

**GUIDELINES
ON STRATEGY DEVELOPMENT AND RISK MANAGEMENT OF
A UNIVERSITY STRUCTURAL UNIT**

Karaganda

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1 Scope

These Guidelines recommend a methodology of developing a Strategy for a structural unit and the risk management process at Abylkas Saginov Karaganda Technical University NPJSC (hereinafter referred to as the University).

The provisions of these Guidelines are mandatory for use by all the University employees who are risk owners.

2 Regulatory references

These Guidelines use references to the following regulatory documents:

- Law of the Republic of Kazakhstan dated July 27, 2007 No. 319-III “On Education”;
- Decree of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 724 “On approval of the national project “Ulttyk rukhani zhangyru”;
- Decree of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 726 “On approval of the national project “Quality Education “Educated Nation”;
- Decree of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 727 “On approval of the national project “Technological breakthrough through digitalization, science and innovation”;
- Decree of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 728 “On approval of the national project for entrepreneurship development for 2021 – 2025”;
- Resolution of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 729 “On approval of the national project “Strong Regions - Driver of the Country’s Development”;
- Resolution of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 730 “On approval of the national project “Sustainable economic growth aimed at improving the well-being of Kazakhstanis”;
- Decree of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 731 “On approval of the national project “Green Kazakhstan”;
- Decree of the Government of the Republic of Kazakhstan dated May 25, 2022 No. 336 “On approval of the Concept for the development of science of the Republic of Kazakhstan for 2022 - 2026”;
- Decree of the Government of the Republic of Kazakhstan dated July 8, 2021 No. 471 “On approval of the Concept of lifelong learning (continuing education)”;
- “On approval of criteria for assessing the degree of risk and checklists for the education system, in terms of higher and postgraduate education” joint order of the Minister of Science and Higher Education of the Republic of Kazakhstan dated December 1, 2022 No. 166 and the Minister of National Economy of the Republic of Kazakhstan dated December 2, 2022 No. 116;
- Code of Corporate Governance of a non-profit joint stock company in the field of higher and postgraduate education approved by order of the Minister of

Education and Science of the Republic of Kazakhstan dated April 19, 2021 No. 171;

- Risk management and internal control policy of Abylkas Saginov Karaganda Technical University;
- Policy on identifying and resolving conflicts of interest at Abylkas Saginov Karaganda Technical University;
- Standard on eliminating conflicts of interest;
- Guidelines on ensuring security of information constituting commercial and the other secrets protected by law of Abylkas Saginov Karaganda Technical University;

3 Term and definitions

In these Guidelines the following terms and definitions are used:

Development strategy is long-term planning of the activities of a structural unit of the university within the framework of priority development goals.

Risk is the likelihood of events occurring that may have an impact on the achievement of the strategic goals of the university.

Risk factor is a reason that contributes to the realization of a risk.

Significant risk is a risk that has a significant (critical) impact on the university's achievement of its long-term and short-term goals.

Risk appetite is the acceptable amount of risk and/or loss that the university is willing to accept in achieving strategic goals.

Risk culture is an indicator of the internal environment in which the management and employees of the Company make decisions and carry out their operational and other activities, taking into account the choice of the optimal balance of risks and opportunities.

Risk owner is an employee or structural unit or collegial body of the Company responsible for aspects of managing a certain risk.

Risk identification is the process of detecting, recognizing and describing risks, as well as recognizing risk sources, events, their causes and possible consequences.

Control (control procedure) is an element of internal control, a documented set of actions, system configuration or organization of processes that can reduce the likelihood of a risk occurring or mitigate its consequences; the control procedure is an integral part of business processes.

Risk redistribution is reducing the probability and/or impact of risk by transferring or otherwise distributing part of the risk to a third party. Common ways of transferring risk are purchasing insurance policies, conducting hedging transactions and transferring the relevant type of activity to a third party.

Preventive measures are the current actions of risk owners/owners of activities that are carried out before the risk is realized, in order to promptly influence the reasons for the risk to occur.

Response measures are planned actions of risk owners/action owners that will be carried out after the risk has been realized, in order to promptly respond and reduce negative consequences as a result of the risk being realized.

Risk management is culture, competencies, methods and approaches integrated into all processes of the Company, on which the Company relies when carrying out its activities.

Tolerance is an acceptable level of deviation in relation to achieving a specific goal due to the implementation of risk.

Risk avoidance is termination of the Company's activities leading to risk, the level of which is higher than the established risk appetite.

Acceptance of risk implies that the level of risk is acceptable and accepts the possibility of its manifestation; it is also possible to accept residual risk after taking measures to reduce it.

Risk reduction (minimization) supposes actions to reduce the likelihood and/or impact of risk, which require making a large number of operational decisions regarding the organization of activities.

Risk management and internal control system (RMICS) is a set of organizational measures, methods and procedures combined into a single continuous process, within which the Board of Directors, Management Board, administration and employees, each at their own level, participate in identifying potential events that can affect on the activities of the Company, in maintaining the degree of their impact within acceptable limits to ensure confidence in achieving strategic and operational goals.

Internal control is a process carried out by all employees and management of the University at all levels of management.

Strategic risk is a risk that arises at the level of strategic decision-making and influences the University's Strategic Development Plan.

Financial risk is a risk that arises during daily financial transactions.

Operational risk is a risk that arises during daily operational activities related to the implementation of the Strategic Development Plan.

Legal risk is a risk of loss of income, capital or losses due to violations or non-compliance with internal and external legal regulations.

Academic risk is a risk that arises during educational activities.

