On granting the status of a research university to the non-commercial joint-stock company 'South Kazakhstan University named after M. Auezov' and approving its Development Program for 2024-2028 years.

Resolution of the Government of the Republic of Kazakhstan dated November 25, 2023, No. 1042.

In accordance with subparagraph 8) of Article 3 of the Law of the Republic of Kazakhstan 'On Science' and subparagraph 21-6) of Article 1 of the Law of the Republic of Kazakhstan 'On Education,' the Government of the Republic of Kazakhstan RESOLVES:

1. Grant the status of a research university to the non-profit joint-stock company "South Kazakhstan University named after M. Auezov."
2. Approve the attached Development Program of the non-commercial joint-stock company "South Kazakhstan University named after M. Auezov" for 2024-2028.
3. This resolution comes into effect from the date of its signing

Prime Minister of the Republic of Kazakhstan *A. Smailov*

Approved by the Resolution of the Government of the Republic of Kazakhstan dated November 25, 2023, No. 1042.

Development Program of the non-commercial joint-stock company 'South Kazakhstan University named after M. Auezov' for 2024-2028.

Contents

Section 1. Introduction.

The Development Program of the non-profit joint-stock company 'South Kazakhstan University named after M. Auezov' (hereinafter referred to as the Development Program) has been developed in accordance with the order of the Minister of Education and Science of the Republic of Kazakhstan dated October 25, 2018, No. 590, the National Development Plan of the Republic of Kazakhstan until 2025, and the Resolution of the Government of the Republic of Kazakhstan dated March 28, 2023, No. 248 'On the approval of the Concept for the Development of Higher Education and Science in the Republic of Kazakhstan for 2023-2029.'

The non-commercial joint-stock company 'South Kazakhstan University named after M. Auezov' (hereinafter referred to as SKU) is one of the major multidisciplinary organizations of higher and postgraduate education (hereinafter referred to as HPE) in the country, serving as a scientific, educational, intellectual, and cultural center of the southern region. It provides training for highly qualified personnel, conducts scientific research, and performs innovative developments in the interests of high-tech industries.

This Development Program presents all new stages of the university's development for the period 2024-2028, with the main priorities being the development of the university's innovative activities, commercialization of scientific research results, and a focus on creative and innovative approaches to training specialists in line with labor market demands.

Today, SKU goes beyond the main directions of education, upbringing and science, strengthening ties with business, various social institutions, and groups, thereby enhancing its influence on society. On a regional scale, SKU can be considered an organization for the training of scientific and innovative

personnel, providing educational services that significantly contribute to the socioeconomic development of the city of Shymkent and the Turkestan region.

To achieve the goals set by the university's Development Program for 2024-2028, the creation of a shared research center (hereinafter referred to as SRC) and the modernization of the university's innovative research ecosystem are proposed. These initiatives aim to meet modern trends and challenges, address the tasks of scientific development, and align with the new paradigm of economic development of the country as outlined in the Message of the Head of State to the people of Kazakhstan, Kassym-Jomart Tokayev, 'The Economic Course of a Fair Kazakhstan.'"

Development Program Passport

Program Name	Development Program of the Non-Profit Joint Stock Company 'South Kazakhstan University named after M. Auezov' for the years 2024 – 2028.
Basis for Program Development	1. Law of the Republic of Kazakhstan "On Education"; 2. Law of the Republic of Kazakhstan "On Science"; 3. Protocol instruction of the President of the Republic of Kazakhstan Tokayev K.K. dated April 12, 2023, No. 23-01-46.1; 4. Concept for the development of higher education and science in the Republic of Kazakhstan for 2023 – 2029, approved by the resolution of the Government of the Republic of Kazakhstan dated March 28, 2023, No. 248; 5. Order of the Minister of Education and Science of the Republic of Kazakhstan dated October 25, 2018, No. 590 "On approval of the structure and rules for the development of the development program of the organization of higher and (or) postgraduate education."
Program Developer	Ministry of Science and Higher Education of the Republic of Kazakhstan (hereinafter – MSHE)
Goal and Objectives of the Program	Goal: Transformation of South Kazakhstan University named after M. Auezov into a research university. Tasks: 1. Integration of scientific activities and the educational process at all levels of higher and postgraduate education; 2. Creation of an innovative research ecosystem within the framework of the country's industrial and innovative development; 3. Creation and development vectors of the university corporate governance model in modern conditions; 4. Increasing the contribution of SKU to the development of the region's and country's economy.
Timelines and stages of program implementation	2024 – 2028 years. I stage – 2024 year; II stage – 2025 year; III stage – 2026 – 2027 years; IV stage – 2028 year.
Funding sources	Necessary funds: The total income of SKU for 2024 – 2028 will amount to 82,441,501 thousand tenge, including: 1. budgetary funds – 46,984,727 thousand tenge. Including for the years 2024 – 2028: In 2024 – 8,917,836 thousand tenge, including: funds from educational activities under the state educational order – 8,559,963 thousand tenge; funds from academic mobility – 38,787 thousand tenge; funds from scientific activities – 302,086 thousand tenge; funds for attracting foreign specialists – 17,000 thousand tenge. In 2025 – 9,260,113 thousand tenge, including:

	funds from educational activities under the state educational order – 8,881,095 thousand tenge; funds from academic mobility – 38,787 thousand tenge; funds from scientific activities – 323,231 thousand tenge; funds for attracting foreign specialists – 17,000 thousand tenge. In 2026 – 9,504,506 thousand tenge, including: funds from educational activities under the state educational order – 9,102,861 thousand tenge; funds from academic mobility – 38,787 thousand tenge; funds from scientific activities – 345,858 thousand tenge; funds for attracting foreign specialists – 17,000 thousand tenge. In 2027 – 9,651,136 thousand tenge, including: funds from educational activities under the state educational order – 9,225,280 thousand tenge; funds from academic mobility – 38,787 thousand tenge; funds from scientific activities – 370,069 thousand tenge; funds for attracting foreign specialists – 17,000 thousand tenge. In 2028 – 9,651,136 thousand tenge, including: funds from educational activities under the state educational order – 9,225,280 thousand tenge; funds from academic mobility – 38,787 thousand tenge; funds from scientific activities – 370,069 thousand tenge; funds for attracting foreign specialists – 17,000 thousand tenge. 2. extrabudgetary funds – 35,456,774 thousand tenge. Including for the years 2024 – 2028: In 2024 – 6,703,561 thousand tenge, including: funds from educational activities on a contractual basis – 6,162,349 thousand tenge; funds from scientific activities – 222,348 thousand tenge; funds from other activities – 318,864 thousand tenge. In 2025 – 6,913,562 thousand tenge, including: funds from educational activities on a contractual basis – 6,347,219 thousand tenge; funds from scientific activities – 237,913 thousand tenge; funds from other activities – 328,430 thousand tenge. In 2026 – 7,130,485 thousand tenge, including: funds from educational activities on a contractual basis – 6,537,636 thousand tenge; funds from scientific activities – 254,566 thousand tenge; funds from other activities – 338,283 thousand tenge. In 2027 – 7,354,583 thousand tenge, including: funds from educational activities on a contractual basis – 6,733,765 thousand tenge; funds from scientific activities – 272,386 thousand tenge; funds from other activities – 348,432 thousand tenge. In 2028 – 7,354,583 thousand tenge, including: funds from educational activities on a contractual basis – 6,733,765 thousand tenge; funds from scientific activities – 272,386 thousand tenge; funds from other activities – 348,432 thousand tenge. The necessary extrabudgetary financing for 2024 – 2028 will amount to 800,000 thousand tenge, including own funds – 800,000 thousand tenge. Including for the years 2024 – 2028: In 2024 – 200,000 thousand tenge; In 2025 – 200,000 thousand tenge; In 2026 – 200,000 thousand tenge;

	In 2027 – 200,000 thousand tenge. Additional funds from the republican and local budgets are not required.

Section 2. Description of the prospects of South Kazakhstan University named after M. Auezov, taking into account the current state and long-term goals.

SKU is a leading university in the southern region, whose research and innovation activities are aimed at providing scientific support for the innovative-industrial and socio-economic development of the region and the country, forming a modern scientific and educational environment in which the training of highly qualified personnel is carried out based on the close integration of science, education, and innovation.

The university today is focused on new conditions for training technical and engineering personnel, taking into account the experience of foreign higher education institutions, namely: a system for selecting the most talented and capable youth, who flexibly use their knowledge to solve related tasks, whose competence will meet international requirements for the development of economic modernization and the creation of globally competitive production in the country. The task of SKU is to thoroughly study international standards of engineering education and adapt them to the training of students in the field of engineering and technology with further certification, which will provide enterprises with qualified specialists on a planned basis, and students with guaranteed employment after graduation.

At the same time, the university is increasingly focusing on a practice-oriented approach, implementing educational programs based on the principles of dual education, with every fifth bachelor's program at the university being implemented jointly with business partners at enterprises.

As a result, SKU graduates can solve various business cases directly in production.

SKU has identified the following priority areas for the development of science, which provide for achieving results of an international level:

1. Chemical technology for the comprehensive processing of mineral and technogenic raw materials; nanotechnology and nanomaterials;
2. Industrial, food, and agricultural biotechnology;
3. Modern technologies of building materials and construction.

Priority areas for the development of science, aimed at achieving national and regional level results:

1. Development of the agro-industrial complex; technology for storage and processing of agricultural products;
2. Theoretical and applied issues of physical and mathematical sciences, mechanics; IT technologies and production automation;
3. Technology and engineering of the textile and light industry;
4. Issues of energy and resource conservation, water resources; renewable energy sources;
5. Environmental issues and environmental protection; life safety;
6. Issues of theory, methodology of literature, linguistics, bibliography;
7. International politics; improvement of the legal system.

With the transition to a research university and the implementation of the specified priority areas, the integration of the educational and research process will be ensured, leading to the following positive results that determine the socioeconomic efficiency of the university:

1. Leading positions in global university rankings;
2. Improving the quality of educational services in the context of global trends;
3. Implementation of innovative educational programs at various levels, integrated into the international educational space;
4. Attractiveness of the university for foreign citizens and international partners;
5. Effective integration of science, education, and production, ensuring effective technology transfer to the regional economy;
6. Collaboration of fundamental and applied research across a wide range of priority areas for the development of science, technology, and engineering at the global level;
7. Effective use of human and scientific-technical potential;
8. Creating favorable conditions for the development of youth and volunteers, involving them in the socio-economic development of the country.

The goals and objectives set in the Development Program of SKU as a research university and a center of innovation-oriented clusters will allow science to be transferred into the real production structure, improve the quality of higher professional education, and accelerate the process of stable economic growth and economic development of the city of Shymkent – a major industrial, commercial, and cultural center of the country.

