MINISTRY OF SCIENCE AND HIGHER EDUCATION
REPUBLIC OF KAZAKHSTAN

NON-PROFIT JOINT STOCK COMPANY
D. SERIKBAYEV EAST KAZAKHSTAN TECHNICAL UNIVERSITY

APPROVED
By decision of the Board of Directors
NJSC "D.Serikbayev EKTU"
(Protocol No. 8 of 03.02.2024)

PROGRAM
STRATEGIC DEVELOPMENT OF
NJSC "D.SERIKBAYEV EKTU"
for 2023-2029

Ust-Kamenogorsk
2023

CONTENT

1 PROGRAM PASSPORT

Program name	Strategic development program of NJSC "D.Serikbayev EKTU for 2023-2029."
Basis for the development of the Program	Strategy "Kazakhstan-2050": a new political course for an established state; Strategic development plan of the Republic of Kazakhstan until 2025; National Development Plan of the Republic of Kazakhstan until 2025; National project "Quality Education "Educated Nation"; National project "Technological breakthrough through digitalization, science and innovation"; Messages and policy articles of the President of the Republic of Kazakhstan (2018-2023), regulatory documents of the Ministry of Education and Science of the Republic of Kazakhstan, Concept for the development of higher education and science in the Republic of Kazakhstan for 2023-2029; University Charter; internal documents of the university in areas of activity.
Program Developer	NJSC "D.Serikbayev EKTU"
Purpose of the Program	Transformation into a research technical university - a center of advanced engineering education and high-tech research
Program Objectives	1. Achieving a high academic and employer reputation. 2. Increasing the level of knowledge, professional competencies and effectiveness of CPD. 3. Ensuring equality and accessibility to quality education. 4. Increasing the scientific potential and research productivity of scientists. 5. Development of international research projects and interdisciplinary collaborations. 6. Diversification of sources of funding for scientific research and strengthening of scientific and innovation infrastructure. 7. Maintaining a modern management system at the level of world standards. 8. Increasing the satisfaction of students and teaching staff with the quality of educational services and the ecosystem. 9. Ensuring the implementation of the third mission by the university.
Timing and stages of the Program implementation	2023-2029
Sources of financing	Republican and local budget, extra-budgetary funds, investments

2 ANALYSIS OF THE EXTERNAL ENVIRONMENT AND CURRENT SITUATION

The University Strategic Development Program is a fundamental document that defines the development of the university in the main areas of activity: academic, research and innovation, international, managerial, social development and youth policy until 2029, taking into account the main world and national trends in the development of higher education.

The program was developed on the basis of strategic and program documents and regulatory legal acts of the Republic of Kazakhstan: Strategy "Kazakhstan-2050": a new political course of an established state; Strategic development plan of the Republic of Kazakhstan until 2025; National Development Plan of the Republic of Kazakhstan until 2025; National project "Quality Education "Educated Nation"; National project "Technological breakthrough through digitalization, science and innovation"; Messages and policy articles of the President of the Republic of Kazakhstan (2018-2023), regulatory documents of the Ministry of Science and Higher Education of the Republic of Kazakhstan, Concept for the development of higher education and science in the Republic of Kazakhstan for 2023-2029; University Charter; internal documents of the university in areas of activity.

The Program is based on the results of the following types of research:

1) Marketing analysis of the activities of EKTU in the educational market of the Republic of Kazakhstan;
2) A benchmarking study commissioned by the university by the QS rating company;
3) Analysis of the demand and prestige of university specialties in the region;
4) Comparative analysis of key performance indicators with national universities of the Republic of Kazakhstan and border universities of the Russian Federation;
5) Comparative analysis of the regional distribution of engineering education in Kazakhstan;
6) Opportunities for developing a diversification strategy at a university: domestic and foreign experience (using the example of D.Serikbayev EKTU);
7) Analysis of the results of the rating of NCE "Atameken" (2022) for educational programs of the D.Serikbayev EKTU;
8) Marketing analysis of the following segments of the regional economy: mining industry, enrichment and processing of polymetallic ores, metallurgy and materials science, metalworking and engineering industry, nuclear and traditional energy, construction industry, which made it possible to identify trends at the industry, regional, national and global levels.

The results of the above studies demonstrate that the university needs *further diversify its educational programs, improve the quality of human resources, modernize scientific and social infrastructure, strive to ensure research, technological and personnel readiness for the transition of Kazakhstan to a new technological structure*.

When developing the program, the current situation at the university was taken into account; experience of the best practices of foreign technical universities; QS benchmarking reports; recommendations prepared by top managers of the university during the MBA program (TPU). The implementation of the strategic development program is proposed in three priority areas, which will make it possible to fully realize the Mission, Vision and strategic goals set in the program.

External and internal challenges were taken into account when developing the program. To the main **external challenges** include: the transition of the national industry to a new level of development, digitalization and the rapid emergence of new professions, increased competition among technical universities in neighboring countries, the so-called new reality of the BANI world. TO **internal calls** include: inconsistency of the content and profile of personnel training for the upper processing stage, difficulties in the transition to training and research according to the needs of enterprises, insufficient qualifications of scientific and pedagogical workers in the implementation of educational programs to ensure technological superiority.