Risk Register is a document containing information about identified university risks (risk description, risk factors, risk owner, risk assessment indicators).

Risk Portfolio is a comprehensive overview of the university's risks, allowing us to consider the types, degree of influence and interdependence of risks, and their consequences on the university's performance.

Risk Map is a graphical display of risks, depending on the magnitude of their potential impact and the probability of implementation, located in a rectangular table, the vertical axis of which indicates the amount of damage to the risk, and the horizontal axis indicates the probability of its occurrence.

4 General provisions

4.1 These Guidelines regulate the actions of managers and specialists involved in the risk management process.

4.2 These Guidelines establish the procedure for identifying, identifying, and preventing risks.

4.3 These Guidelines define the necessary documents for developing a development strategy and risk management and establish requirements for:

- filling out a Risk Map;
- compiling the Risk Register;
- developing the Risk Portfolio;
- developing preventive and response measures.

5 Responsibility

5.1 Heads of structural units, in accordance with their functional responsibilities, are responsible for the development of strategies, including risk management processes: documentation, implementation, monitoring and development of the risk management and internal control system in the functional areas of activity entrusted to them.

5.5 Responsibility for the safety, unauthorized copying risk management documents located in the department, and leakage of official information lies with the heads of departments.

6. Description of the process of designing strategy of development

6.1 Designing the development strategy is based on a comprehensive analysis of the current situation and the state of the structural unit. For departments, when developing a development strategy, an analysis of the core industry is required.

6.2 The structure of the development strategy includes:

6.2.1 Development Strategy Passport;

6.2.2 General information of the structural unit;

6.2.3 Analysis of the current situation, including the following indicators for departments and faculties:

- List of educational programs in which training is conducted (for faculties it is necessary to indicate which departments are included in the composition, while educational programs are indicated by departments);

- Assessment of the current specialist training system;

6.2.4 Assessment of the innovative potential of the team, including:

- information of the staff of the unit: quantitative and qualitative composition, information about advanced training and internships;
- information about the department's research work: main directions (for departments only);

- information of the teachers who teach classes in English and have international language certificates (for departments only);

- availability of projects within the framework of grant or other funding (only for departments and divisions performing scientific work);

- analysis of the publication activity of the teaching staff (in terms of publications in the CQASHE journals, as well as journals indexed in the international databases; publication of textbooks, teaching aids, methodological publications); number of MOOCs (for departments only);
- assessment of the material and technical support of the department, the availability of laboratories, centers (only for departments).

6.2.5 Forecast of trends in the labor market for personnel needs (only for departments and faculties):

- analysis of the regional economic growth potential;
- analysis of personnel requirements by areas of training.

6.2.6 SWOT analysis of activities by indicators (if available):

- academic process;
- research activities;
- educational process;
- development of human resources

6.2.7 Sustainable development of the faculty/department: formation of a package of changes

6.2.8 Risk Portfolio: including preventive and response measures

- preventive measures;
- response measures.

6.2.9 Strategic Plan for the Development of the Department/Faculty

The form of the Development Strategy for a structural unit using the example of a department/faculty is presented in Appendix A.

A template for filling out the Strategic Plan of a structural unit using the example of a department/faculty is presented in Appendix B.

7 Description of the process of risk management

7.1 Interrelation of the risk management process with the processes of strategic management and core activities, budgeting and motivation

7.1.1 Relationship between the risk management process and the strategic planning process:

- the process of developing strategic plans should include the identification and analysis of risks that can influence the achievement of the set strategic goals;
- strategic plans of the university must include a set of measures aimed at minimizing the risks associated with the implementation of planned strategic initiatives.

7.1.2 Relationship between the risk management process and the operational process:

- action plans for risk management (individual activities) are included in the relevant annual work plans of the university/university departments;
- the risk owner must objectively assess the time and administrative resources required to implement his proposed risk management action plan and reflect the resulting assessment in the appropriate risk report;

- risk owners must be allocated the necessary time and administrative resources to carry out the activities provided for in the risk management action plans;

- risk owners submit a report on realized risks.

7.1.3 Relationship between the risk management process and the budgeting process:

- includes approval of the risk management action plan by the University Board of Directors. Risk owners need to provide the necessary financial resources to implement the proposed risk management action plan and work out this issue with the structural unit responsible for budgeting.

7.1.4 Relationship between the risk management process and the staff motivation process:

- the responsibilities of RMICS participants to carry out all procedures provided for them by the system must be enshrined in job descriptions, and the heads of the university’s structural divisions must monitor their implementation;

- it is also recommended to provide incentive mechanisms designed to motivate university managers and employees to act within the framework of the RMICS properly, in accordance with established deadlines and targets.

7.2 Development of a risk map

7.2.1 To build a risk map, it is necessary to rank the risk assessment. Risk assessment ranking involves assessing risk by consequences and probability of occurrence.

Risk assessment ranking is done using the Probability and Impact Matrix. At the first stage of constructing the matrix, input data is determined and scales of consequences and probabilities are identified. The proposed scales cover the range of types of consequences being studied and take into account the possibility of their occurrence and impact: from the most possible to the least likely. The gradation of risk levels can include three levels or be expanded to 5 for a more thorough analysis (Table 1).