Section 3. Analytical and Forecasting Justification of the Program

Subsection 1. Analysis of the current activities of South Kazakhstan University named after M. Auezov, key problems, and their causes.

In the 2023 QS Asia University Rankings, SKU ranks 177th. In 2023, SKU underwent an audit by the reputable British ranking agency Quacquarelli Symonds for the first time, receiving a high rating of 4 stars.

In the UI Green Metric World University Rankings, SKU is ranked 260th among 956 higher education institutions. In the "Ranking by Campus Setting – 2021," the university ranked 34th in the world out of 170 institutions. In the regional Greenmetric "Ranking by Region 2021 – Asia," it is in the TOP 200, ranking 170th.

In the 2022 Times Higher Education Impact Rankings, SKU was in the TOP 1001+. According to the 2022 regional ranking of the Asia-Pacific region Rank Pro by subjects, the following were noted: biological sciences – TOP 351-400, chemical sciences – TOP 301-350, engineering and technology – TOP 351-400, mathematics – TOP 351-400. According to the 2023 national ranking of the best higher education institutions in Kazakhstan, conducted by the Independent Agency for Quality Assurance in Education (IQAA), SKU is in 2nd place.

In 2022, in the ranking of the National Chamber of Entrepreneurs "Atameken," 17 educational programs were in the TOP 3. In the TOP 5, there are 28 programs, and in the TOP 10 – 34 programs.

As part of academic development, the university aims to enhance the quality training of competitive graduates who meet the requirements of the modern labor market. The total number of students at SKU is 24,517, including 22,994 undergraduates (93.8%), 1,355 master's students (5.5%), and 168 PhD students (0.7%). The number of international students is 3,284 (13.4%).

Today, the university is in the process of transforming its educational brownfield. SKU is one of the first higher education institutions in the country to transform the entire university's educational space, based on the principle of individualizing educational trajectories.

In the pilot mode, two applied bachelor's degree programs in "Tourism and Hospitality" were launched in the 2022 – 2023 academic year.

207 educational programs (70% of the total) have accreditation certificates.

11 programs have been successfully accredited by the international agency ASIIN, of which 4 bachelor's programs received the Eurobachelor quality mark, and 3 master's programs received the Euromaster quality mark, awarded to the best educational programs in the field of chemistry.

When developing educational programs, the requirements of stakeholders, professional standards, the atlas of new professions, and the experience of leading foreign higher education institutions are taken into account. Thus, the share of innovative educational programs ordered by enterprises in the southern region is 3.5%, and interdisciplinary programs – 8.6%.

To create an innovative multilingual learning model, the university offers education in English in 23 programs in pedagogical, engineering-technical, humanitarian, and natural science fields, including 13 bachelor's programs, 6 master's programs, and 4 PhD programs. There is a positive trend in the growth of programs implemented based on the principles of dual education, with every fifth bachelor's program (38 programs) being implemented jointly with business partners at enterprises. Additionally, 6 programs have been developed and implemented under the "Silver University" project. Markers of success in this direction include more than 898 agreements with enterprises and organizations, including 192 for educational-scientific-production complexes (ESPC).

The employment rate of graduates in the first year after graduation in 2023 was 87.5%.

SKU actively engages in the internationalization of education. International cooperation is carried out with more than 200 foreign partner universities, 35 of which are strategic partners (exchange programs for faculty and students, academic mobility, joint programs, internships, etc.). The university is a member of 12 international associations and consortia in Europe and the CIS countries, a participant in 5 university consortia, and 15 international organizations. In partnership with leading foreign universities ranked in the TOP 500 QS, 11 joint programs with double diplomas are implemented.

Additionally, specialist training in English is organized in 27 programs, and 4 international projects are being implemented to enhance the capacity of higher education in Kazakhstan under the Erasmus+ program. In the structural project "Implementation of the Dual System in Kazakhstan," SKU is a grant holder.

The university operates 4 joint (international) centers: the French Alliance, the Korean Educational Center, the regional TOEFL center, and the Professional Development and Interaction Center under the Newton – Al-Farabi partnership program.

The university's staff consists of scientists and highly qualified specialists, honored figures in education, science, culture, and sports. Among them are 85 doctors of science, 1 doctor by profile, 475 candidates of science, and 152 PhD doctors. The share of full-time teachers is more than 83%, ensuring the organizational stability of the university's educational activities. At the university, 300 professors are winners of the "Best University Teacher" competition, 80 are holders of the international "Bolashak" scholarship, and 8 of the best scientists at SKU are laureates of the state science award. Since 2023, Nobel laureate Rae Kwon Chung has been a full-time professor at the university.

The university has created a research and entrepreneurial ecosystem for the implementation of scientific and innovative activities, the introduction of innovations into the socio-economic activities of the region, and the formation of new principles for the functioning of university science. One of the most important indicators of the research work of the faculty is their publication activity in ranked journals Web of Science and Scopus. In 2023, the number of articles published in scientific journals with an impact factor in Web of Science and Scopus in both databases was 320. In the same year, the university received the Elsevier Research Excellence Awards (Scopus Awards) in the Industry Knowledge Transfer category.

Active work is being done to protect intellectual property: in 2023, 168 protection documents were obtained, including 40 patents of the Republic of Kazakhstan, 1 Eurasian patent, 1 trademark, and 126 certificates of state registration of copyright for intellectual property objects.

In 2023, SKU is implementing 56 projects for total 1,060,196.8 thousand tenge, including:

1. "Program-Targeted Grant Funding" by MSHE – 4 programs totaling 367,393.5 thousand tenge;
2. "Grant Funding for Scientific Research" by MSHE – 22 projects totaling 450,802.8 thousand tenge;
3. "Grant Funding for Scientific Research by Young Scientists" by MSHE – 3 projects totaling 46,577.3 thousand tenge;
4. "Grant Funding for Scientific Research 'Zhas Galym'" by MSHE – 21 projects totaling 161,386.2 thousand tenge;
5. International grants – 1 project totaling 13,237.0 thousand tenge;
6. Initiative contract-based scientific research (hereinafter – SR) – 4 projects totaling 20,800.0 thousand tenge.

To develop the university's research ecosystem, SKU collaborates with 22 research institutes in the Republic of Kazakhstan, 12 of which are subordinate to the Science Committee of MSHE. Additionally, 2 program-targeted funding projects and 9 grant scientific projects are being implemented jointly with research institutes (RI).

As a result of the collaborative work of university scientists and the National Center for Complex Processing of Mineral Raw Materials of the Republic of Kazakhstan, a scientific discovery was made on accelerating the formation of iron silicides when silicon oxide interacts with carbon and iron. Additionally, SKU scientists, together with the National Academy of Sciences of the Republic of Kazakhstan under the President of the Republic of Kazakhstan, registered a scientific discovery on titanium splitting. In 2023, 178 performers were involved in the implementation of scientific and scientific-technical projects and programs, including 21 foreign scientists. The scientific process involves 17 scientific laboratories and 1 accredited certification testing regional laboratory of engineering profile "Structural and Biochemical Materials."

The university has 6 dissertation councils for 10 programs: 6D070100 – Biotechnology; 8D05120 – Biotechnological Aspects in the Agro-Industrial Complex; 8D07160 – Chemical Technology of Inorganic Substances; 8D07170 – Chemical Technology of Organic Substances; 8D07172 – Technology of Oil and Gas Processing; 8D07171 – Petrochemistry; 6D072400 – Technological Machines and Equipment; 8D011210 – Life Safety and Environmental Protection; 8D02310 – Philology; 8D05210 – Ecology.

On the scale of the southern region, SKU can be considered an organization for training scientific and innovative personnel, providing educational services, and making a significant contribution to the socio-economic development of the city of Shymkent and the Turkestan region. As a result of cooperation

with local executive bodies, 2 SKU projects were included in the list of niche projects of the SPK of the city of Shymkent, 3 projects were implemented to introduce innovative achievements into the agro-industrial complex of the city of Shymkent, the project "Greening and Improvement of the City of Shymkent for 2021 – 2025" was developed, and the Concept for the Development of the A. Askerov Dendrological Park in the city of Shymkent was created.

Innovative productions have been organized: for the production of school chalk, heat-resistant laboratory glassware, antiseptics, household chemicals, mineral fertilizers and plant growth stimulants, stevia, as well as the launch of a production line for environmentally friendly dried fruits using innovative technology. Work is underway to modernize the gas block plant in the industrial zone "Kazygurt" in the Kazygurt district of the Turkestan region.

To organize cooperation and integration of education, science, and business, as well as to develop the infrastructure for the commercialization of completed research and development (R&D) projects, the university has created the agricultural science and technology center "Zhaskeshu," which serves as an incubator for high-tech businesses and a practical foundation for the university's scientific activities.

To create comfortable conditions and meet the scientific and informational needs of users, the university provides online access to 17 full-text databases: "SpringerLink," "Integrum," "Polpred," "Thomson Reuters ISI Web of Knowledge," "Science," "Elsevier," "EBSCO," and Kazakhstani databases: "KazPatent," "Standards of the Republic of Kazakhstan," "Digital Library on Human Rights," "Zan." Additionally, in the field of intellectual property, online access is provided to international databases: Eurasian Patent Organization (www.eapo.org), European Patent Office (ESP@CENET), World Intellectual Property Organization (PATENTSCOPE), National Patent Office of the USA (USPTO PatFT/AppFT), Russian Patent Database (www.fips.ru), as well as the Kazakhstani National Patent Office of the Republic of Kazakhstan. The university publishes four scientific journals: "Industrial Technology and Engineering," "Bulletin of Science of South Kazakhstan," "Auezov University," and "Qazaqtanu."

Student research work is one of the most important indicators of the university's research activities. The implementation of the principle "learning through research" ensures the active involvement of students in conducting research work. Currently, SKU has 12 student scientific societies (SSS), 82 student scientific clubs (SSC), 3 student design bureaus (SDB) "Mechanic", "Automobilist", "Biotechnician" and 4 student technological bureaus (STB) "Munaishy", "Building Materials", "Technologist", "Alternative Energy Systems". The topics of the research work of the student scientific societies are related to the scientific research of the departments. In the 2021 – 2022 academic year, the number of SSS members, including SSC members, was 2,426, and in the 2022 – 2023 academic year, it was 2,470.

Despite the achievements in educational and scientific activities, SKU has several areas for development outlined in this Program.