D.Serikbayev EKTU, being a regional university, has a current situation and development

priorities similar to other regional universities - the main task is to recruit a high-quality contingent, focusing not only on the region, but also on finding ways to attract foreign students. According to statistical data, the demographics of school graduates in East Kazakhstan region has a negative trend.

SWOT - analysis of the current state is given in Appendix 1.

Based on the SWOT analysis, as well as an analysis of the results of the QS global ranking of world universities, we determined **three priority areas for the development of the Program:**

1. *Academic Excellence*

2. Scientific and technological breakthrough

3. The university is a territory of prosperity.

The choice of foreign universities for benchmarking is determined by the profile of the university, namely, technical or technological universities, as well as the need to enter into agreements with the best world-class universities in selected fields. Therefore, the following foreign universities were selected: Colorado School of Mines (USA), ITMO University, St. Petersburg (Russia), MIPT (Russia), National Research Nuclear University MEPhI (Russia), National Research University Higher School of Economics (Russia) .

Among the universities of the Republic of Kazakhstan, the QS study analyzed such universities as KIMEP, ENU, KarTU, KazNARU, KBTU, etc.

Each direction contains a goal, objectives, a description of priority areas of development, resources, and expected results. Target indicators and key indicators for each area are given in Appendix 2.

Achieving goals and completing tasks is carried out on the basis of a risk-based approach in accordance with the requirements of ISO 31000.

3. MISSION, VISION, VALUES AND DEVELOPMENT PROSPECTS

Mission - We are creating a high-tech future by integrating education, science and industry.

Vision

EKTU: Research Technical University - a center of advanced engineering education and high-tech research.

University values:

- **Respect for the individual** - respectful attitude towards people regardless of gender, race, ethnicity, social and professional background.
- **Honesty** - commitment to the principles of honesty and morality.
- **"Ecological culture"** - understanding the value of every element of the living world around and assessing one's actions in terms of possible consequences for the well-being of the planet.
- **Development and openness to new things** - the desire for constant development and improvement in all aspects of our activities.
- **Teamwork** - cooperation and proactivity, maximum team involvement.

Development prospects

1. *Academic Excellence:* by 2029, D.Serikbayev EKTU will be included in the TOP-800 QS WUR. The share of EP included in the TOP 10 national and TOP 500 global subject ratings will be at least 43%. 3. A high-quality student population of at least 7,000 students will be formed.

2. Scientific and technological breakthrough: by 2029, an increase in the citation rate of scientific articles (Scopus) of the university by 1 faculty member (excluding self-citation) will be 3.8. The International Collaboration Index (IRN) will be 4.9. The share of income received from scientific activities, innovative developments and commercialized projects will be at least 20% of the total budget of the university.

3. The university is a territory of well-being: by 2029, the university will have built a modern management system based on international standards (ISO 9001, ISO 37001, ISO 31000, ISO 27001, ISO 37101, ESG, CDIO), which has passed international certification. Satisfaction of

teaching staff and students will be no less than 84%. The university's position in global rankings for sustainable development will be significantly improved (Green Metric – 80, THE Impact – 600). The university's social responsibility will be implemented through the "Silver University" program. Employer satisfaction will be at least 90%.

4. ACADEMIC EXCELLENCE

Target - advanced training of engineers capable of creating and developing new technological areas to achieve international leadership.

Tasks:

1. Achieving a high academic and employer reputation.
2. Increasing the level of knowledge, professional competencies and effectiveness of CPD.
3. Ensuring equality and accessibility to quality education.

Resources: The success of the university's academic ecosystem is determined by the following components: high-quality contingent, sought-after educational programs, highly qualified personnel, modern infrastructure, strong partners.

In 2023, the student population amounted to 5092 people, of which 2442 students are studying on a grant at the expense of the republican budget, 2330 are studying on a paid basis; on grants at the expense of local executive bodies, TSA, targeted, K. Khalkyna - 320 people. The contingent of applied bachelor's degree is 32, bachelor's degree - 4618, master's degree - 368 and doctoral degree - 74. The contingent of master's and doctoral students of the total number of students at the university is 8.6%.

The employment rate of graduates is 96%. The portfolio of educational programs consists of 83 EP at three levels of training, of which 40 are bachelor's, 34 are master's, 9 are doctoral, of which: basic – 64, innovative – 7 EP, JEP/DDP – 12.

Double degree programs have been developed with the Brandenburg Technical University (Germany), the National Research Nuclear University MEPhI, etc. The university creates its educational programs together with large transnational companies, such as Kazzinc LLP, UMP JSC BI Group, NAC Kazatomprom JSC, KAZ Minerals etc. Companies are actively involved in training-vendors such as HUAWEI, AMAZON, MicroMine, 1C, which provide training equipment, licensed software, internships and CPD certification.

21 online courses have been developed on Openedx's own platform, 93 faculty members have been trained, 37 MOOCs are used in the educational process (16 of them from 2021), including both mandatory and unique proprietary courses, such as Engineering Mechanics, Cloud Computing, Research Organization and planning, Hydrogeology.

