghanistan, Azerbaijan, Kyrgyzstan, Uzbekistan, Mongolia, and China**, with the largest contingents from **Uzbekistan and Russia**.

To facilitate integration, STU has established a **student adaptation system** that supports foreign learners both academically and socially, helping them develop **linguistic and sociocultural competencies**. International students study in mixed groups with local peers, which fosters their inclusion in campus and community life.

The university implements **joint and double-degree programs (DDPs)** with partner institutions in master's and doctoral studies, including:

- “Materials Science and Technology of New Materials” (NITU MISiS, Russia);
- “Automation and Control,” “Information Systems” (ITMO University, Russia);
- “Transport Engineering and Technology” (Tyumen Industrial University, Russia);
- “Instrumentation Engineering” (Tomsk Polytechnic University, Russia);
- “Chemical Technology of Organic Substances,” “Electric Power Engineering” (Tomsk Polytechnic University, Russia);

- “Organization of Transport and Operation” (Tashkent State Transport University, Uzbekistan);

- “Geology and Exploration of Mineral Deposits” (China University of Petroleum, China).

In 2024, a **double-degree program in Mechanical Engineering (7M07103)** was launched in partnership with **Shihezi University (China)**, under which **one student from Shihezi University** began studies at STU.

Academic mobility at STU is supported through:

- International programs and grants** (Erasmus+, Fulbright, DAAD, Mevlana, Bolashak);

- Bilateral agreements** with foreign universities;

- State funding** and programs of the **Ministry of Science and Higher Education of the Republic of Kazakhstan**;

- Self-funded mobility** of students and faculty.

Each semester, students participate in exchange programs at **top universities in Europe and Asia**.

Research and innovation activities are carried out in accordance with the **University Development Program**, aligned with the **national priorities of Kazakhstan’s socio-economic development**.



4.2 Sustainable Growth of Research Funding

In 2022, research funding amounted to **1,003.36 million KZT**, increasing to **1,469.3 million KZT in 2023**, and reaching a record level of **2,040.2 million KZT in 2024**, marking a historic milestone for the University.

In 2024, a total of **46 government-funded research projects** with an aggregate funding volume of **1,252.1 million KZT** were implemented across **15 departments** (*NTM, ТОМуС, ГРМПИИ, АНКуСГД, ИЯ, РМПИИ, РАуОТ, ЭС, ИВС, ТТуЛС, ИТ, ВМ, Механика, ИТБ, МДуГ, ИЛИИП*, and the *Methane Energy Laboratory*). These projects correspond to the following **national research and innovation priorities**:

1. Geology, extraction, and processing of mineral and hydrocarbon raw materials; new materials, technologies, safe products, and structures.
2. Energy and mechanical engineering.
3. Research in the fields of education and science.
4. Information, communication, and space technologies.
5. Social sciences and humanities research.
6. Advanced manufacturing, digital, and space technologies.
7. Ecology, environment, and rational use of natural resources.
8. Energy, advanced materials, and transport.

During the reporting period, university scientists submitted:

- 16 applications** for grant funding of research and (or) scientific-technical projects for **2025–2027** under the *Young Scientists* initiative;

- **35 applications** for grant funding of research and (or) scientific-technical projects for **2025–2027**;
- **17 applications** for grant funding of young scientists within the *Zhas Galym (Young Scientist)* program for **2025–2027**.

4.3 Publication Activity of University Scientists

One of the key performance indicators is the **publication activity** of researchers and faculty members. In **2024**, the following results were achieved:

- **184 publications** in journals recommended by the *Committee for Quality Assurance in Science and Higher Education of the Ministry of Science and Higher Education of the Republic of Kazakhstan*;
- **272 registered copyrights**;
- **48 patents obtained**, including **5 Eurasian patents**, **7 invention patents**, and **36 utility model patents**.

According to the *Scopus* bibliographic and abstract database, the number of indexed publications increased from **156 in 2022** to **176 in 2023**, and **179 in 2024** — demonstrating a **14% growth** compared to 2022. In the *Web of Science Core Collection* database, **72 publications** were indexed, **47% of which** belong to **Q1 and Q2 quartiles**, indicating high research quality.