Additionally, SKU, fulfilling the third mission of the university as a socially responsible institution, actively participates in the socio-political and socio-cultural life of the region and the country, overall shaping individuals with leadership and communication skills in the context of "Tolyq Adam". Within this concept, 83% of students are involved in youth organizations, student self-government bodies, and the collegial management of the university, 40% are engaged in volunteer activities, and more than 20% participate in sports sections promoting a healthy lifestyle. As part of the implementation of the principle of lifelong learning, the "Silver University" project is being implemented for the adult population of the city of Shymkent.

To address the issues faced by youth without education, employment, or vocational training (hereinafter referred to as NEET) in the city of Shymkent, SKU has established a youth resource center. This center provides informational-methodological and consultative support, as well as assistance with initiatives in state and social programs.

Appendix 1 presents a SWOT analysis of the activities of the non-profit joint-stock company "South Kazakhstan University named after M. Auezov".

The transformation of SKU into a research university and the creation of a new innovative research ecosystem at SKU require the intensification and development of research activities, staffing for priority development areas, and a radical change in the infrastructure support for the university's scientific and educational activities.

Subsection 2. Assessment of the Innovative Potential of the Team

In the formation and implementation of its personnel policy, SKU is guided by the principles of equal opportunities for growth (based on meritocracy) and the realization of the professional potential, initiative, and creativity of employees; the focus of personnel policy on the growth of employees' professional competence; and the continuity and renewal of personnel.

The personnel potential of SKU consists of scientists and highly qualified specialists, honored figures in education, science, culture, and sports.

The dynamics of the number of SKU employees by category for the period 2018–2023 is reflected in Table 1.

Table 1 - Dynamics of the number of SKU employees by category for the period 2018–2023

Indicator	Years					
	2018	2019	2020	2021	2022	2023
Total number of employees Including:	3042	2905	3061	2957	2936	3107
Of which:						
Faculty and teaching staff	1580	1636	1316	1390	1413	1584
Administrative and managerial personnel	290	552	280	285	275	278
Educational support staff	342	246	394	355	321	320
Service and other personnel	830	471	1071	927	927	925

The level of degree holders increased from 45% to 50.4% since 2018, and the number of PhD doctors has more than doubled. In 2023, the graduation of 63 PhD doctoral candidates in various fields of study is expected.

Table 2 - Quality Composition of the Faculty and Teaching Staff

Indicator	Years					
	2018	2019	2020	2021	2022	2023
Total number of faculty and teaching staff (full-time), persons	1580	1636	1316	1390	1413	1315
Of which:						
Doctor of Science	98	92	98	71	102	85
Doctor by Specialty	-	-	-	-	-	1
Candidates of Science	492	476	517	534	539	475
PhD	41	42	57	71	72	152
Masters of science	531	481	593	659	671	603
The level of degree, %	44	45	51	48,6	50,4	52,4
Average age	44	46	47	47	46	46
Number of employees awarded the title "Best University Teacher"	12	14	3	7	5	-

The average age of SKU faculty and teaching staff at this stage is 46 years, and the average age of faculty with academic degrees is 56 years. Among the faculty with academic degrees, there are 42 young scientists under the age of 40.

The creation of a new innovative research ecosystem at the university requires appropriate staffing for the scientific and educational process. Below is information on the professional development of employees at the international and national levels.

Table 3 - Professional Development

	2018	2019	2020	2021	2022	2023
At the international level	26	36	94	175	28	32
At the republic level	557	560	487	710	482	485

The proportion of full-time faculty and teaching staff in the 2023–2024 academic year is 83%, which meets the established standards. Leading scientists and specialists with practical work experience are involved in the educational process as part-time employees. Information about full-time faculty and part-time employees is provided in Table 4.

Table 4 - Information about part-time faculty and teaching staff

Academic Year	Total number of faculty and teaching staff	Including full time	% of full time	Amount of part-time faculty and teaching staff		
				total	for 0,5 rate	for 0,25 rate
2023 – 2024	1584	1315	83 %	269	210	59

The planning of the quantitative composition of the faculty and teaching staff is carried out based on the relevant standards and the calculation of the annual teaching load.

All faculty and teaching staff have employment contracts in accordance with Articles 28, 30, 31, and 32 of the Labor Code of the Republic of Kazakhstan. Employment contracts with teachers recommended by the competition commission are concluded for a term in accordance with the current labor legislation of the Republic of Kazakhstan.

As part of the "Attracting Foreign Scientists and Consultants to Leading Universities of Kazakhstan" Program, 31 foreign specialists from countries such as the United Kingdom, Malaysia, Turkey, the Russian Federation, Belarus, and Ukraine were attracted over three years from 2020 to 2023.

At SKU, within the framework of virtual involvement of foreign specialists in teaching activities, 8 scientists from South Korea, Italy, Latvia, and Turkey have been involved over three years.

Based on cooperation agreements on a gratuitous basis within the framework of experience exchange and lecturing, 289 scientists and teachers from partner universities of the Republic of Uzbekistan were attracted.

Over the past three years, the number of foreign employees and teachers has amounted to 10 people.

Figure 1 - International Employees Working at SKU (2021–2023)

To organize classes in trilingual or English-speaking groups, teachers with international certificates confirming their proficiency in a foreign language according to the Common European Framework of Reference for Languages (IELTS; TOEFL IBT; TOEFL ITP) are involved. Every year, the Center for Continuing Education organizes and conducts a 72-hour course on CLIL technology for the university's faculty members and students.

The high qualification level of the university's faculty members is confirmed by the annual awarding of the "Best University Teacher" grant, state scholarships, etc.

Due to their high professional reputation, the university's teachers are in demand by society and actively participate in the education, science, and upbringing of the younger generation in the city of Shymkent and the Turkestan region.

Some teachers are members of national and international academies of sciences, members of international and national associations, members of dissertation councils of higher education institutions and scientific organizations both in the republic and abroad, chairpersons of attestation commissions in various higher education institutions of the republic, reviewers of doctoral dissertations, members of expert commissions of the Ministry of Education and Science of the Republic of Kazakhstan, and experts of accreditation agencies. SKU employs 15 academicians and 14 corresponding members of various academies.

Subsection 3. Forecast of Labor Market Trends and Workforce Needs

Educational activities at SKU are based on close interaction with stakeholders (including the business community) by involving them in the development of educational programs, creating educational-scientific-production and educational complexes of departments at partner enterprises and organizations, implementing dual education, involving employers in the industry councils of higher schools, joint supervision of diploma and master's theses, teaching activities, and the work of state attestation commissions, thereby developing partnerships.

All this provides competitive advantages for SKU graduates. Thus, annually, more than four thousand SKU graduates successfully find employment in enterprises and organizations not only in the southern region but throughout Kazakhstan.

In 2023 SKU signed agreements with stakeholders to implement the integration of education and production:

1. For employment – 252 (an increase of 69% over the last 3 years);
2. Foe educational-scientific-production complexes – 192 (an increase of 15.6% over the last 3 years);
3. For dual education – 30 (three times more over the last 3 years);
4. For professional practice – 881 (an increase of 17.9% over the last 3 years).

For the successful careers of graduates, the university collaborates and conducts events with the employment center of the city of Shymkent and employers in Shymkent and the Turkestan region, such as: Asia Trafo LLP, Shymkent-Rakhat LLP, Ecofarm LLP, AzalaTextile LLP, BaltTextile LLP, NAC Kazatomprom, Kazakhstan Petrochemical Industries Inc. LLP, Kcell LLP, Kar-Tel LLP, and many others.

As part of graduate employment, the university conducts a digital job fair on the unique domestic platform BEAM, which allows all employers in Kazakhstan to invite SKU graduates to available vacancies and other regions. Through this platform, 15% of graduates have been employed, and the digital job fair can be held year-round, 24/7. To date, more than 100 employers are working with the university on the platform, such as: PetroKazakhstan, AIR ASTANA JSC airline, Asia Trafo LLP, Nazar Textile, FerrumFluor, Sulpak. More than 1,000 graduates have been employed under the state program "Zhastar Practice."

The city of Shymkent, developing as the third metropolis of Kazakhstan, has attracted the attention of business communities in IT directions. The development of mobile application and platform development increases the demand for IT specialists in the labor market. There is an acute shortage of technical specialists in artificial intelligence, machine learning, 3D printing, engineering modeling, and IT technologies. In addition, specialists are needed in the processing industry, aerospace industry, finance, economics, accounting, and management. Accordingly, the employment rate of 2023 graduates was 83.1%.

At the same time, the demand for specialists in the field of education is increasing daily, driven by the growth of 18 new schools in Shymkent and the Turkestan region as part of the "Comfortable School" project and the number of students.

Additionally, the demand for professionals in the tourism sector is growing annually in the labor market of Shymkent and the Turkestan region. This is due to the development of the city of Turkestan as a center of spirituality and tourism for Turkic peoples, attracting more tourists and foreign investors.

The southern region plays an important role in the development of the country's agro-industrial complex. The climatic conditions allow for the development of efficient greenhouse farms, which also drives the growth of specialists in the agricultural sector.

In Shymkent, textile factories (carpet, fabric, wool production, etc.) such as Bal Textile, Azala Textile, Shymkent Cashmere, Alem-BT, Nazar Textile, Ontustik Bylgary, NIC Zhanna Zhoba, Oxi-Textile, and others have opened over the past 10 years, requiring specialists in the light industry.

With the increase in construction projects in the region, the demand for personnel in the construction industry and the production of building materials is growing. The university's employers include companies such as Otau Stroy, BI Group, Ontustik Kurylys Service, and others, which annually attract our graduates. The employment rate for the 2023 graduates in the "Construction" program is 87.5%.

Over the past 3 years, SKU has been implementing a large-scale structural project KAZDUAL within the framework of the ERASMUS+ program, which is a vivid example of collaboration with foreign and domestic higher education institutions from partner countries such as Germany, Austria, and Estonia.

Section 4. Program Vision

Vision: A successful research university – a driver of economic growth and development of the country.

The goal of the Development Program is to transform SKU into a research university through the integration of scientific activities and the educational process at all levels of higher and postgraduate education.

The implementation of this Program is planned in accordance with the Concept of Development of Higher Education and Science of the Republic of Kazakhstan for 2023 – 2029, as well as through the achievement of target indicators and the implementation of activities specified in Appendices 2 and 3 to this Development Program.

Section 5. Program Mission

SKU strategically positions itself as a leading research center for technology and innovation in the southern region, generating new competencies for leaders who promote research thinking and culture.

Program Objectives:

1. Integration of scientific activities and the educational process at all levels of higher and postgraduate education.

The implementation of this objective is planned to be achieved through the harmonization of educational program content in accordance with similar programs of foreign partner higher education institutions, aligning them with the requirements of European and national qualification systems. The educational programs (EPs) are planned to be developed considering professional standards and aimed at forming comprehensive competencies in graduates. The development and implementation of EPs will involve extensive participation from social partners, professional associations, employers, and foreign partner higher education institutions. Innovative, dual-degree EPs with institutions ranked in the top 500 QS, meeting international labor market requirements, are planned. Students will be oriented towards developing "disruptive thinking" (breakthrough ideas).