To strengthen the practice-oriented component of the EP, highly qualified personnel from production are attracted - 20% of the number of research assistants.

The degree of sedateness is 48%. The University actively encourages collaboration and internationalization of educational activities. During the reporting year, 31 foreign scientists worked at the university. 8% of faculty members have international certificates confirming their knowledge of a foreign language (IELTS, TOEFL).

Practice-oriented approaches to teaching are implemented through the modernization of academic infrastructure. EKTU operates 12 CC&TT, 34 laboratories, 4 production branches.

To ensure the quality of training, teaching staff undergo various advanced training courses. 205 teachers improved their qualifications. Bolashak scholarship holders are 11 people who completed scientific internships in the USA, Great Britain, Turkey, and Russia. 12 top and middle management people of the university have an MBA degree in strategic management of universities.

The university entered the TOP 301-350 QS AUR 2023, TOP 901-950 QS WUR 2024, TOP 105 Green Metric-2022, TOP 801-1000 The Impact-2023. In 2023, 52% of the university's undergraduate educational programs were included in the TOP 5 of the national rating of NCE Atameken, 80% in the TOP 10.

Based on the SWOT analysis (Appendix 1), measures to implement the assigned tasks were identified:

1. Achieving a high academic reputation and employer reputation.

Implementation of the university graduate model, meeting the requirements of the modern labor market and the development of new innovative educational programs, such as: Innovative/advanced programs within the framework of the project "**Mamandygym bolashagym" based on the Atlas of new professions and competencies of Kazakhstan;** JEP and Double Degree in cooperation with partner universities; programs commissioned by enterprises and other stakeholders.

Updating the educational trajectory by monitoring your educational needs and priorities, forming and adjusting individual curricula, participating in academic projects offered by the university to build intercultural, global experience and personal development, such as **certificate programs and micro-qualifications from vendors, MOOC.**

Involving students in educational processes and projects, such as academic mobility (external: Erasmus+, Mevlana, etc.; internal together with Kazakh partner universities, including "Virtual mobility" within the course/discipline); promotion of campaigns for educational projects (career guidance projects for schoolchildren, enterprises and the general public); social credit iGPA; participation in the Alumni program of educational programs and schools for further participation in promoting the educational activities of the university.

2. Increasing the level of knowledge, professional competencies and effectiveness of CPD.

Improving the pedagogical and methodological competencies of teachers through a developed online module on innovative technologies for teaching and assessing learning outcomes; organizing and conducting pedagogical skills courses for young and newly hired faculty members.

Improving the professional competencies of faculty members through internships on the basis of Centers of Competence and Technology Transfer, manufacturing enterprises, research centers and institutes, world universities under the Bolashak program, on the Coursera platform and other projects; as well as the participation of faculty members in international projects on academic mobility.

Involving foreign experts in conducting classes, which provide students with unique experience in a specific area of knowledge and practice.

3. Ensuring equality and accessibility of quality education.

Implementation of the project "Network Engineering School "EKTU Educational Academy" with in-depth study of mathematics, physics, computer science to increase interest and opportunities for choosing engineering fields among school graduates, provision equal conditions for admission to rural schoolchildren and reducing the outflow of talented youth from the country.

Formation of infrastructure support for student research initiatives (research GPA within the integral GPA) and application approach to the contingent, increasing the percentage of students in master's and doctoral programs.

Creating conditions for the internationalization of education - attracting foreign students.

5. SCIENTIFIC AND TECHNOLOGICAL BREAKTHROUGH

Target – ensuring a leadership position in science among the country's technical universities in terms of the share of publications and scientific results in priority areas of scientific and technological development of the world economy.

Tasks:

1. Increasing the scientific potential and research productivity of scientists.
2. Development of international research projects and interdisciplinary collaborations.
3. Diversification of sources of funding for scientific research and strengthening of scientific and innovation infrastructure.

Resources: The university has built a system of effective scientific management. Management of scientific and innovative activities is provided by the Department of Research Activities. Login to the university science system is accompanied by the Research Office and the Project Support Office. Scientific research and innovation are carried out in Competence and Technology Transfer Centers and Schools. As a result, research results are promoted through the Technology Commercialization Office to a wide range of users. To implement the priority research areas of the university, a scientific and innovative infrastructure has been created, uniting the Center of Excellence "VERITAS" and the Competence Center "Smart Engineering", as well as 10 industry Centers of competence and technology transfer (Construction and building materials, BIM design, Mechanical engineering, Energy , Geology and mining, Ecology and life safety, Virtual and augmented reality, GIS technologies, Earth remote sensing and geodesy, Automation and mechatronics, Water management and water use,).

Agreements are being implemented with 4 research institutes of the Republic of Kazakhstan: National Scientific Center of Traumatology and Orthopedics named after Academician N.D. Batpenov, Ministry of Healthcare; Institute of geological sciences of K.I. Satpayev, MNIVO; Institute of Information and Computing Technologies, Ministry of Science and Higher Education; National Nuclear Center of the Republic of Kazakhstan, Ministry of Energy of the Republic of Kazakhstan).