Table 1 – Risk ranking

Level	Risk assessment based on consequences	Risk assessment based on probability of occurrence
3 – high	A sharp significant decrease in the Company’s performance indicators (more than 50%) The emergence of problems with interaction processes within the Company Termination of one or more internal processes Degree of violation: severe	There are fundamental differences from the existing situation Introduction of new components or processes High level of process complexity Insufficient or absent tools for analysis and management
2 – medium	Significant decrease in the Company’s performance indicators (less than 50%) Short-term process stops Problems with process management Lack of resources to continue one or more processes	Minor differences from the existing situation Processes, despite their complexity, are controlled and manageable Tools for analysis and management have been developed

Level	Risk assessment based on consequences	Risk assessment based on probability of occurrence
	Degree of violation: significant	
1 – low	Slight decline in performance indicators (<10%) of the Company Short-term slowdowns Restoring interaction processes within the model Additional resources required More control needed Degree of violation: minor	The components involved in the interaction processes have already been used before Medium level of process complexity Effective tools for analysis and management

7.2.2 The vertical axis of the risk map shows the increasing level of consequences (from 1 to 3), the horizontal axis indicates the increasing probability of occurrence of each consequence (the risk level increases from the upper left to the lower right corner of the Table). To display the degree of risk, the map is divided into green, orange and red zones (Figure 1).



Risk consequence assessment	1	Medium	High	High
	2	Low	Medium	High
	3	Low	Low	Medium
		Probability of risk-factor occurrence		

Figure 1 – Methodology of forming a Risk Map

7.2.3 Based on the results of filling out the risk map, key risks, preventive and response measures are identified (Table 2).

Table 2 – The Risk Map appearance

Risk type	The degree of risk influence on the activities of the University on a scale from 1 to 5	Possible consequences in case of failure to take timely response measures	The level of negative consequences of the risk for the University	Probability of occurrence
			Indicate the figure: 1 – insignificant, 2 – low, 3 – medium, 4 – rather high, 5 – very high	
1. Risk type: strategic				
Risk 1.1				
Risk 1.2				
Risk 1.3				
2. Risk type: financial				
Risk 2.1				
Risk 2.2				
Risk 2.3				
3. Risk type: legal				
Risk 3.1				
Risk 3.2				
4. Risk type: academic				
Risk 4.1				
Risk 4.2				
5. Risk type: operational				
Risk 5.1				
Risk 5.2				

7.3 Procedures for risk management

7.3.1 Risk processing consists in the following:

Response to risks is development and implementation of measures or changes that can eliminate or reduce the level of risk.

For activities developed at this stage, it is necessary to determine preliminary implementation dates and to agree on those responsible.

Sometimes additional resources can need to be allocated to respond to risks.

Risk appetite and tolerance

To calculate risk appetite and to determine risk tolerance, the risk category was established in accordance with the method of its processing and the options for applicable measures (Table 3).

Table 3 – Risk processing

Way of processing	Options of measures	Risk level
Evasion/Avoidance/Exclusion	Complete elimination of a specific threat or source of risk by excluding a potential source of a negative situation	Inadmissible

Mitigation/reduction	Reducing the likelihood of occurrence and/or the magnitude of possible losses from the onset of a negative situation. In this case, the source of risk is not eliminated.	Justified
Transfer/share	Transfer of responsibility for risk management for other participants project without eliminating the source of risk	Justified
Accept/save	Confirmation of possible negative situations and a conscious decision to accept its consequences and compensate for the damage at their own expense.	Admissible

7.3.2 Risk monitoring is characterized by the following:

Periodic review of the University risks to adjust their assessments, to identify new risks and to monitor the status of measures to reduce risks.

The University risks are not static, which is why monitoring identified risks is an important element of risk management.

7.3.3 The Risk Management Culture provides for the creation at the University of an environment that would facilitate identification, assessment and reduction of risks, as well as open communication about risks.

7.3.4 Documenting the information of risks includes several steps:

Step 1: Documenting risk identification (Figure 2)

Risk description	Consequences of the risk implementation	Damage from the risk	Probability of the risk	Risk assessment	Measures to reduce the risk	Owners and terms
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Шаг 1: Идентификация рисков

Описание риска	Последствия от реализации риска	Ущерб от риска	Вероятность риска	Оценка риска	Мероприятия по снижению риска	Владельцы и сроки

Figure 2 – Risk identification

Step 2: Documenting risk assessment (Figure 3)

Risk description	Consequences of the risk implementation	Damage from the risk	Probability of the risk	Risk assessment	Measures to reduce the risk	Owners and terms
Описание риска	Последствия от реализации риска	Ущерб от риска	Вероятность риска	Оценка риска	Мероприятия по снижению риска	Ответственность и сроки

Figure 3 – Risk assessment

Step 3: Documenting risk mitigation (Figure 4)

Risk description	Consequences of the risk implementation	Damage from the risk	Probability of the risk	Risk assessment	Measures to reduce the risk	Owners and terms
Описание риска	Последствия от реализации риска	Ущерб от риска	Вероятность риска	Оценка риска	Мероприятия по снижению риска	Ответственность и сроки

Figure 4 – Risk mitigation

7.3.5 Risk reduction measures are presented in the form of tables, including preventive and response measures separately (Table 4).

Table 4 – Appearance of the tables with description of response and preventive measures

Risk type	Preventive / Response measures
1. Risk type: strategic	
Risk 1.1:	
Risk 1.2	
Risk 1.3	
2. Risk type: financial	
Risk 2.1:	
Risk 2.2:	
Risk 2.3 :	
Risk ...	
3. Risk type: legal	
Risk 3.1:	
Risk 3.2	
4. Risk type: academic	
Risk 4.1:	
Risk 4.2	
Risk ...	
5. Risk type: operational	
Risk 5.1:	
Risk 5.2	

7.3.6 Compilation of the Risk Register

Based on documented information of the risks, a Risk Register is compiled (Table 5).