To enhance SKU's attractiveness in the international educational space, the implementation of the Internationalization Strategy will continue, including creating favorable conditions for learning (infrastructure, scholarships, etc.), information mechanisms, and simplifying the process of obtaining student visas. Efforts will be made to further implement ECTS principles in the educational process and expand academic freedom. Innovative educational programs are planned to be developed based on foresight studies of the labor market and forecasting the demand for new professions. The involvement of business representatives and employers in the development of educational programs, as well as the integration of the educational process with scientific activities, will continue.

The university's activities in this context will also enable the development of innovative MOOKs in the fields of chemistry and chemical engineering, biology and biotechnology, mechanics and mechanical engineering, IT technologies, history, foreign languages, and economics.

At all levels of education, the possibility of acquiring micro-qualifications and recognizing the results of nanodegree programs is planned, which will allow for the rapid acquisition of necessary professional skills, the construction of individual learning trajectories, and the elimination of knowledge gaps.

The university will transition to a "SMART-university" model with a digital ecosystem, which includes the creation of a digital student profile, i.e., their learning trajectory and academic achievements, the development of EdTech digital services, and the optimization of processes in line with advanced digitalization trends. Digital competencies will become a mandatory element of all educational and professional standards.

The implementation of these measures will contribute to improving the quality of human capital in the region and the country, as well as further promoting SKU in national and international rankings.

2. Creation of an innovative research ecosystem within the framework of the country's industrial and innovative development.

SKU has identified the following priority areas for scientific development, aimed at achieving results at the international, national, and regional levels, based on the needs of the region and the country:

1) In the priority area of development "Chemical technology for the comprehensive processing of mineral and technogenic raw materials. Nanotechnology and nanomaterials", it is planned to create a resource base for chemical enterprises, on the basis of which new solutions for the renewal, modernization, and creation of new technologies for the processing of raw materials and materials will be proposed, and a technology for obtaining commercial petrochemical products will be developed.
2) In the priority area of development "Biological technology" in the field of agricultural biotechnology, it is planned to develop and implement effective methods for identifying genetic resources of animals, plants, and microorganisms based on the application of deoxyribonucleic acid with the introduction into the international bioresource database. New compositions of prebiotics, probiotics, and symbiotics in the food industry will be developed, innovative technologies for obtaining extracts of biologically active substances for the creation of functional food products will be developed, and new enzyme preparations in the food industry for export will be created.
3) In the priority area "Modern construction technologies. Building materials", the university will develop energy-saving technologies for obtaining modern building materials and import-substituting products of fine, technical, construction ceramics and refractories, glass, glass-crystalline materials, special cements, composite materials and concretes, as well as technologies for obtaining heat-accumulating materials of international significance.
4) Based on the Rae Kwon Chung Nobel Laureate Center for New Climate Economy, an MBI program on sustainable development will be developed, and interaction with governments, international organizations, and business entities on the implementation of sustainable development principles will be carried out.

To integrate into the global scientific and technological community, increase the number of articles and reviews by university scientists in high-ranking Q1, Q2 Journal Citation Reports (JCR) journals, and improve the quality and efficiency of publication activity, efforts to support the publication of scientific articles in Web of Science and Scopus databases will continue. At the request of national enterprises and leading regional industrial clusters, including the university's key strategic partners, scientific research, experimental design and technological work, engineering, and technological consulting are planned. The system for commercializing research and development results and managing intellectual property will be improved.

3. Creation and development vectors of the university corporate governance model in modern conditions

As part of the Program implementation, a shared research center will be established, comprising five modern research laboratories: the central research laboratory “High-Tech Physico-Chemical Methods of Analysis”; the special research laboratory “Problems of Bioresources and Food Safety”; the analytical research laboratory “Chemical Technology of Oil, Petroleum Products, and Gas”; the testing research laboratory “Modern Structural Materials”; and the research laboratory for prototyping “SmartLab.”

The material and technical equipment of the university’s scientific laboratories will continue to be enhanced, including through grant and program-targeted funding. Transformation will occur through the modernization of the scientific infrastructure of existing laboratories, the introduction of corporate governance, flexible financing, and managerial autonomy.

A digital scientific environment is planned to be organized with a digital platform for managing scientific projects, a system for managing intellectual property and copyright protection, and the creation of a new architecture for data processing and management. The development of digital services based on the principle of hyperconvergence will aim to improve the accessibility, speed, and reliability of the university’s online services.

The implementation of these measures will contribute to the creation of an effective corporate governance model and ensure the sustainable development of the research university.

4. Increasing the University’s Contribution to the Development of the Region’s and Country’s Economy.

SKU’s scientific developments will focus on the priorities of the socioeconomic development of the region and the country. SKU collaborates with the social-entrepreneurial corporation (hereinafter referred to as SEC) “Shymkent”. Overall, to increase the gross regional product, the university will participate in joint projects with SEC “Shymkent”. To increase funding for joint regional projects, the university has created an endowment fund, which will support the ideas and projects of creative groups and university talents to bring them to market and commercialize them.

A significant contribution of the university is the creation of a favorable investment climate for private and foreign investors. To develop the investment potential of the region, the university will initiate research funded by grants and the budgets of the Shymkent and Turkestan region akimats on an ongoing basis. The target capital of the university’s endowment fund will be increased. SKU will work on attracting funds allocated by subsoil users in the amount of 1% of the costs of mineral extraction to finance scientific research, scientific and technical, and/or experimental design work in the following areas from the list of priority industry directions:

1) Geological and physical research methods;
2) Field and well development management;
3) Occupational safety, industrial safety, environmental protection, and production operations.

The development of the university and the implementation of the task of contributing to regional innovation development will focus on developing the concept of a higher education institution integrated into regional development, based on the third mission. This idea involves forming SKU as a scientific and innovative center, ensuring a high level of educational processes, research, and technological developments in the southern region and the country. The university intends to initiate a series of R&D projects for MIE, as well as create joint research centers within the structures of large companies. SKU will act as an innovation hub in the region, transferring new technologies from the research stage to the initial stages and then to industrial testing.

By 2028, the university will train professional personnel in technology transfer. The proportion of faculty members who have improved their qualifications at regional enterprises/companies will increase.

Section 6. Strategic Block of the Program at South Kazakhstan University named after M. Auezov

Subsection 1. Place and role in the system of higher and postgraduate education in Kazakhstan

Academic activities will be aimed at ensuring a high-quality educational process for training students at all levels of education.

Student training will focus on developing practical orientation, forming entrepreneurial and research skills, effectively using resources, and thus achieving an optimal degree of integration of educational activities. Traditional, dual, and distance learning forms will be applied in the training of

personnel, involving employers for the constant updating and development of new innovative educational programs at all levels of higher and postgraduate education, taking into account professional standards and employer requirements. The implementation of this system will allow for the preparation of qualified personnel who not only possess specialized skills but are also oriented towards the requirements of employers and professional communities. At SKU, experimental training is conducted considering the field of study and the specifics of enterprises using the dual system, which will improve the mechanism for systematically involving managers and leading specialists from high-tech domestic and foreign enterprises in the educational process.

To develop an individualized approach to education, the expansion of practice bases continues with the creation of new departments based on industrial enterprises and productions. To expand additional competencies in IT technologies, STEM education, psychological and legal foundations of socialization in modern society, regional economy, and modern marketing technologies, the university has developed additional educational programs such as Minors.

SKU has developed and implemented joint and dual-degree programs based on agreements with partner higher education institutions, allowing students to obtain two equivalent diplomas in two years. The university is expanding its cooperation geography with partner institutions through the exchange of 24 students and teachers, and the development and implementation of dual-degree and joint educational programs. Since the 2005-2006 academic year, the university has been training specialists in English. Today, more than 20 educational programs are offered in English.

To generate new and modern knowledge, the university effectively integrates scientific activities by involving research institutes and laboratories to carry out scientific and technical projects by the university's faculty. SKU focuses on modernizing the mechanism for knowledge and innovation transfer by expanding the system of scientific internships for master's and doctoral students at leading domestic and foreign higher education institutions and research institutes.

The university offers 135 postgraduate programs: 108 master's programs and 27 PhD programs. The university actively continues to train young scientific and pedagogical personnel for higher education institutions.

To increase the flexibility of educational programs, the following are planned:

1) Training specialists capable of adapting to modern production conditions;
2) Expanding partnerships with businesses and enterprises and practice-oriented programs to create educational, scientific, and production complexes of departments at specialized enterprises;
3) Expanding the geography of cooperation with partner higher education institutions through the implementation of dual-degree and joint educational programs;
4) Activating research and innovation activities of students and faculty members.

SKU serves as the project office for the educational and methodological association – the project management group (hereinafter referred to as PMG) for the following groups of educational programs:

1) Chemical engineering and processes: "Chemical Technology of Inorganic Substances", "Chemical Technology of Refractory Nonmetallic and Silicate Materials", "Chemical Technology of Organic Substances", and "Petrochemistry";
2) Teacher training with a subject specialization in general development: "Vocational Education" and "Initial Military Training";
3) Leisure: "Cultural and Leisure Activities".

SKU's educational programs include undergraduate and postgraduate programs, coordinated with employers and 25 international partners. The student learning process is based on modern technologies from partner universities and other foreign higher education institutions, using a combination of lectures, laboratory and individual sessions, group work on case studies, problem-solving tasks, experiments, and clinical practice.

Subsection 2. Academic policy

As part of its academic development, SKU aims to enhance the quality training of competitive graduates who meet the requirements of the modern labor market. This is determined by SKU's academic policy, which is directed towards realizing the university's mission and vision, and its development prospects.

Currently, SKU holds licenses for educational activities in 34 undergraduate programs, 24 master programs, and 13 doctoral programs.

The tasks of the academic policy focus on the following:

1) Providing personnel to meet the needs of the country's industrial and innovative development;
2) Training highly qualified scientific and scientific-pedagogical personnel;
3) Ensuring the integration of education, science, and production;
4) Ensuring integration into the European Higher Education Area;
5) Student-centered learning, teaching, and assessment;
6) Implementing innovative teaching technologies;
7) Creating an internal quality assurance system for education;
8) External quality assurance of education.

The implementation of SKU's academic direction will be achieved through the harmonization of educational program content in accordance with similar programs of foreign partner higher education institutions, aligning them with the requirements of European and national qualification systems. The educational programs (EPs) will be developed considering professional standards and aimed at forming comprehensive competencies in graduates. The development of these programs will involve extensive participation from social partners, professional associations, employers, and foreign partner universities.