The priority areas for the development of university research have been upgraded: Geology and geological exploration: technologies for hydrochemical research in the extraction and processing of rare earths; methods for forecasting and searching for deposits of critical metals; Promising functional materials for medical products: additive technologies for the production of metal products; bioactive composite coatings for medical products; Digital monitoring systems for agriculture: transfer of remote sensing (ERS) technologies in agriculture; development of geoinformation support "Farmer's Tablet"; Technologies for sustainable development: hardware and software systems for monitoring urban and natural areas using space assets and unmanned aerial vehicles; Clean energy: hybrid and carbon-free energy complexes, zero energy losses of buildings and structures, university territory of energy efficiency; Carbon footprint: carbon footprint tools, climate change modeling; Digitalization of educational and production activities: digital models and doubles, digital footprint of the user.

International research collaboration is being implemented within the framework of projects with scientists from leading universities in Germany, Italy, Spain, Slovenia and Central Asia.

NJSC "D.Serikbayev EKTU" implements 9 PhD educational programs, all in technical areas, namely: D090 Physics, D092 Mathematics and Statistics, D094 Information Technology, D098 Thermal Power Engineering, D100 Automation and Control, D103 Mechanics and Metalworking, D104 Transport, transport engineering and technology, D117 Metallurgical Engineering, D121 Geology.

Expected results by 2029:

1. Increase in the citation rate of scientific articles (Scopus) per 1 faculty member (excluding self-citation) of the university to 3.8.
2. Increasing the International Collaboration Index (IRN) to an index of 4.9.
3. The share of income received from scientific activities, innovative developments and commercialized projects is at least 20% of the total budget of the university.

Based on the SWOT analysis (Appendix 1), measures to implement the assigned tasks were identified:

1. Increasing the scientific potential and research productivity of scientists:

1. Introduction of research GPA (IROS) within the framework of integral GPA for the formation and development of research competencies of students;
2. A systematic approach to the training of PhD and postdoctoral students and, as a result, an increase in the number of doctoral dissertation defenses and the number of dissertation councils.
3. Development of a support system for young professionals, development of talent

management. Development of personnel policy aimed at supporting young scientists.

4. Increasing the publication activity of academic staff.

5. Implementation of employee rotation mechanisms to develop cross-functional competencies, formation of a personnel reserve to fill management positions (heads of Competence Centers, deputy deans, deans, etc.).

6. Concentration of resources on a set of breakthrough applied research (TRL 4-6) and transfer of the results obtained to the industry (TRL 7-8).

2. Development of international research projects and interdisciplinary collaborations:

1. Systematic advanced training of research assistants in leading foreign universities, including within the framework of the international scholarship "Bolashak" and the "500-Scientists" program.

2. Conducting targeted recruitment of successful scientists from Kazakhstan and from abroad, attracting practitioners from specialized Kazakh and foreign organizations to work and cooperation.

3. Implementation of a comprehensive program of interaction with research institutes (training, internships, joint publications, joint use of research infrastructure).

4. The work of international research groups and the formation of international consortia in priority areas of research with the participation of Republican and international scientific organizations and universities.

4. **Diversification of sources of funding for scientific research and strengthening of scientific and innovation infrastructure.**

1. Creation, together with academic and industrial partners, of a scientific base and staffing for research and development in the priority areas of "technological transitions" for Kazakhstan (geology and geological exploration, additive technologies in medicine, remote sensing methods of the earth applicable to agriculture, IT, carbon safety).

2. Ensuring the updating of the material and technical base by searching for new sources of financing and co-financing of local executive bodies and industry.

3. Development of a system of financial sustainability and innovative scientific infrastructure of the university's scientific departments through research from various sources of funding.

4. Cooperation with local authorities in the field of science and financing of applied projects.

5. Creation of a new Research Institute, Engineering Center and Medical Technology Park.

6. Implementation of a system for assessing the effectiveness of Competence Centers and Technology Transfer.

7. Implementation of the Project "Strong Regional University. Center for Academic Excellence in the Mining and Metallurgical Industry."

8. Carrying out activities for technology transfer and thematic specialized research, development work.

9. Search for new sources of industry and international financing and implementation of priority projects.

10. Commercialization of research results in the following areas: additive technologies in medicine, IT, industrial engineering.

6. UNIVERSITY – TERRITORY OF WELL-BEING

Target – formation of an effective university management system that is adaptive to changes, ensuring the harmonious development of the university and the region.

Tasks:

1. Maintaining a modern management system at the level of world standards.

2. Increasing the satisfaction of students and teaching staff with the quality of educational services and the ecosystem.

3. Ensuring the implementation of the third mission by the university.

Resources:

- Availability of a corporate governance system.