Table 5 – Risk Register

No.	Indicator name	Risk factor	Risk type	Risk owner	Risk type				
					strategic	financial	operational	legal	academic
1.									
2.									

7.3.7 In the event of any unforeseen changes in the competitive or economic environment of the University, the Risk Map is re-evaluated and its compliance with the Risk Appetite.

7.3.8 For a holistic and clear understanding of the inherent Risks, the university carries out an annual identification and assessment of Risks, which are reflected in the Risk Register, Risk Map, Risk Response Action Plan (process improvement, minimization strategies) approved by the Board of Directors.

7.3.9 The supervising areas of work of the Member of the Board, Vice-rector provide summary information of the risks within the framework of the supervised strategic areas, indicating the degree of their influence. The information form for Board Members, Vice-rectors is presented in Appendix B.

7.3.10 Requirements for confidentiality of the information of risks

The decision on the access of certain officials of the University structural units to detailed information of the description, assessment or Action Plans for managing certain risks is made by the risk owners.

Requirements for confidentiality of information of the risk management are regulated by internal documents of the University and legislative acts of the Republic of Kazakhstan.

External persons gaining access to the information of the risks containing official or commercial secrets are granted access only after signing a non-disclosure agreement for confidential information.

All the documents related to risk management must be stored at the location of the University. Risk owners are responsible for storing these documents.

Appendix A

Approved
at the meeting of the
department
Minutes No. _____
dated _____, 202__

STRATEGY DEVELOPMENT of the department/faculty _____ for 2023-2025

Contents

- 1 Strategy Development Passport**
- 2 General information of the faculty/department**
 - 2.1 Analyzing the current situation (*in the following indicators*):
 - 2.1.1 List of educational programs, *for which training is conducted (for faculties it is necessary to indicate which departments are included in the composition, while educational programs are indicated by department)*
 - 2.1.2 Assessment of the current system of training specialists
 - 2.1.3 Assessment of the innovation potential of the staff
 - the information of the staff of the department/faculty: quantitative and qualitative composition, information about advanced training and internships;
 - information about the research work of the department: main directions;
 - the information of the teachers who teach classes in English and have international language certificates;
 - availability of projects within the framework of grant or other financing;
 - analysis of the publication activity of teaching staff (in terms of publications in CQASHE journals, as well as journals indexed in international databases; publication of textbooks, teaching aids, methodological publications); number of MOOCs;
 - assessment of the material and technical support of the department, the availability of laboratories, centers.
- 3 Forecast of trends in labor market changes regarding need for personnel**
 - 3.1 Analysis of the regional economic growth potential
 - 3.2 Analysis of personnel requirements by areas of training
- 4 SWOT analysis of activities by indicators:**
 - Academic process
 - Research activities
 - Educational process
 - Development of human resources
- 5 Sustainable development of the faculty/department: *forming the package of changes***
- 6 Risk Portfolio: *including preventive and response measures***
 - 6.1 Preventive measures
 - 6.2 Response measures
- 7 Strategic Plan of the faculty/department development**

1. Strategy Development Passport

Name	Strategy development of the Power Systems” Department for 2023-2025
Basis for development	<ul style="list-style-type: none"> – Law of the Republic of Kazakhstan dated July 27, 2007 No. 319-III “On Education” – decree of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 724 “On approval of the national project “Ulttyk rukhani zhangyru” – Decree of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 726 “On approval of the national project “Quality Education “Educated Nation” – Decree of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 727 “On approval of the national project “Technological breakthrough through digitalization, science and innovation”” – Decree of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 728 “On approval of the national project for entrepreneurship development for 2021 – 2025” – Resolution of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 729 “On approval of the national project “Strong Regions - Driver of the Country’s Development”” – Resolution of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 730 “On approval of the national project “Sustainable economic growth aimed at improving the well-being of Kazakhstanis” – Resolution of the Government of the Republic of Kazakhstan dated October 12, 2021 No. 731 “On approval of the national project “Green Kazakhstan-2” – Decree of the Government of the Republic of Kazakhstan dated May 25, 2022 No. 336 “On approval of the Concept for the development of science of the Republic of Kazakhstan for 2022 - 2026” – Decree of the Government of the Republic of Kazakhstan dated July 8, 2021 No. 471 “On approval of the Concept of lifelong learning (continuing education)” <p><i>and others</i></p>
Developers	
Implementation period	

2 General information of the faculty/department

2.1 Analysis of the current situation

2.1.1 List of educational programs for which training is conducted

Currently, the department “_____” is training specialists in _____
current educational programs

- name of the OP

- name of the OP

- name of the OP

2.1.2 Assessment of the current specialist training system

The student population is _____ people. with the share of master’s students/and doctoral students – ____% (____persons). For the period from 2020 to 2022, there is an increase/decrease in the number of students in _____ by (____ people). (Table 1).

Table 1 – Student contingent by the education levels

Education level	Student contingent by years, prs.		
	2020	2021	2022
Bachelor degree, <i>Including DLT</i>			
Master degree			
Doctoral degree			
Total			

Table 2 – Analysis of graduate employment by years and education levels

	Indicators	2020	2021	2022
<i>Bachelor degree</i>				
1	Number of graduates			
	On a budgetary basis			
	On a commercial basis			
2	Employed	Number of prs. (__%)	Number of prs. (__%)	Number of prs. (__%)
	On a budgetary basis			
	On a budgetary basis			
3	Entered master degree			
<i>Master degree</i>				
1	Number of graduates			
	On a budgetary basis			
	On a commercial basis			
2	Employed	Number of prs. (__%)	Number of prs. (__%)	Number of prs. (__%)
	On a budgetary basis			
3	Not employed			
	On a budgetary basis			
	On a commercial basis			

<i>Doctoral studies</i>				

Description of employment with justification of the reasons of decreasing (if any).