Due to the transition to a research university, additional profile-specific requirements will be established for admission. For postgraduate education areas such as "Natural Sciences, Mathematics and Statistics", "Information and Communication Technologies", and "Engineering, Manufacturing, and Construction Industries", the passing score for comprehensive testing and entrance exams will be at least 80 points.

To enhance SKU's attractiveness in the international educational space, the implementation of the Internationalization Strategy will continue. This includes creating favorable learning conditions (infrastructure, scholarships, etc.), information mechanisms, and simplifying the process of obtaining student visas. Efforts to further implement ECTS principles in the educational process and expand academic freedom will also continue. Innovative educational programs will be developed based on foresight studies of the labor market and forecasting the demand for new professions. The share of dual-degree interdisciplinary and global educational programs (EPs) with foreign partners will increase. The learning outcomes of such programs will allow for international professional certification. The involvement of business representatives and employers in the development of educational programs, as well as the integration of the educational process with scientific activities, will continue.

A high level of practical orientation in the programs will be ensured through the creation of educational, scientific, and production complexes of departments at specialized enterprises. By 2028, new dual educational programs in the fields of construction and building materials technology, education, and services will be developed. All other undergraduate, master, and PhD programs will undergo monitoring as part of SKU's institutional accreditation by agencies that are full members of international networks for quality assurance in education and are listed in the register of the authorized body in the field of education. The university's activities in this context will also enable the development of innovative MOOKs in the fields of chemistry and chemical engineering, biology and biotechnology, mechanics and mechanical engineering, IT technologies, history, foreign languages, and economics. There will be an increase in joint international programs, the development of exchange and collaboration systems for faculty and students, including internships at leading foreign universities funded by non-budgetary sources. The proportion of foreign faculty and international students will increase, including through the opening of a SKU branch in Uzbekistan.

SKU will transition to a "SMART-university" model with a digital ecosystem, which includes the creation of a digital student profile, i.e., their learning trajectory and academic achievements, the development of EdTech digital services, and the optimization of processes in line with advanced digitalization trends.

Priority tasks will include the digital transformation of libraries and their systems, the use of open education platforms in the general process (Open University, Coursera, etc.), and the digitization of business processes. Digital competencies will become a mandatory element of all educational and professional standards.

Thus, within the framework of SKU's academic policy, a new trajectory for educational development has been defined, focusing on the student, their needs, and desires. The implementation of the aforementioned tasks will contribute to the creation of an effective corporate governance model and ensure the sustainable development of the research university.

Subsection 3. Development and achievement of innovative potential

A distinctive feature of the emerging research university will be its ability to generate knowledge and innovative ideas, conduct fundamental and applied research across a wide range of scientific, technical, and technological development areas (primarily in priority and critical areas). The research university will ensure the effective transfer of technologies to the real sector of the economy, focus efforts on training master and doctoral students, and implement programs for advanced training and retraining of personnel.

The university's research policy does not involve restructuring the existing scientific structure but rather building upon it, not introducing new restrictions but providing new opportunities, expanding the space for realizing the interests of all participants in the educational and research process.

The implementation of the Program will be carried out in four stages.

I Stage – formation of the management scheme for the Program's implementation, initiation of the optimization of the existing educational, research, and innovation structure, and preparation of regulatory legal acts related to the change in the university's status and the expansion of its activities.

At this stage, the following tasks will be addressed:

1) Creation of the management scheme for the Program's implementation, distribution of functions among the Program's executors;
2) Preparation of regulatory legal acts due to the change in the status of the research university;
3) Preparation and training of the faculty, scientific personnel, and specialists;
4) Optimization of the existing research, educational, and innovation structure;

II Stage – continuation of the optimization of existing research and educational activities, its integration with domestic and international science and industry, and the preparation of research infrastructure.

At this stage, the following tasks will be addressed:

1) Organizational and managerial reorganization and transition of the university to the status of a research university;
2) Further preparation and retraining of the faculty, scientific personnel, and specialists;
3) Implementation of the program for creating new research laboratories within the Research and Innovation Center;
4) Development of advanced educational programs and technologies; modernization of the research, educational, methodological, and material-technical base; implementation of modern information and educational technologies at all stages of the continuous education process.

III Stage – modernization of the innovative research ecosystem and strengthening the university's position as a research university.

IV Stage – formation of a unified innovative research ecosystem within the university, and strengthening the university's position in the international, national, and regional scientific and educational space.

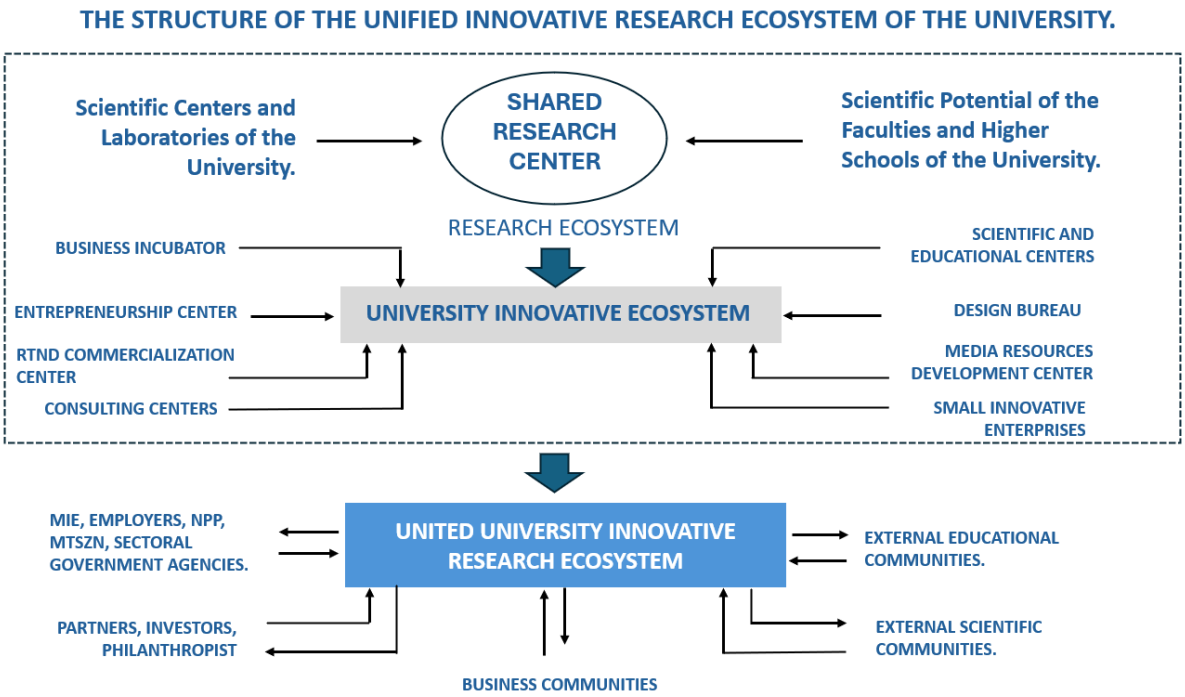

Figure 2 - Unified innovative research ecosystem of the universityю

According to the Program's concept, the main core of the innovative research ecosystem being created at the research university (Figure 3) will be the shared research center.

Figure 3 - Research ecosystem.

The creation of shared research centers is a global trend in addressing challenges related to the development of science and technology, and the integration of science, education, and business.

The main tasks of the created shared research center are:

- Ensuring researchers' access to modern infrastructure in the research and development sector on the principles of shared use of scientific equipment;
- Improving the level of scientific research and the quality of education by forming modern research complexes that meet global standards in terms of technical and operational characteristics of equipment;
- Ongoing maintenance and development of the material and technical base by equipping laboratories with modern, unique scientific equipment to support and develop research in a shared use mode;
- Training specialists and highly qualified personnel (including master's and doctoral students) using modern scientific equipment;
- Developing new and improving existing methods and techniques of world-class scientific research;
- Providing services to external organizations for the use of scientific equipment and the development of the service sector.

The advantages of organizing a shared research center are the concentration of expensive, unique, modern equipment and highly qualified specialists in one place, high efficiency in the use of equipment, and the implementation of principles of shared use.

The newly organized laboratories of the shared research center have a multifunctional nature and can be used for a wide range of research.

In addition to the organized shared research center, the research ecosystem will include 2 existing research institutes, 8 scientific centers, 16 research laboratories, as well as scientific personnel, research infrastructure, and other resources of the university's faculties and higher schools.

The created research ecosystem will be integrated with the existing research and innovation ecosystem of the university. During the integration, the existing ecosystem will be modernized and reorganized, and a unified innovative research ecosystem will be created, which will form the basis of the research university.

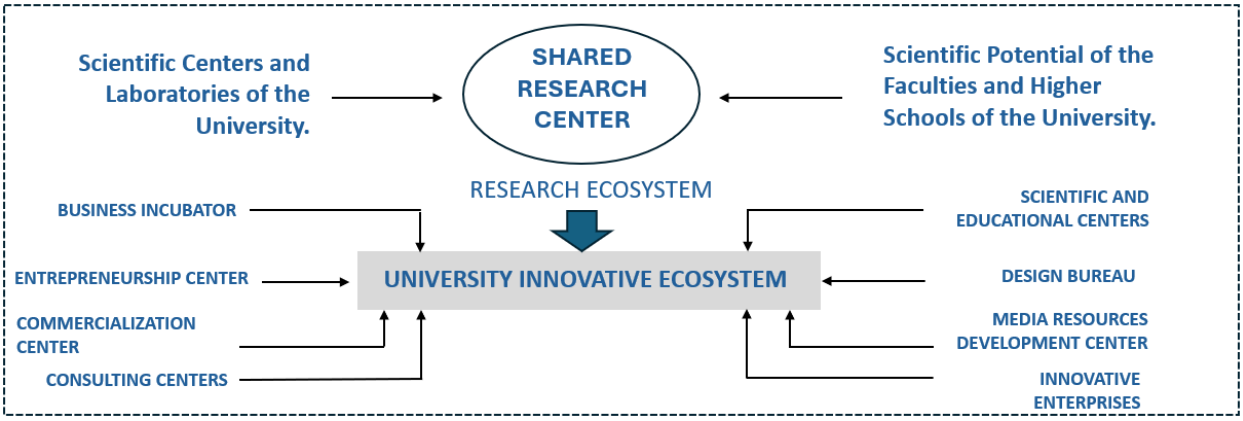

Figure 4. Unified innovative ecosystem

A unified innovation ecosystem (Figure 4) will include an entrepreneurship center, scientific and educational centers, a business incubator, a commercialization center, innovative enterprises, a design bureau, an endowment fund, a mass media resource development center, a training, retraining and professional development center, a startup studio and a technology, innovation and intellectual property support center.