- Operation of the project office (13 projects).
- Operation of an integrated management system, including a quality management system (ISO 9001:2015), an anti-corruption management system (ISO 37001:2016), an internal quality assurance system (ESG-2015).
- International certification ISO 9001:2015, ISO 37001:2016.
- Risk management in accordance with ISO 31000:2018.
- Availability of accredited testing laboratories and centers.
- Functioning of student government.
- Student entrepreneurship within the framework of the “ANGAR” project.
- Powerful material and technical base of the university: 15 main facilities, of which: 10 educational and laboratory buildings, 3 student dormitories and the summer expeditionary campus “Prostor” on the Bukhtarma Reservoir, as well as a number of auxiliary premises (workshops, garages, etc.). Summer sports complex. Smart campus.
- Implementation of the EKTU.Otbasy project - a territory of well-being *Well being, which was recognized as the best project among Universities of the Republic of Kazakhstan in the “QAZAQSTAN PROJECT MANAGEMENT AWARDS–2022” nomination.
- Operation of psychological support service, children's room “Baby-land”.
- Operation of 7 environmental clubs.

Based on the SWOT analysis (Appendix 1), measures to implement the assigned tasks were identified:

1. Maintaining a modern management system at the level of world standards.

- Improvement of the management system:

1. Ensuring a high level of corporate governance; transparency of the management system and openness of information; creation of an endowment fund; implementation of an information security management system; implementation of a sustainable development management system, international accreditation of the University and educational programs; implementation of a quality management system, anti-corruption management system, CDIO standards.
2. Development of a financial sustainability system in the direction of monetizing the intellectual potential of the university, Smart University.
3. Formation of a dynamic corporate culture focused on learning and implementing changes from the bottom up, employee and student involvement.
4. Development of a personnel policy focused on supporting young specialists, development of talent management, creation of a pool of personnel reserves, recruiting specialists using world practices, compliance with gender policy.

- Increase the authorized capital

1. Increasing the authorized capital from 2024 through the implementation of the project “Increasing the authorized capital of NJSC D. Serikbayev East Kazakhstan Technical University” with the aim of implementing the project “Strong regional university. Center for Academic Excellence in the Mining and Metallurgical Industry" to create 32 new and modernized laboratories in 8 areas (financing 2024-2026).

2. The degree of satisfaction of students and teaching staff with the quality of educational services and the ecosystem.

- Improving youth policy:

Upgrade of youth policy in terms of:

1. Expanding the powers of student self-government to form civic and patriotic self-realization of youth within the framework of the university values: “Respect for the individual” and “Honesty.”
2. Development of university youth initiatives, increasing the involvement of students in the life of the university in accordance with the university values “Development and openness to new things” and “Teamwork”. Development of the StartUp movement. Upgrade of ANGAR into a business incubator, implementation of the Erasmus+ project on youth policy.

3. Developing connections with the university alumni community. Project Alumni.

4. Creating conditions for self-development of student youth, strengthening the prevention of mental and behavioral disorders in order to prevent deviant forms of behavior.

5. Formation of environmental consciousness through the active involvement of students in the implementation of environmental initiatives of the university, including the activities of environmental clubs, in accordance with the value of the university “Ecological culture”.

- Infrastructure improvement:

1. Digital University.

2. Modernization of infrastructure (dormitory No. 3, modernization of LEC "Prostor").

3. Formation of a modern “Study place” for students based on smart technologies, automation, integration with Smart Campus in accordance with global trends.

4. Formation of 32 new and modernized laboratories within the framework of the DAC Project in the mining and metallurgical industry in 8 areas:

- IT and fundamental training (Data Center), Laboratory “Mobile development and data analysis” (new), Laboratory of Electronic and Microprocessor Technology (new), Laboratory "Industrial controllers", Laboratory “Mechanics”, Laboratory “Molecular Physics and Thermodynamics”, Laboratory “Electricity and Magnetism”, Laboratory “Optics”, Laboratory “Atomic and Nuclear Physics”, Laboratory “Modeling of Complex Physical Processes”);

- exploration and production (Laboratory of physics of rocks and processes (new), Laboratory of Multiscale Geophysics and Remote Sensing, Laboratory of Mineralogical Research, Laboratory of Engineering Geodesy and Cartography, Laboratory of Photogrammetry and Remote Sensing of the Earth);

- enrichment and processing (Laboratory “Analytical Chemistry”, Laboratory “Organic Chemistry”, Laboratory “Physical Chemistry”);

- metallurgy and materials science (Laboratory of analytical research, Laboratory of imitation metallurgy (new));

- metalworking and mechanical engineering (Laboratory “3D Printing Prototyping”, Laboratory “Metalworking, Heat Treatment and Welding Technologies”, Laboratory “Product Quality Control” (new), Laboratory “Electric and Hybrid Cars” (new), Laboratory “Car Engines”, Laboratory “Car Maintenance and Repair”);

- nuclear and traditional energy (Center for Competence and Technology Transfer in the Field of Energy, Center for Competence in the Field of Energy Audit, Energy Management and Energy Efficiency Improvement, Center for Competence and Technology Transfer in the Field of Renewable Energy (new));

- ecology and life safety (Laboratory “Environmental Safety” (new), Laboratory "Industrial and Fire Safety" (new));

- construction (BIM Design Laboratory).

5. Manage infrastructure development through landscaping and interior design of university facilities to create a safe and effective learning environment for all.