2.1.3 Assessment of the staff potential

Table 3 – Information of the department staff: quantitative and qualitative composition

2020	2021	2022
Number of employees	26	27
Dr. Eng.- Cand. Tech. Sci.- PhD – Master – Degree holders rate %	Dr. Eng.- Cand. Tech. Sci.- PhD – Master – Degree holders rate %	Dr. Eng.- Cand. Tech. Sci.- PhD – Master – Degree holders rate %
Part-time from production -	Part-time from production -	Part-time from production -
Staff with English knowledge – number (IELTS level)	Staff with English knowledge – number (IELTS level)	Staff with English knowledge – number (IELTS level)

Table 4 – Advanced training

	Enterprises	KTU	RK HEIs	Near abroad HEIs
2020				
2021				
2022				

Table 5 – Staff participation in the department R&D

Staff number	CQASHE	Scopus	WoS	CIP	Patent
2020					
2021					
2022					

Table 6 – Staff activity in the developing and publishing EML

Staff number	Monographs	EML		
		In Russian	In Kazakh	In English
2020				
2021				
2022				

Development of MOOCs

Information of the department R&D

Prospective areas of scientific studies and the laboratory base of R&D:

- 1.
- 2.
- 3.

Table 7 – Participation in the competitions for grant funding

Department	Competitions	2020	2021	2022

Table 8 – R7D results

Indicator	2020	2021	2022
International and national patents			
CIP			
Monographs			
Co-financing of business projects for commercialization in the total amount of grant funding			
Participation in competitions for grants for research work			
Ensuring an increase in teaching staff participating in research and innovation activities			
Ensuring participation in research and innovation activities of doctoral students/master's students			
Ensuring the growth of students participating in research and innovation activities			
Publications based on Clarivate Analytics			
Publications based on Scopus			
Publications by the RK CQASHE			
Citation rate of publications based on the Web of Science Core Collection			
CA			
Participation in international research projects			

Assessment of the material-technical state

Including the MTB, books availability, equipment, laboratories and centers.

3 Forecast of trends in labor market changes regarding need for personnel

3.1 Analyzing the potential of the regional economy growth

Example: *Karaganda region is one of the highly developed industrial regions of the country. In the structure of the region's GRP for 9 months of 2019, the main share is occupied by industry - 46.7%, wholesale and retail trade - 12.9%, transport and warehousing - 5.7%, construction - 5.9%, agriculture - 3.3%. The main areas of economic specialization of the region are the mining of metal ores, coal mining, metallurgy, mechanical engineering, chemical industry, pharmaceuticals, food production, and the production of building materials. The volume of industrial production in the region for 11 months of 2019 amounted to 2,346,964 million tenge, an increase of 101.7% compared to the same period in 2018. The greatest increase in production was observed in the Shetsky (220.3%), Zhezkazgan (162%) and Aktogay (152.8%) regions. The greatest decline in production was observed in the city. Saran (92.3%), city. Balkhash (87.1%) and the city of Temirtau (91%) – insert fresh data*

The investment climate and its impact on forecast needs, a brief analysis of cooperation between specialized enterprises and Corporate University.

3.2 Analyzing personnel requirements by areas of training (based on statistical data)

GENERAL STATISTICS IN TERMS OF REGIONS

ОБЩАЯ СТАТИСТИКА В РАЗРЕЗЕ РЕГИОНОВ

№	Регион	Кол-во анкет	Численность работников	Средняя ЗП	Потребность 2022 г.	Из них потребность в ИРС на 2022 г.	Потребность 2023 г.	Из них потребность в ИРС на 2023 г.	Потребность 2024 г.	Из них потребность в ИРС на 2024 г.	Высвобождение 2022 г.	Высвобождение 2023 г.	Высвобождение 2024 г.
1	Акмолинская область	1 170	54 058	158 851	2 539	757	1 697	253	1 755	289	7	-	-
2	Актюбинская область	1 493	107 319	121 332	2 336	186	2 163	191	2 176	227	14	15	17
3	Алматинская область	5 403	165 335	134 116	3 390	637	2 577	519	2 476	666	40	20	26
4	Атырауская область	1 276	317 576	156 197	3 264	1 271	2 797	932	2 377	663	31	21	21
5	Восточно-Казахстанская область	2 265	86 884	127 876	3 358	126	1 779	155	1 738	154	99	97	99
6	Жамбылская область	1 602	138 299	128 383	4 253	760	2 540	717	2 522	696	20	12	9
7	Западно-Казахстанская область	995	20 024	111 487	793	120	629	95	577	108	10	10	12
8	Карагандинская область	2 433	154 725	149 669	3 491	364	2 592	278	2 329	286	13	8	8
9	Костанайская область	1 552	75 517	136 215	2 605	153	1 938	92	1 688	110	26	12	12
10	Кызылординская область	1 240	20 812	123 329	1 000	43	756	71	722	79	17	5	5
11	Мангистауская область	492	43 333	146 320	638	25	384	20	428	22	-	-	-
12	Павлодарская область	1 177	60 630	119 737	2 464	99	1 682	88	1 612	129	3	5	10
13	Северо-Казахстанская область	1 243	36 700	122 206	2 502	101	1 616	66	1 607	76	5	3	4
14	Туркестанская область	2 097	21 501	141 101	1 506	79	1 094	95	1 285	156	9	7	10
15	г. Нур-Султан	2 269	282 343	164 014	12 190	298	2 754	205	3 021	212	70	29	29
17	г. Алматы	3 641	242 487	149 573	9 192	1 089	7 739	1 243	6 831	1 110	75	31	29
18	г. Шымкент	1 643	150 009	130 918	3 855	281	2 940	336	3 348	413	196	170	180
	ВСЕГО	31 991	1 977 552	140 977	59 376	6 389	37 677	5 356	36 492	5 396	635	445	471