An essential addition to the creation of the university's innovative research ecosystem is the provision of favorable economic, legal, organizational, psychological, and other conditions through innovative enterprises that will be engaged in generating, mastering, and commercializing the results of scientific and technical activities.

The advantages of innovative enterprises include the maximum realization of the creative potential and initiative of scientific and technical workers, flexibility and speed in decision-making, rapid adaptation to changing market requirements, and the possibility of direct contact with consumers of innovative products.

As a result of the Program's implementation, 6 innovative enterprises will be created to develop innovative products with university content.

University departments, being scientific and educational units by definition, are overloaded with organizational and educational tasks. Additionally, they are not always "massive" enough to consolidate scientific efforts for fulfilling state orders or other large-scale research projects. Therefore, 5 scientific and educational centers will be included in the structure of the innovation ecosystem. These centers will logically complement the scientific efforts of the departments. Moreover, the development of the structure of scientific and educational centers does not require any new or special organizational arrangements, as the existing tools for the activities of scientific groups are quite sufficient

The main functions of the newly created scientific and educational centers are: maintaining connections with academic structures, concentrating scientific projects and programs, organizing scientific publications, supporting the educational and research brand of the team, ensuring the rapid implementation of scientific research results into the educational process, developing innovative, competitive educational programs, and importing advanced programs into the university.

Since 2021, on the initiative of the RSE "National Institute of Intellectual Property" of the Ministry of Justice of the Republic of Kazakhstan, together with the World Intellectual Property Organization, a center for technology support, innovation, and intellectual property protection (hereinafter referred to as the TIIPPSC) has been operating at the South Kazakhstan University.

The mission of the TIIPPSC, as an element of the innovation infrastructure, will be to serve as a "connecting bridge" with inventors, innovators, the business community, young scientists, and young technicians.

TIIPPSC main goals will be:

1) Patent and information support from the idea stage to the commercialization of intellectual activity results and means of individualization in the innovative development of regions;
2) Formation of a patent culture in Kazakhstan society;
3) Dissemination of knowledge on the legal protection of intellectual activity results and conducting patent research, as well as providing users with patent information resources

The TIIPPSC allows inventors to access high-quality technical information stored in local databases and corresponding services, thereby creating conditions for realizing the innovative potential of inventors, as well as for creating new products and registering, protecting, and controlling intellectual property rights. The TIIPPSC will assist faculty and researchers in preparing documents to ensure the legal protection of the intellectual property they develop, as well as provide methodological assistance to developers in preparing documents to ensure the legal protection of the industrial property they develop.

Its functions will also include studying the research work carried out at the university and participating in measures to ensure the high technical level, patentability, and patent purity of the machines, designs, materials, and technological processes being developed.

Due to the fact that the majority of the university's scientific staff remain scientists and teachers without the necessary knowledge and skills for commercializing scientific results, a startup studio will be created by reorganizing the structure of the business incubator. Its goal is to form a source of entrepreneurial competencies within the research university.

The research university will become a center generating technologies and new forms of entrepreneurship, maintaining scientific research according to the "triple helix" model. This will ensure the unification of the innovative efforts of the university, business, and the state, with the university playing a central role. The entrepreneurship center will be reformed as a project and consulting center in the field of entrepreneurship theory and practice to promote scientific and technical developments and the results of scientific activities and experimental design work.

The entrepreneurship center will unite the efforts of the university's departments in implementing innovative projects, providing the necessary tools and resources for successfully bringing new products or services to market.

The reformed entrepreneurship center will enhance the level of professional training in the field of entrepreneurship, help create a partnership network for the commercialization of innovative developments, and contribute to the creation of an innovative ecosystem.

To interact with electronic libraries and registration systems, service scientific and scientific-technical periodicals, organize conferences, trainings, webinars, and seminars, conduct publishing activities, and carry out advertising and marketing work, an information analysis and marketing center will be organized.

The integration of the university's research, educational, and innovation environment into a unified innovative research ecosystem (Figure 3) will allow the creation of a new university scientific and educational complex with developed infrastructure, carrying out the full cycle of educational, research, and innovation activities, enabling profit generation, and capable of training specialists with skills in innovative entrepreneurship.

Building such a model of a research university will allow the establishment of an efficiently functioning system of mutually beneficial, constructive, long-term interaction between the university and external entities: government bodies, higher education institutions, scientific organizations, business communities, and regional economic entities.

The main principles of the activities of the newly created research university will be:

1) Development of an innovative education system, resulting in the training of specialists capable of ensuring positive changes in their professional fields and ultimately in the economy and social sphere of the country and region;
2) Advanced training of elite world-class specialists based on the integration of education, scientific research, and production;
3) Preservation of university traditions and the creation of an innovation infrastructure that ensures the integration of academic values and entrepreneurship;
4) Formation of an innovative corporate culture within the university and an internal competitive environment;

5) Development of the university's interaction infrastructure with the external environment, forming strategic partnerships with higher education institutions, academic science, industry, business, and government bodies;
6) Diversification of the university's funding sources, active collection, and attraction of financial and other resources;
7) Creation of an adaptive university management system as a self-learning structure.

The principles implemented by SKU are fully compatible with the tasks that research universities should address. They systematically reflect the main processes and show the directions of constructive activities for transforming the university into an innovative type.

One of the priority areas of work for the research university is ensuring the interaction of scientists with students in the field of integrating science and education.

Currently, the number of students involved in research activities in the university's faculties and higher schools in technical educational programs is 5,805.

There are 86 student scientific clubs, with 2,234 registered members.

Therefore, the university will continue the work of scientific clubs, student scientific societies, student design bureaus, student technology bureaus, and the student business incubator. The university will create all the conditions for the development of student entrepreneurial initiatives and will intensify efforts to create startups.

The university is focused on a new level of organizing scientific research by involving innovative units, scientific and production enterprises, and other organizations in the scientific process so that the educational process is directly linked to scientific research, design and technological, financial and economic, and production work.

To address the tasks of the university's research and entrepreneurial activities, a developed infrastructure is being built, including research institutes, scientific centers, laboratories, a business incubator, a technopark, a design bureau, a technology commercialization office, an entrepreneurship and partnership center, and experimental production facilities.

The regional testing laboratory of engineering profile "Structural and Biochemical Materials" at SKU has been operating since 2008. The laboratory has passed national accreditation, and since 2012, it has been authorized to use the international interlaboratory mark ILAC-MRA, recognized in 60 countries worldwide. Special attention is given to orienting the laboratory's activities towards the current needs of customers and regional development priorities. The laboratory closely collaborates with national companies and enterprises, with which it has scientific cooperation programs, as well as with foreign companies. Around the laboratory, a network of new scientific units and a scientific and production complex have been created.

The laboratory is intended to become a coordinating center for scientific research and the professional development of engineering personnel in the region, for which the following will be:

1) Organized researches based on orders from national companies;
2) Actively participate in organizing and conducting research work for master and doctoral students;
3) Organize regular professional development courses at the laboratory in collaboration with foreign scientists and representatives of manufacturing plants;
4) Conduct international seminars and training on new methods of physico-chemical research with the participation of foreign scientists and specialists;
5) Send laboratory staff for internships at the manufacturing plants of analytical instruments;
6) Develop research methodologies in new scientific directions.

An experimental production complex has been established at the university, including laboratories for plant cultivation (greenhouse), silicates and building materials, construction and architecture, equipped with modern equipment, a biotechnology and microbiology laboratory with an experimental site for the restoration and purification of contaminated soils, an interdepartmental laboratory-production complex for the light and textile industry; a veterinary clinic; a laboratory-experimental complex for hydromelioration and hydraulics; an educational-scientific laboratory for electrical engineering; an interdepartmental educational-scientific complex for automation and telecommunications systems; an educational-scientific laboratory complex for renewable and unconventional energy; a laboratory complex for modern theories and models of electrical machines and networks; a laboratory for monitoring the quality of water resources of the Republic of Kazakhstan; and a scientific laboratory for nanotechnology and nanomaterials.

There are also experimental production facilities with a laboratory for the design and construction of clothing items, a pilot-industrial line for the production of food additives and medical preparations, a

mini-bakery, a mini-line for the production of low-alcohol beverages, and an industrial production of foam concrete building blocks. The experimental production complex is used for student internships and the training of specialists in innovative production.

To develop the university's innovative potential, innovative structures have been created:

1) Department of Entrepreneurship and Commercialization;
2) Technology Commercialization Office;
3) Entrepreneurship and Partnership Center;
4) Technology, Innovation, and Intellectual Property Support Center;
5) Business Incubator;
6) Design Bureau.

One of the most important tasks of research activities is the promotion of high-tech technologies and innovative products proposed by university scientists to the market. In this regard, events are held to visually demonstrate innovative projects at various local, national, and international exhibitions.

Subsection 4. Commercialization of scientific and technical developments

The main way to commercialize completed R&D is through the integration of science and business. The growing interest of commercial enterprises in high-tech products and technologies makes it possible to commercially use the results of SKU's scientific developments, increases the likelihood of attracting capital from commercial structures to create the university's own production, and allows the implementation of scientific developments and servicing of business projects.

To achieve this goal, the following tasks are being addressed:

1) Commercialization of research results in the fields of chemical and petrochemical industry, biotechnology and pharmaceutical industry, light and food industry, nanotechnology, agricultural industry, building materials, metallurgy, ecology, energy, economics, and professional education;
2) Creation of a tool for the commercialization of scientific research and commercialization of scientific developments at the university;
3) Organizational, technical, and financial assistance to the scientific team in the commercialization of technologies;
4) Development of the university's scientific and production activities to meet the needs of the national economy in small-scale (low-tonnage), program products and services within the framework of expanding small and medium-sized business;
5) Assistance in the preparation and obtaining of permits.

An agreement on the university's activities for the commercialization of intellectual property is being developed, which will reflect the rights and obligations of university employees concerning intellectual property.

In 2022, the university's Department of Entrepreneurship and Commercialization prepared 22 potential projects for commercialization in the "Science Fund" JSC of the Ministry of Education and Science of the Republic of Kazakhstan and under the World Bank's "Stimulating Productive Innovation" programs.

Under the "Science Fund" JSC of the Ministry of Science and Higher Education of the Republic of Kazakhstan, the university is implementing four commercialization projects for 2022-2024, with a total amount of 1,302,968,756 tenge.

SKU closely cooperates with the local executive bodies of the city of Shymkent, the National Chamber of Entrepreneurs "Atameken," and the social-entrepreneurial corporation "SHYMKENT."