6. Further development of the Green Campus Project.

- Implementation of the Wellbeing Policy:

1. Implementation of the principles of EKTU.Otbasy, based on the following values:

1) The value of a human resource, the self-worth of a person with his intellectual, physical, emotional and creative potential.

2) Self-development is lifelong learning.

3) Ergonomic space is a comfortable working and emotional environment.

4) Environmental sustainability – conscious consumption and environmental awareness.

5) Corporate unity – the formation of corporate culture and internal social connections.

2. Application of the following mechanisms in the development of the Well-Being Policy:

1) Replication of Well-Being practices in the university community and society according to the 5 elements of well-being - physical, emotional, professional, financial and social and transition

to the Well-being 3.0 level.

2) Development of university sports.

3) Creating an ergonomic working environment and broadcasting the best practices for transforming the university space to accommodate new learning technologies, modern needs of young people and meeting the concept of a “green campus”.

4) Introducing the practice of conscious consumption and fostering a thrifty attitude towards natural resources.

5) Formation of new corporate traditions of the university.

3. Ensuring the implementation of the third mission by the university.

- Achievement of 17 sustainable development goals.

- Implementation of the Silver University program.

- Maintaining high employer satisfaction.

7 DECODING ABBREVIATIONS AND GLOSSARY

The following concepts and abbreviations are used in this Strategic Development Program:

1) mission - the main purpose of the organization, which is to determine its role in the implementation of public policy in the relevant industry or field of activity;

2) vision - an image of the future, reflecting how the organization sees in the future the results of its activities based on the results of the implementation of the development program. The vision may be subject to change as new trends and perspectives emerge;

3) values – a brief description of the moral and professional principles of the organization;

4) goal – the state of the organization by the end of the planning period, the achievement of which is ensured by the implementation of the relevant document.

5) key performance indicators – indicators of the direct and final results of the organization’s activities, as well as quality indicators (if any);

6) The Ministry of Science and Higher Education of the Republic of Kazakhstan is the central executive body of the Republic of Kazakhstan, exercising leadership and intersectoral coordination in the field of higher and postgraduate education;

7) executive body of the organization - a collegial body or a person individually performing the functions of the executive body, the name of which is determined by the charter of the organization;

8) planning period – the period for which the program and development plan are being developed;

9) task - the main condition necessary for the implementation and achievement of goals and objectives, as well as ensuring key changes in the organization by the end of the planning period;

10) target indicator – the quantitative value of the goal, allowing to measure the level of its achievement;

11) international educational programs are special training programs that provide students and teachers with the opportunity to receive education or spend an academic semester outside their country. These programs are developed and implemented within the framework of cooperation between educational organizations from different countries.

12) electronic resource is any information material or content that is available in electronic format and can be obtained or used using a computer, smartphone, tablet or other electronic device with an Internet connection;

13) educational equipment - these are material teaching aids used in the educational process to develop knowledge, skills and abilities in students, etc.

14) digital literacy – a person’s knowledge and ability to use information and communication technologies in everyday and professional activities;

15) researchers - scientific and scientific-pedagogical workers, other teachers at all levels of education, students and doctoral students planning and implementing research projects (research) in

the field of education.

16) a commercialized project is a project for which a grant is allocated for the commercialization of the results of scientific and (or) scientific and technical activities, financed from the state budget, provided to an accredited subject of scientific and (or) scientific and technical activities and other participants declared in the project for commercialization of the results scientific and (or) scientific and technical activities, in the manner prescribed by the rules of basic and program-targeted financing of scientific and (or) scientific and technical activities, as well as grant financing of scientific and (or) scientific and technical activities and commercialization of the results of scientific and (or) scientific and technical activities, financing of scientific organizations carrying out fundamental scientific research;

17) Scientific equipment is laboratory equipment representing various instruments and equipment used by scientists working in a laboratory to perform experiments or make measurements. Scientific equipment includes machines, mechanisms, instruments and devices intended and directly used for scientific research and development.

18) world libraries are full-text digital databases, access to which is provided by the Ministry of Education or purchased by an educational institution.

19) non-formal education - the process of acquiring new knowledge often takes place outside a specialized educational space, while there are specific goals, methods and techniques, and most importantly, the result of learning. It can be conducted by educational organizations when training with a teacher individually, and consists of a variety of trainings, courses, seminars, round tables, which are accompanied by the issuance of a document confirming additional advanced training - a participant certificate, advanced training diploma, certificate.

20) NJSC "D.Serikbayev EKTU", NJSC "EKTU" - Non-profit joint-stock company "D.Serikbayev East Kazakhstan Technical University".

21) Vice-Rector for Academic Affairs – Member of the Board, Vice-Rector for Academic Affairs.

22) Vice-Rector for MS – Member of the Board, Vice-Rector for International Cooperation.

23) Vice-Rector for Research and Development – Member of the Board, Vice-Rector for Science and Innovation.

24) ISO is an international standard.

25) QS WUR – QS World University Rankings – world ranking of universities by the British agency QS Quacquarelli Symonds Limited.

26) QS AUR – QS Asia University Rankings – ranking of Asian universities from the British agency QS Quacquarelli Symonds Limited.