In **2024**, **1,766 undergraduate students** (out of a total of 6,782) and **512 master's students** were engaged in **research, design, and innovation projects**. A total of **57 joint publications** were produced with students and graduate students (25 with master's students and 32 with undergraduates). Publications by geography:

- **Kazakhstan-based journals**: 19 with master's students and 23 with undergraduates;
- **Regional journals (CIS)**: 6 with master's students and 7 with undergraduates;
- **International journals**: 2 with undergraduates.

The **total number of conference papers** prepared by students and graduate students for national and international events amounted to **818** (170 by master's students and 648 by undergraduates).

On **May 13, 2024**, the University hosted an **expert seminar titled “Integration Priorities of ESG in the Core Sectors of Kazakhstan’s Economy.”** The event gathered leaders and researchers from *Abylkas Saginov Karaganda Technical University*, the *Green Academy Research Center*, *S. Seifullin Kazakh Agrotechnical Research University*, *D. Kunaev Institute of Mining*, *E. Buketov Karaganda University*, *Karaganda Industrial University*, as well as international and national experts, representatives of national companies, business associations, and research-production organizations.



In **October 2024**, the University hosted the **IEEE LINDI 2024 International Conference**, jointly organized with *Obuda University (Hungary)*. The event brought together prominent scientists, researchers, and industry professionals from **10 countries** to discuss emerging trends in **technology, industrial informatics, and artificial intelligence**. Conference proceedings were published in **IEEE Xplore** and **Scopus** databases.

4.4 Support for Initiatives

The University actively promotes **young researchers' initiatives**. On **April 29, 2024**, following a competitive selection process, **seven young scientists** were awarded **Rector's research grants** totaling **3.5 million KZT**.

In **2024**, the University launched its first **Startup Support Fund** amounting to **35 million KZT**, aimed at fostering **innovation and entrepreneurship among students, alumni, and staff**.

In **December 2024**, the University held the **STU DEMO DAY**, the final stage of a **grant-based startup competition**, which attracted **45 project proposals** in fields such as **technology, education, sports, tourism, ecology, and university infrastructure**.

Out of these, **19 projects** advanced to the final round and were presented before an expert commission.





Additionally, the University provides **financial, advisory, and organizational support** to students and researchers, integrating scientific developments and innovations into business practice, and nurturing **young talent** eager to contribute to Kazakhstan's economy.

The Open Space innovation area was launched in the University's main building, hosting competitions in robotics, geology, chemical engineering, and architecture.





For the first time, **acceleration and incubation programs** were introduced, where **35 faculty and staff members** and **20 students** completed training under programs such as “*The Path to a Startup: From Idea to Implementation*” (in partnership with Terricon Valley IT Hub) and the “*Business Angels School*” (focused on investment and project financing).

In **2024**, with the support of the *Ministry of Science and Higher Education of Kazakhstan*, *JSC Qarmet*, and *Kazakhmys Corporation LLP*, a **hackathon** on innovative industrial solutions was held. As a result, applications were submitted for **program-targeted funding (PTF)**, including:

- “*Development of a technology to improve the extraction of precious metals from gold-bearing ores using gravity processes and multicomponent microflotation.*”
- “*Development of a technology for processing complex oxidized copper ores*” in collaboration with *Zh. Abishev Chemical and Metallurgical Institute*

4.5 Integration of Science, Industry, and Education

The University maintains strong **collaboration with industrial partners** to advance education and research integration. Currently, the **Corporate University Network** includes **87 major industrial enterprises and scientific centers** of Kazakhstan, including key city-forming companies.

During the year, **42 institutional visits** were carried out to establish cooperation, exchange experience, and strengthen partnerships.