In the 2021 competition for innovative projects by the Department of Agriculture and Veterinary Medicine of the city of Shymkent, three grants were won for a total amount of over 83 million tenge.

To establish scientific cooperation between the university and the scientific and technological park of the Institute for Advanced Studies in Fundamental Sciences of Zanjan (Republic of Iran), an agreement was reached to create a joint scientific platform "Engineering and Technology Transfer" at the university. The platform intends to actively search for innovative projects by analyzing the economic structures of Kazakhstan and Iran and subsequently implementing them. This platform will stimulate business activity growth by creating a real infrastructure to support entrepreneurship. The second component of the platform is engineering, which includes services such as searching for and selecting innovative ideas and technologies, organizing work to create high-tech and knowledge-intensive productions, and finding financial resources for implementing innovative projects.

Over the years, SKU has accumulated significant intellectual resources, and the successful commercialization of these resources requires a developed innovation infrastructure that ensures the full innovation cycle of scientific and technical development: from generating a scientific idea that surpasses the current level of developments in the studied field of technology to organizing the production of scientific activity products.

Ensuring the development and protection of the intellectual property rights of university scientists is one of SKU's priority activities. In 2023, SKU submitted applications for protective documents: 1 to the Eurasian Patent Office; 20 for patents for inventions in Republic of Kazakhstan; 40 for patents for utility models in Kazakhstan; 1 for a trademark; and 142 for copyright certificates in Kazakhstan. Received: 1 from the Eurasian Patent Office; 13 patents in Kazakhstan; 27 patents for utility models in Kazakhstan; 142 copyright certificates in Kazakhstan; and 1 trademark. The TIIPPSC actively maintains a section on the inventive activities of the university's faculty on its Facebook page.

In this direction, activities will be carried out to activate the introduction of scientific and technical activity results into the economic turnover, created with the involvement of program-targeted and grant funding.

For the successful commercialization of research and development results, the university will facilitate the creation and support of small startup productions that ensure the development and transfer of new technologies. These small productions will be supported by providing them with startup capital (based on the experience of the American SBIR program), legal and informational support, and promoting the intellectual property developed at the university into production through the technology commercialization office and conducting patent and marketing research.

Subsection 5. Contribution of South Kazakhstan University named after M. Auezov to the socio-cultural development of the southern region

An essential element in the training of engineering personnel at SKU, as well as the successful implementation of the Development Program, is the social support of university staff and students.

The social package for SKU employees includes:

1) Increasing the number of paid vacation days for service personnel to 30 days;
2) Additional payments (vaccination, funerals, screening studies, etc.);
3) The possibility of remote work one day a week;
4) Discounts for visiting the university's physical fitness and wellness complex (medical check-ups, sports activities in the university gyms);
5) Financial assistance in various life situations (fire, accidents, complex operations, treatment, disability, long-term illness, etc.), as well as for anniversaries and the death of family members;
6) Assistance to large families, single mothers, and families with children with disabilities;
7) A union recreation area for employees at the SKU base in the village of Mashat;
8) Rest and psychological relief rooms and other socially important facilities;
9) Cultural, sports, and corporate events, team-building activities, training sessions, master classes, etc.;
10) Purchase of vouchers for sanatorium-resort treatment within the Republic of Kazakhstan;
11) New Year's gifts for children under 14 years old;
12) Winter and summer sports competitions;
13) Providing university scientists with the opportunity to participate in international conferences.

Social support for students is a fundamental element of the university's strategy aimed at creating equal opportunities for every student, regardless of their social status, physical characteristics, or other individual traits.

The comprehensive social support system of the university includes the following components:

1) Flexible discount system: the university offers tuition fee discounts ranging from 10% to 100%, intended for students from socially vulnerable groups and gifted young people;
2) Inclusive education: active implementation and promotion of inclusive education principles for students with developmental disabilities and health limitations;
3) Barrier-free environment: ensuring the accessibility of all educational and dormitory spaces, adapted to the needs of students with physical disabilities;
4) Social and psychological support: operation of the social support department and the psychological assistance center, as well as other specialized structures;

5) Individual approach: development and implementation of educational programs aimed at individual development trajectories for students.

To successfully implement this strategy, the university takes the following tactical steps:

1) Providing tuition discounts for special categories of students, including orphans and students from large or low-income families;
2) Financial support for students actively participating in the university's social and sports life;
3) Cooperation with foundations and non-governmental organizations (NGOs) to attract external funding and sponsorship;
4) Conducting training and seminars for teachers on inclusive education and the use of specialized technologies for students with developmental disabilities;
5) Organizing events aimed at the employment of students with disabilities, including job fairs and career forums, in collaboration with regional employment agencies.

The university creates all conditions for the full development and self-realization of each employee and student, emphasizing social justice and equal opportunities.

The implementation of the subsection of the Development Program "SKU's Contribution to the Socio-Cultural Development of the Southern Region" will increase:

1) The share of research projects focused on the region's economic development;
2) The share of research projects for the preparation of feasibility studies and scientific justifications for investment projects;
3) The share of innovative educational programs developed at the request of enterprises.

Section 7. Ways to Achieve the Program's Goal

The implementation of the Development Program's tasks is planned through the creation of the shared research centers as part of SKU's transformation into a research university and the modernization of the university's innovative research ecosystem. By utilizing intellectual potential and modern, unique experimental scientific equipment, breakthrough scientific directions with global significance will be developed. This will involve training creatively thinking specialists capable of generating advanced ideas and increasing intellectual capital for the country's innovative economy, as well as implementing the activities specified in Appendices 2 and 3 of this Program.

The research plans to create 5 new research laboratories for collective use, equipped with unique modern equipment, instruments, and installations, and staffed with highly qualified personnel.

Table 5. The laboratories being created

№	Laboratories	Tasks
1	Central Research Laboratory "High-Tech Physico-Chemical Analysis Methods"	Conducting research and analysis of all materials and substances using modern instrumental physical and physico-chemical methods.
2	Special Research Laboratory "Problems of Bioresources and Food Safety"	Conducting research and testing on chemical and biological safety, nutritional value, and all major types of food products.
3	Analytical Research Laboratory "Chemical Technology of Oil, Petroleum Products and Gas"	Research and testing of all types of oil and petroleum products, associated and natural gases, and their products using instrumental physico-chemical methods
4	Testing Research Laboratory "Modern Structural Materials"	Conducting research and testing of building materials, products, and structures using instrumental and physico-mechanical methods.
5	Research Prototyping Laboratory "SmartLab"	Conducting scientific and practical research on major scientific problems of fundamental and applied nature in the field of mathematical and simulation modeling, related to the analysis, development, and optimization of processes of various types and purposes.

Planned financial resources for transformation into a research university:

The total income of SKU for 2024 – 2028 will amount to 82,441,501 thousand tenge, including:

1) budgetary funds – 46,984,727 thousand tenge.

Including for the years 2024 – 2028:
in 2024 – 8,917,836 thousand tenge, including:
funds from educational activities under the state educational order – 8,559,963 thousand tenge;
funds from academic mobility – 38,787 thousand tenge;
funds from scientific activities – 302,086 thousand tenge;
funds for attracting foreign specialists – 17,000 thousand tenge.
in 2025 – 9,260,113 thousand tenge, including:
funds from educational activities under the state educational order – 8,881,095 thousand tenge;
funds from academic mobility – 38,787 thousand tenge; funds from scientific activities – 323,231 thousand tenge;
funds for attracting foreign specialists – 17,000 thousand tenge.
in 2026 – 9,504,506 thousand tenge, including:
funds from educational activities under the state educational order – 9,102,861 thousand tenge;
funds from academic mobility – 38,787 thousand tenge;
funds from scientific activities – 345,858 thousand tenge;
funds for attracting foreign specialists – 17,000 thousand tenge.
in 2027 – 9,651,136 thousand tenge, including:
funds from educational activities under the state educational order – 9,225,280 thousand tenge;
funds from academic mobility – 38,787 thousand tenge;
funds from scientific activities – 370,069 thousand tenge;
funds for attracting foreign specialists – 17,000 thousand tenge.
in 2028 – 9,651,136 thousand tenge, including:
funds from educational activities under the state educational order – 9,225,280 thousand tenge;
funds from academic mobility – 38,787 thousand tenge;
funds from scientific activities – 370,069 thousand tenge;
funds for attracting foreign specialists – 17,000 thousand tenge.

2) extrabudgetary funds – 35,456,774 thousand tenge.
Including for the years 2024 – 2028: in 2024 – 6,703,561 thousand tenge, including:
funds from educational activities on a contractual basis – 6,162,349 thousand tenge;
funds from scientific activities – 222,348 thousand tenge;
funds from other activities – 318,864 thousand tenge.
in 2025 – 6,913,562 thousand tenge, including:
funds from educational activities on a contractual basis – 6,347,219 thousand tenge;
funds from scientific activities – 237,913 thousand tenge;
funds from other activities – 328,430 thousand tenge.
in 2026 – 7,130,485 thousand tenge, including:
funds from educational activities on a contractual basis – 6,537,636 thousand tenge;
funds from scientific activities – 254,566 thousand tenge;
funds from other activities – 338,283 thousand tenge.
in 2027 – 7,354,583 thousand tenge, including:
funds from educational activities on a contractual basis – 6,733,765 thousand tenge;
funds from scientific activities – 272,386 thousand tenge;
funds from other activities – 348,432 thousand tenge.
in 2028 – 7,354,583 thousand tenge, including:
funds from educational activities on a contractual basis – 6,733,765 thousand tenge;
funds from scientific activities – 272,386 thousand tenge;
funds from other activities – 348,432 thousand tenge.

Necessary extrabudgetary funding for 2024 – 2028 will amount to 800,000 thousand tenge, including own funds – 800,000 thousand tenge.
Including for the years 2024 – 2028:
in 2024 – 200,000 thousand tenge;
in 2025 – 200,000 thousand tenge;
in 2026 – 200,000 thousand tenge;
in 2027 – 200,000 thousand tenge.
Additional funds from the republican and local budgets are not required.

Section 8. Description of the Expected Results of the Program Implementation

Implementation of the Development Program will ensure the phased modernization of science management and create a flexible and open organizational structure of scientific units based on the type of research university, as well as create conditions for the formation of entrepreneurial, research, and professional competencies of faculty, scientists, PhD students, master's students, and bachelor's students of the university.

During the implementation of the tasks set within the framework of the Development Program, the following results will be achieved throughout the entire period of its implementation:

1. Integration of scientific activities and the educational process at all levels of higher and postgraduate education:

1) the share of students in postgraduate education programs (master students, doctoral students) from the total number of students – 12%;
2) opening of a university branch in the city of Chirchik, Republic of Uzbekistan.