27) QS subject - QS World University Rankings by Subject - world ranking of universities by subject from the British agency QS Quacquarelli Symonds Limited.

28) Green Metric - a global ranking of green campuses and environmental sustainability.

29) THE Impact - The Times Higher Education Impact Rankings - a global ranking that evaluates universities in accordance with the United Nations Sustainable Development Goals.

Application 1

SWOT analysis:

Strengths	Weaknesses
1. High employment rate of graduates of educational programs. 2. Close cooperation with enterprises and local executive bodies. 3. High educational and innovative potential of the university. 4. Strong university partners (international and Kazakhstan). 5. Built management system: - corporate governance; - Quality Management System; - internal quality assurance system; - anti-corruption management system; - project management; - risk management. 6. Modern infrastructure (developed corporate information system, research and laboratory facilities, campus). 7. The university is included in the QS WUR ranking of world universities and in the global sustainable development ranking The Impact. 8. Support for student initiatives.	1. Shortage of highly qualified scientific and pedagogical workers, including young scientists. 2. Low number of foreign students. 3. Absence of EP in global subject rankings. 4. Insufficient number of educational programs implemented in English. 5. Low level of academic mobility (students and faculty). 6. Insufficient involvement of internal and external stakeholders in the university's business processes, including sponsorship. 7. Low level of commercialization of research results. 8. The need for further development of the financial sustainability system.
Opportunities	**Threats**
1. Transboundary location of the region. 2. Academic and managerial freedom of the university. 3. Globalization and internationalization of education. 4. New online learning opportunities. 5. High demand for engineering personnel in the labor market. 6. Opening of the Lu Ban workshop. 7. State support for university science. Implementation of government projects: grant funding for "Young Scientists", annual award "Best Researcher". 8. Implementation by the state of the Project "Increase in the authorized capital of NJSC "D.Serikbayev East Kazakhstan Technical University" with the aim of implementing the project "Strong regional university. Center for Academic Excellence in the Mining and Metallurgical Industry." 9. Sponsorship support from partners.	1. Growing competition in the educational services market. 2. The low proportion of graduates choosing technical areas is due to the unsatisfactory level of physics and mathematics training in schools. 3. Decrease in the number of students. 4. Imperfections of the legislation of the Republic of Kazakhstan regarding the commercialization of research results. 5. Influence of media spaces on the image of the university. 6. Manifestation of formalism in the implementation of youth policy.

Application 2

Target indicators and key indicators

Target indicators	Responsible person	Unit	Key Performance Indicators						
			2023	2024	2025	2026	2027	2028	2029
ACADEMIC EXCELLENCE									
TARGET INDICATOR 1 University position in the QS WUR ranking	Rector, First Vice-Rector, Vice-Rector for AA, Vice-Rector for IC, Vice-Rector for SI	position	950	950	900	900	850	850	800
TARGET INDICATOR 2 Share of EP included in the TOP 10 national and TOP 500 global subject rankings	Vice-rector for AA	%	24	27	29	36	39	42	43
TARGET INDICATOR 3 Formation of a high-quality student population	Rector, First Vice-Rector, Vice-Rector for AA, Vice-Rector for IC, Vice-Rector for SI	people	5100	5400	5700	6000	6300	6600	7000
Objective 1 Achieving a high academic reputation and employer reputation									
The share of SEP, DDEP with partner universities from the TOP-700 of the QS rating, innovative EP, developed by order of industry associations and enterprises.	Vice-rector for AA	%	12	14	16	17	19	21	22
Proportion of graduates employed in the first year after graduation.	Vice-rector for AA	%	82,5	83,0	83,5	84,0	84,5	85,0	85,5
The share of students in foreign academic mobility programs (incoming/outgoing).	Vice-Rector for IC	%	0,3	0,5	0,7	0,9	1,0	1,1	1,4
Objective 2 Increasing the level of knowledge, professional competencies and effectiveness of scientific development work									
The share of teaching staff teaching in English from the total number of teaching staff.	Vice-rector for AA,	%	11	12	12,5	12,5	13	13	13,5