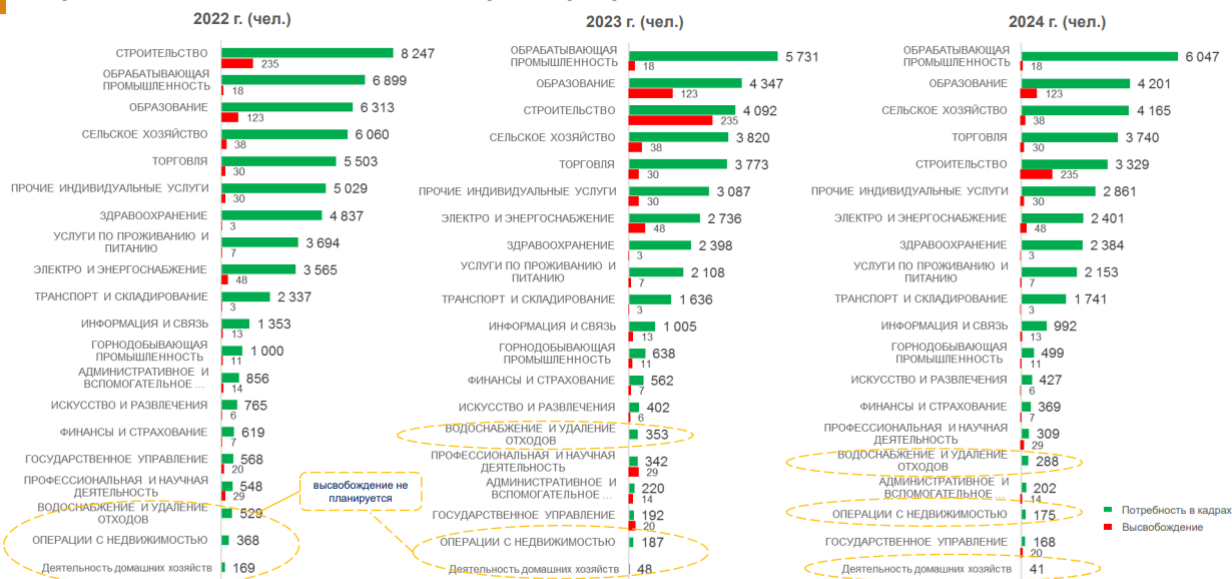
GENERAL STATISTICS IN TERMS OF ECONOMIC ACTIVITY TYPE (EAT)

ОБЩАЯ СТАТИСТИКА В РАЗРЕЗЕ ВИДОВ ЭКОНОМИЧЕСКОЙ ДЕЯТЕЛЬНОСТИ (ВЭД) СП

№	Отрасль	Кол-во анкет	Численность работников	Средняя ЗП	Потребность 2022 г.	Из них потребность в ИРС на 2022 г.	Потребность 2023 г.	Из них потребность в ИРС на 2023 г.	Потребность 2024 г.	Из них потребность в ИРС на 2024 г.	Высвобождение 2022 г.	Высвобождение 2023 г.	Высвобождение 2024 г.
1	АДМИНИСТРАТИВНОЕ И ВСПОМОГАТЕЛЬНОЕ ОБСЛУЖИВАНИЕ	427	21 338	143 381	860	84	220	32	202	20	14	12	10
2	ВОДОСНАБЖЕНИЕ И УДАЛЕНИЕ ОТХОДОВ	191	21 642	157 575	530	77	353	76	288	43	-	-	-
3	ГОРНОДОБЫВАЮЩАЯ ПРОМЫШЛЕННОСТЬ	228	119 010	155 025	1 003	132	638	95	499	85	11	1	1
4	ГОСУДАРСТВЕННОЕ УПРАВЛЕНИЕ	323	33 012	188 786	573	20	192	17	168	20	20	10	8
5	ЗДРАВООХРАНЕНИЕ	1 032	158 751	161 552	4 847	829	2 398	368	2 384	382	3	5	7
6	ИНФОРМАЦИЯ И СВЯЗЬ	490	60 976	160 811	1 356	147	1 005	113	992	132	13	-	-
7	ИСКУССТВО И РАЗВЛЕЧЕНИЯ	537	15 943	117 926	771	91	402	88	427	106	6	7	10
8	ОБРАБАТЫВАЮЩАЯ ПРОМЫШЛЕННОСТЬ	1 405	116 939	139 584	6 909	367	5 731	409	6 047	565	18	7	7
9	ОБРАЗОВАНИЕ	2 769	254 037	139 671	6 330	1 120	4 347	1 127	4 201	1 149	123	103	116
10	ОПЕРАЦИИ С НЕДВИЖИМОСТЬЮ	547	6 808		369	31	187	22	175	13			
11	ПРОФЕССИОНАЛЬНАЯ И НАУЧНАЯ ДЕЯТЕЛЬНОСТЬ	497	109 609	152 099	548	62	342	55	309	36	29	29	29
12	ПРОЧИЕ ИНДИВИДУАЛЬНЫЕ УСЛУГИ	4 576	77 028	122 395	5 039	406	3 087	404	2 861	447	30	9	14
13	СЕЛЬСКОЕ ХОЗЯЙСТВО	6 859	191 257	125 992	6 084	646	3 820	498	4 165	483	38	18	20
14	СТРОИТЕЛЬСТВО	1 922	189 053	156 532	8 256	567	4 092	519	3 329	515	235	201	208
15	ТОРГОВЛЯ	6 770	219 864	135 967	5 505	408	3 773	436	3 740	422	30	20	18
16	ТРАНСПОРТ И СКЛАДИРОВАНИЕ	1 311	166 842	152 025	2 339	388	1 636	320	1 741	269	3	1	1
17	УСЛУГИ ПО ПРОЖИВАНИЮ И ПИТАНИЮ	1 397	121 092	111 412	3 699	561	2 108	373	2 153	396	7	5	5
18	ФИНАНСЫ И СТРАХОВАНИЕ	308	19 527	162 780	621	67	562	46	369	30	7	7	7
19	ЭЛЕКТРО И ЭНЕРГОСНАБЖЕНИЕ	360	74 407	143 184	3 567	379	2 736	353	2 401	279	48	10	10
20	Деятельность домашних хозяйств	34	363		170	7	48	5	41	4	-	-	-
21	Деятельность экстерриториальных организаций и органов	8	54		-	-	-	-	-	-	-	-	-
	ВСЕГО	31 991	1 977 552	140 977	59 376	6 389	37 677	5 356	36 492	5 396	635	445	471