2. Creation of an innovative research ecosystem within the framework of the country's industrial and innovative development:

1) creation of new shared research laboratories – 5 units;
2) share of R&D funding from the total university budget – 42%;
3) share of citations of scientists' publications in the Scopus database from the total number of citations of scientists in Kazakhstan in Scopus – 12%;
4) share of income received from scientific activities, innovative developments, and commercialized projects (from the total budget of higher education institutions) – 30%

3. Creation and development vectors of the university corporate governance model in modern conditions:

1) share of faculty members who have undergone training and internships, including in the TOP-500 foreign higher education institutions of the international QSWUR ranking – 15%;
2) attracting scientists from TOP-500 higher education institutions to the educational and scientific activities of the university (2023 – 112 people).

4. Increasing the university's contribution to the development of the region's and country's economy:

1) share of research projects focused on the development of the region's economy in the total volume of university projects – 40%;
2) share of commercializable projects from the total number of completed applied research works – 40%;
3) employment rate of graduates – 90%.

The structure of the necessary financial resources covers the following aspects: funding to ensure a high level of the educational process that meets world standards; support for scientific and innovative research; promotion of the commercialization of scientific and technical developments; creation of modern scientific, educational, and information-communication infrastructure; funding of staff training programs; support for international academic and student exchanges; implementation of procedures for international certification, accreditation, and patenting; funding of modernization activities and other similar areas.

The development program will be implemented by providing access to modern scientific devices, conducting promising scientific research and projects, and publishing their results in journals with high citation rates. In addition, the obtained conclusions and developments will be introduced into the real sector of the country's economy.

Specialist training will be conducted in key areas of development of the Republic of Kazakhstan, with increased university activity in national and global rankings. A system of personnel training oriented towards production needs will be created, and new educational programs for various specialties will be developed, taking into account advanced international experience and scientific research.

The modernization of SKU's infrastructure is planned, the implementation of a modern human resource management system, and the creation of conditions for the creative self-realization of both faculty and administrative staff, as well as students, master's students, and doctoral students. An effective system for the professional development of teaching and administrative staff at both national and international levels will also be developed, along with the attraction of foreign professors and consultants.

Cooperation with national clusters, international business companies, and international organizations will continue in the field of personnel training, scientific research, and innovative developments.

For the successful implementation of all the tasks set, flexibility in responding to changes in the labor market and ensuring sufficient funding within the framework of the Development Program are necessary.

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Appendix 1 to the Development Program of the non-commetcial joint-stock company "South Kazakhstan University named after M. Auezov" for 2024 – 2028

SWOT analysis of the activities of the non-commercial joint-stock company "South Kazakhstan University named after M. Auezov"

Strengths	Weaknesses
1	2
High reputation of SKU in society, the region, and the republic. Clear alignment of the university's tasks and planned activities at all levels of the university's organizational management structure. Administration and faculty are involved in ensuring the quality of education. Distribution of financial resources and formation of material assets are carried out in accordance with the development strategy, mission, and goals of the university. Implementation of key elements of corporate governance. Continuous analysis of the effectiveness of management decisions. Availability of a wide range of educational programs: existing, new, and innovative at three levels of education. Organization of dual-degree, joint, and dual educational programs. Systematic monitoring of the quality of educational program implementation. Availability of applied bachelor's degree programs, dual and dual-degree educational programs. Implementation of trilingual education and teaching in English. Developed system for providing additional educational services and professional development of faculty. Developed international relations. Presence of international educational and cultural centers, foreign representations. Strong stakeholders in the region. Established scientific schools and teams capable of carrying out complex research projects. Modernized system and mechanisms for managing scientific activities. Developed infrastructure for scientific research. Developed international relations with leading higher education institutions and research centers. Students working in the environment of established scientific schools.	Low activity of faculty in the implementation and commercialization of scientific developments. Low percentage of young teachers with academic degrees and titles. Insufficient development of career planning activities for graduates. Inadequate level of professional development in the field of corporate governance. Issues with the continuity of existing scientific schools and the involvement of young scientists in research. Insufficient participation of scientific and pedagogical staff in foreign scientific programs. Underdeveloped digitalization processes at the university.
1	2
Employment of graduates during internships. Systematic interaction of the university with republican, regional, and city media.	

Availability of various types of information resources and infrastructure. Established feedback system with students.	
Opportunities	Threats
Possibility of external evaluation of the university's performance (national and international level), which improves the planning process. Trust and image among potential and actual consumers of educational services. Wide access to training programs in corporate governance. Academic freedom of higher education institutions in organizing and planning the educational process. Development of educational programs based on employer requests and applicant demands according to the atlas of new professions and competencies. Expansion of cooperation with partner universities in the implementation of student and faculty exchanges, development, and implementation of dual-degree and joint educational programs. Potential demand for the university's educational services. Development of new approaches in the system of stimulating the participation of scientific schools and individual scientists in grant competitions and scientific-technical programs. Partnership with businesses and enterprises. Expansion of international cooperation in the field of fundamental research and innovative activities. Increase in the volume and improvement of the mechanism for financing scientific research in accordance with the new laws of Kazakhstan "On Science" and "On the Commercialization of the Results of Scientific and (or) Scientific-Technical Activities." Opening of new master and PhD programs. Increase in the number of social media users on the university's official accounts. High level of access to information resources. Influx of highly qualified IT specialists.	Increased competition in the scientific and educational environment as a result of globalization and labor migration. Entry of foreign universities into the Kazakhstani market. Rapid changes in legislative and regulatory acts in the field of higher and postgraduate education. Increased informational presence of competitor universities. Inflationary processes leading to constant increases in the cost of material, technical, and information resources. Outflow of qualified teachers to other industries.

Appendix 2 to the Development Program of the non-commetcial joint-stock company "South Kazakhstan University named after M. Auezov" for 2024 – 2028

Target indicators of the Development Program of the non-commercial joint-stock company "South Kazakhstan University named after M. Auezov" for 2024 – 2028

№	Target indicators	UOM	In planned period				
			2024	2025	2026	2027	2028

1	2	3	4	5	6	7	8
Target – Transformation of South Kazakhstan University named after M. Auezov into a research university							
Task 1. Integration of scientific activities and the educational process at all levels of higher and postgraduate education							
1.1	Positioning of the higher and (or) postgraduate education organization in the international ranking	position.	400+	380+	360+	330+	300+
1.2	Share of students in postgraduate education programs (master students, doctoral students) from the total number of students	%	8	8,5	9	10	12
Task 2. Creating an innovative research ecosystem within the framework of the country's industrial and innovative development.							
2.1	The share of young scientists in ongoing research projects.	%	12	24	40	60	75
2.2	he share of citations of scientists' publications in the Scopus database from the total number of citations of scientists in the Republic of Kazakhstan in Scopus.	%	4	6	8	10	12
2.3	The share of income received from scientific activities, innovative developments, and commercialized projects (from the total university budget).	%	8	14	21	25	30

1	2	3	4	5	6	7	8
Task 3. Creation and development vectors of the university corporate governance model in modern conditions.							
3.1	The share of faculty members who have undergone training and internships, including in the top 500 foreign higher education institutions according to the QS World University Rankings.	%	3	8	10	13	15
3.2	Attracting scientists from the foreign higher education institutions to the educational and research activities of the university (2023 – 112 people).	pers.	120	130	140	150	160
Task 4. Increasing the university's contribution to the development of the region's and country's economy.							
4.1	The share of commercializable projects from the total number of completed applied research works.	%	10	15	23	30	40
4.2	Employment of graduates	%	87,5	88	88,5	89	90
4.3	The share of research projects focused on the development of the region's economy in the total volume of university projects.	%	3	10	20	30	40

Appendix 3 to the Development Program of the non-commetcial joint-stock company "South Kazakhstan University named after M. Auezov" for 2024 – 2028

Action Plan for the Implementation of the Development Program of the Non-Profit Joint Stock Company South Kazakhstan University named after M. Auezov for 2024 – 2028

№	Name of activities	UOM	In planned period					Result form
			2024 year	2025 year	2026 year	2027 year	2028 year	
1	2	3	4	5	6	7	8	9
Target – Transformation of South Kazakhstan University named after M. Auezov into a research university								
Task 1. Integration of scientific activities and the educational process at all levels of higher and postgraduate education								
1.1	Increasing the number of articles and reviews by employees of organizations (HEIs/Research Institutes) in high-ranking Q1, Q2 Journal Citation Reports (JCR) journals	ea.	8	10	12	16	20	publication
1.2	Increasing the number of students who are granted tuition fee discounts for master's and doctoral programs	ea.	3	4	5	6	7	discounts
Task 2. Creating an innovative research ecosystem within the framework of the country's industrial and innovative development								
2.1	Allocating additional intra-university funded grants for conducting research	ea.	5	7	7	8	10	reporting information, contracts
2.2	Increase in seminars and courses on research methodology, statistical analysis, laboratory methods, scientific writing, and citation management	ea.	10	15	20	25	30	reporting information
	Increasing the proportion of foreign scientists and researchers participating in jointly funded research projects out of the total number of university researchers	%	10	11	12	15	18	contracts, orders
1	2	3	4	5	6	7	8	9
2.3	Increasing the proportion of scientists with an H-index of 1 or higher out of the total number of university scientists	%	30	40	50	55	60	publications indexed in the Scopus database
2.4	Increasing the number of exhibitions, seminars on scientific developments, and conferences with the participation of industry and business	ea.	5	7	10	15	20	reporting information

Task 3. Creation and development vectors of the university corporate governance model in modern conditions.								
3.1	Increasing the proportion of faculty members who have undergone training and internships, including at the top 500 foreign higher education institutions in the QS World University Rankings (QSWUR)	%	10	12	13	14	15	reporting information
3.2	Increasing the number of scientists from the foreign higher education institutions involved in the university's educational and scientific activities (2023 – 112 people)	pers.	120	130	140	150	160	individual employment contracts
	Allocating a package of social benefits for recruited foreign scientists	ea.	5	7	7	8	10	reporting information
Task 4. Increasing the university's contribution to the development of the region's and country's economy.								
4.1	Increasing the proportion of commercializable projects out of the total number of completed applied research works (2023 – 8%)	%	10	15	23	30	40	reporting information
4.2	Increasing the proportion of employed graduates within a year compared to 2023 (87.4%)	%	87,5	88	88,5	89	90	reporting information
4.3	Increasing the number of cooperation agreements with MIE and businesses	ea	5	6	8	10	14	cooperation agreements with MIE and business
	Increasing the proportion of research projects focused on regional economic development in the total volume of university projects	%	3	10	20	30	40	projects, contracts