	Vice-Rector for IC								
The share of teaching staff who have undergone advanced training and foreign internship.	Vice-rector for AA	%	53	57	61	65	66	68	69
The share of foreign experts involved in teaching activities.	Vice-Rector for IC	%	8	8,5	9	9,5	10	11	12
Objective 3 Ensuring equality and accessibility of quality education									
Share of students from other regions of the Republic of Kazakhstan	Vice-rector for AA	%	26	26,5	27	27,5	28	29	30
The share of foreign students in the university from the total number of students	Vice-Rector for IC	%	2,5	3,5	4,5	5,5	7,0	8,5	10
Share of master's and doctoral students from the total population	Vice-rector for AA	%	8	10	11	12	13	14	15
SCIENTIFIC AND TECHNOLOGICAL BREAKTHROUGH									
TARGET INDICATOR 1 Citation rate of scientific articles (Scopus) per 1 university faculty member (excluding self-citation)	Vice-Rector for SI	unit	1,9	2,1	2,5	2,9	3,3	3,5	3,8
TARGET INDICATOR 2 International Collaboration Rate (IRN)	Vice-Rector for IC	index	2,1	2,3	3,0	3,5	3,9	4,3	4,9
TARGET INDICATOR 3 The share of income received from scientific activities, innovative developments and commercialized projects is at least 20% of the total budget of the university	Vice-Rector for SI	%	25,5	26	26,5	27	27,5	28	28,5
Objective 1 Increasing the scientific potential and research productivity of scientists									
Number of articles and reviews of scientific research in high-ranking publications Q1, Q2 Journal Citation Reports JCR	Vice-Rector for SI	unit	10	13	15	20	25	30	35
Proportion of graduates who defended their doctoral dissertation in the first two years after graduation, out of the total number of graduates	Vice-Rector for SI	%	14	30	35	35	40	40	45
Share of teaching staff engaged in research work	Vice-Rector for SI	%	25	26	27	30	32	35	40
Objective 2 Development of international research projects and interdisciplinary collaborations									
The share of scientists who completed internships in foreign	Vice-Rector	%	8	10	12	15	17	20	22

research centers and universities from the total number of teaching staff	for IC								
Share of international projects and programs from the total number of projects being implemented	Vice-Rector for SI, Vice-Rector for IC	%	6	7	8	9	10	12	15
Number of priority interdisciplinary research areas and groups by country	Vice-Rector for SI	unit	7	8	11	13	15	17	19
Task 3 Diversification of sources of funding for scientific research and strengthening of scientific and innovation infrastructure									
Share of projects financed by local government and business funds from the total number of projects	Vice-Rector for Research and Development	%	15	15	17	20	25	30	35
Share of financial resources spent on updating educational and scientific equipment	Vice-Rector for SI	%	12	13	14	15	16	17	18
Number of commercialized research projects	Vice-Rector for SI	unit	2	3	3	4	4	5	5
UNIVERSITY IS A TERRITORY OF WELL-BEING									
TARGET INDICATOR 1 Formation of a modern management system based on international standards (ISO 9001, ISO 37001, ISO 31000, ISO 27001, ISO 37101, ESG, CDIO).	Rector, First Vice-Rector	standard	ISO 9001 ISO 31000 ISO 37001 ESG CDIO	ISO 9001 ISO 31000 ISO 37001 ESG CDIO	ISO 9001 ISO 31000 ISO 37001 ESG CDIO	ISO 9001 ISO 27001 ISO 31000 ISO 37001 ESG CDIO	ISO 9001 ISO 27001 ISO 31000 ISO 37001 ESG CDIO	ISO 9001 ISO 27001 ISO 31000 ISO 37001 ISO 37101 ESG CDIO	ISO 9001 ISO 27001 ISO 31000 ISO 37001 ISO 37101 ESG CDIO
TARGET INDICATOR 2 Introduction of international Well-being practices.	First Vice-Rector	% satisfaction	78	79	80	81	82	83	84

		of teaching staff and students							
TARGET INDICATOR 3 Position of the University in rankings for sustainable development Green Metric THE Impact	Rector, First Vice-Rector, Vice-Rector for AA, Vice-Rector for IC, Vice-Rector for SI	TOP	100 1000	95 1000	90 1000	88 800	85 800	83 800	80 600
Objective 1 Maintaining a modern management system at the level of world standards									
International certification according to ISO 9001, ISO 27001, ISO 37001, ISO 37101	Rector, First Vice-Rector, Vice-Rector for IC	certificate	ISO 9001 ISO 37001	ISO 9001 ISO 37001	ISO 9001 ISO 37001	ISO 9001 ISO 37001	ISO 9001 ISO 27001 ISO 37001	ISO 9001 ISO 27001 ISO 37001	ISO 9001 ISO 27001 ISO 37001 ISO 37101
The share of educational institutions that have passed international specialized accreditation	First Vice-Rector	%	53	84	93	97	100	100	100
Share of undergraduate EP programs implemented according to CDIO standards	Vice-rector for AA	%	25	30	35	40	45	50	50
Objective 2 Increasing student satisfaction, teaching staff with the quality of educational services and the ecosystem									
The level of created conditions for inclusive education at the university	First Vice-Rector	%	66,6	70	80	100	100	100	100
The share of attracted investments for the development of the university from the total income of the university, including within the framework of the endowment fund	Rector, First Vice-Rector, Vice-Rector	%	31	32	32,5	33	33,5	34	34,5

	for AA, Vice-Rector for IC, Vice-Rector for SI								
Percentage of university students involved in organized social activities	First Vice-Rector	%	35	40	45	50	55	60	65
Task 3 Ensuring the implementation of the third mission by the university									
The degree to which the university achieves its sustainable development goals	First Vice-Rector	%	59,6	59,6	59,6	66,7	66,7	66,7	72,6
Social responsibility of the university through the Silver University program.	First Vice-Rector, Vice-Rector for AA	number of listeners, people	130	135	140	145	150	155	160
Degree of employer satisfaction, not lower	First Vice-Rector	%	90	90	90	90	90	90	90