As a result, **12 new enterprises and companies** joined the Corporate University, expanding opportunities for **joint research projects, student internships, and graduate employment.**

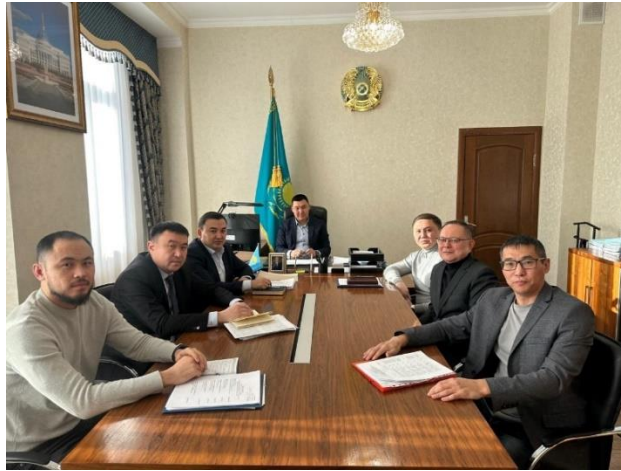
In collaboration with *QazTehna LLP*, the University is preparing a **program-targeted funding (PTF)** project for the **development of import-substituting snow-removal equipment** for highway patrol cleaning. An **experimental workshop** for training **automotive design engineers** is also being launched on the QazTehna production site.



Together with *NPO Defektoskopiya LLP*, a project on **non-destructive testing and soil mechanics** is being developed. With *Agrodor LLP*, the University is implementing a **commercialized project in transport construction** focused on a new asphalt mix composition. All these companies have agreed to **co-finance** research projects.

A joint project with *JSC Qarmet* was completed on **developing a mining operations technological scheme** using **rock-bolt anchoring technology**. With *Nova Zinc LLP*, a project on **technical and economic assessment of ore extraction efficiency** was completed, resulting in a **2.3-fold increase in lead concentrate production.**

A key success factor of such collaboration is **partner co-financing** of research. In **2024**, co-financing amounted to **58.1 million KZT**, or **4.7% of total grant funding**



In cooperation with **local executive authorities**, the University is implementing a **research project on the development of the Karaganda agglomeration transport system until 2030**, valued at **67 million KZT**.

This project is of **strategic importance** for the **regional development** of Karaganda Region and for enhancing Kazakhstan's **transport and logistics capacity**.



Conclusion

In 2024, Abylka Saginov Karaganda Technical University (NAO KarTU) approved its **Development Program**, which outlines a set of target indicators in the field of sustainable development. To ensure transparency and public awareness regarding the University's contribution to the **UN Sustainable Development Goals (SDGs)**, a dedicated trilingual online platform titled "*Sustainable Development Center*" was launched on the official website.

The University has institutionalized a **risk management mechanism** aligned with the **strategic priorities of the region and the Republic of Kazakhstan**, thereby establishing a solid foundation for advancing the SDGs and implementing **ESG initiatives** in practice.

NAO "Abylka Saginov Karaganda Technical University" has initiated a range of specific sustainability projects, which now require **scaling through the introduction of KPI systems and transparent reporting**.

The practical impact of SDG implementation in 2024 varied across different areas. Achievements in **education digitalization**, **academic mobility**, and the **creation of innovative laboratories** are documented in the University's Development Program and annual reports. At the same time, further enhancement is needed in **research-driven innovation** and **environmental project implementation**.

Thus, in 2024, the University made significant **institutional advancements toward sustainable development**:

- the Development Program was adopted;
- the **Sustainability Policy** was formalized;
- projects were implemented in **digitalization, artificial intelligence, inclusive education, and environmental sustainability**.

These achievements mark a **transitional stage** — from formal commitments to the adoption of **responsible and sustainable practices**. The next critically important stage involves shifting from **regulatory and organizational measures** to **systemic, measurable implementation**, including:

- the introduction of **Key Performance Indicators (KPIs)**,
- annual transparent sustainability reporting**,
- the establishment of **materiality assessments**, and
- external verification of results**.

Such measures will ensure that the University's sustainability efforts evolve into **tangible, long-term socio-economic benefits** for the region and into **recognizable international achievements** in the global academic and ESG landscape.

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