Need for personnel and its deliverance in terms of EAT

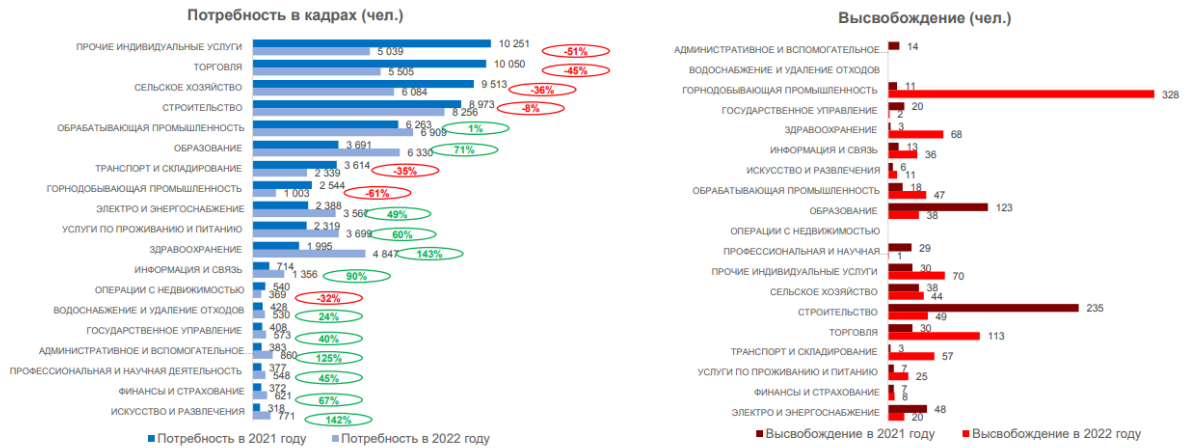
Потребность и высвобождение кадров в разрезе СП по ВЭД



В 2022-2024 гг. наибольшую потребность испытывают такие отрасли как обрабатывающая промышленность, строительство, сельское хозяйство, образование и торговля. При этом в отраслях с наименьшей потребностью (водоснабжение, недвижимость) сокращение штата не требуется

Comparative analysis of the polling main results in 2021 and 2022 in terms of EAT

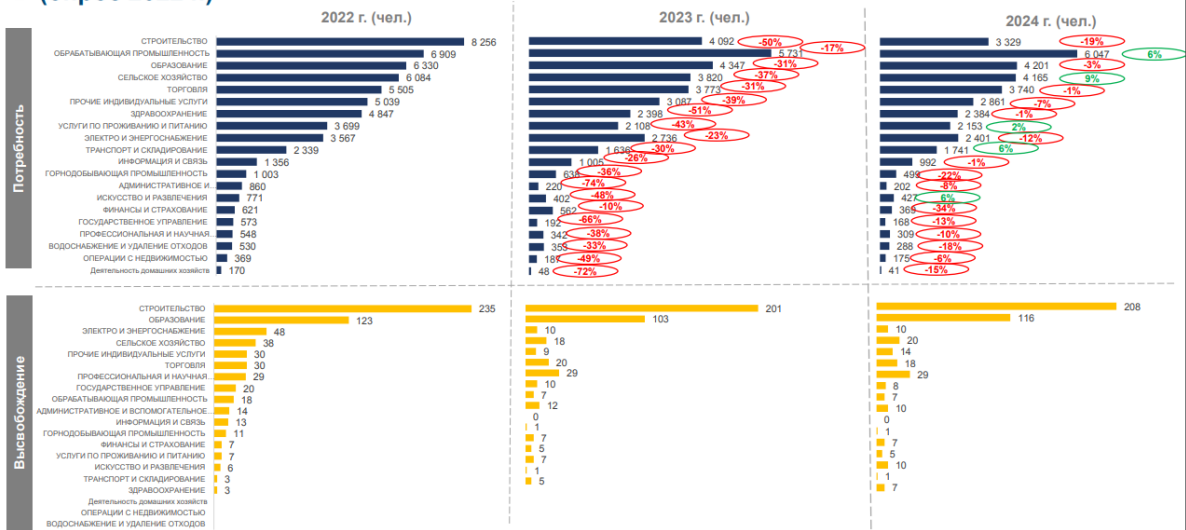
Сравнительный анализ основных результатов опросов 2021 и 2022 гг. в разрезе СП по ВЭД



По сравнению с результатами опроса 2021 года в т.ч. наблюдается сокращение потребности в кадрах в 7 отраслях (от -8% до 61%), при этом только в строительной отрасли объем высвобождения работников уменьшился на 80%

Comparative analysis of need for personnel in 2022-2024 in terms of EAT (2022 poll)

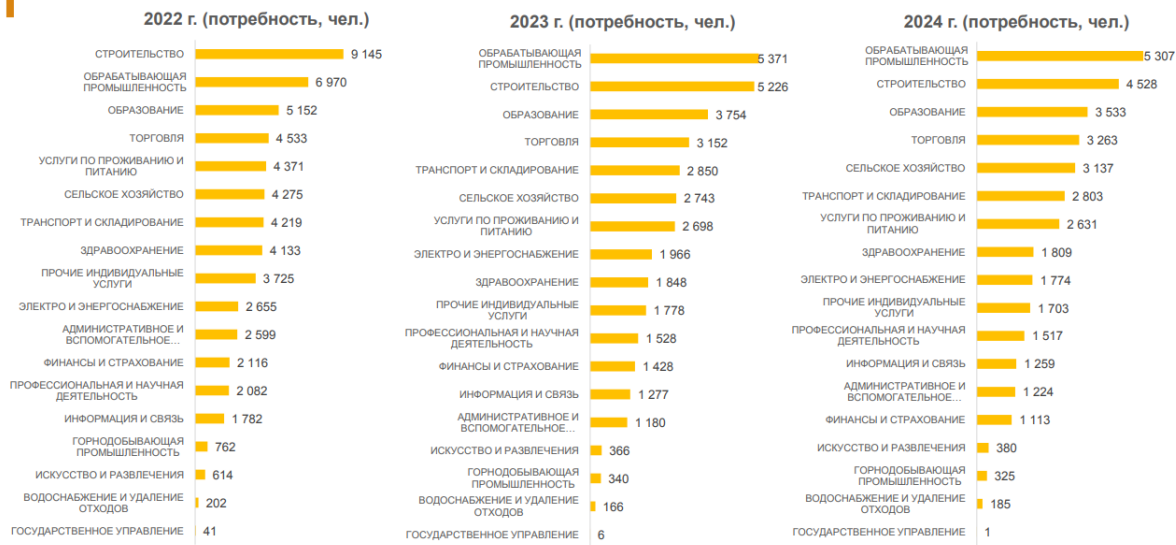
Сравнительный анализ потребности в кадрах 2022-2024 гг. в разрезе СП по ВЭД (опрос 2022 г.)



Согласно опросу темп прироста по потребности в кадрах снизится на 37% в 2023 году и на 3% в 2024. Наибольшее высвобождение работодателями планируется в таких отраслях как строительство и образование.

The need for professions in terms of EAT

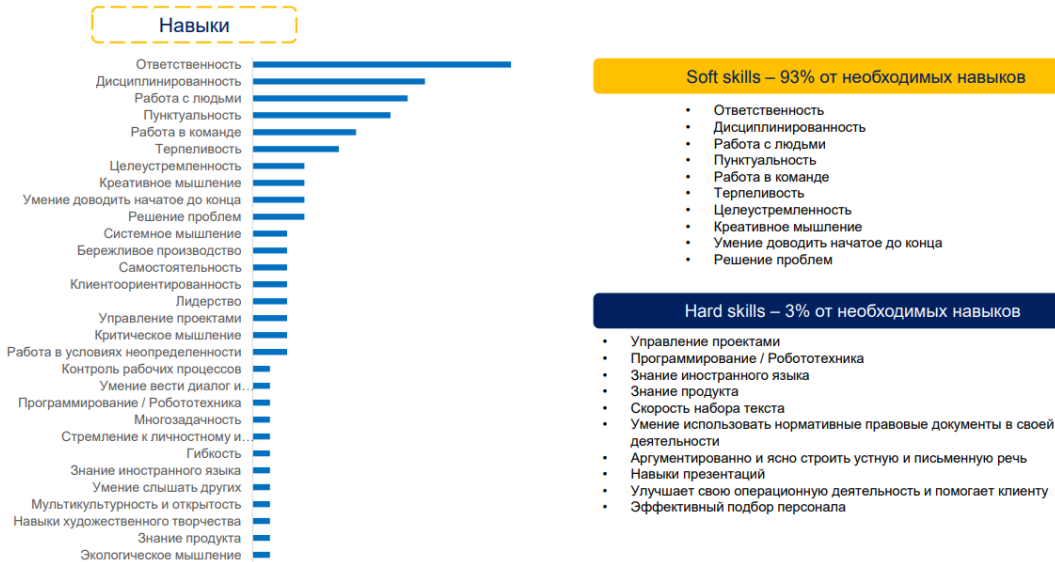
ПОТРЕБНОСТЬ В РАЗРЕЗЕ ПРОФЕССИЙ ПО ВЭД



В 2022-2024 гг. наибольшая потребность в кадрах наблюдается в 4 отраслях: строительство, обрабатывающая промышленность, образование и торговля.

The most demanded skills

Наиболее востребованные навыки



In the Karaganda region

General statistics in terms of districts

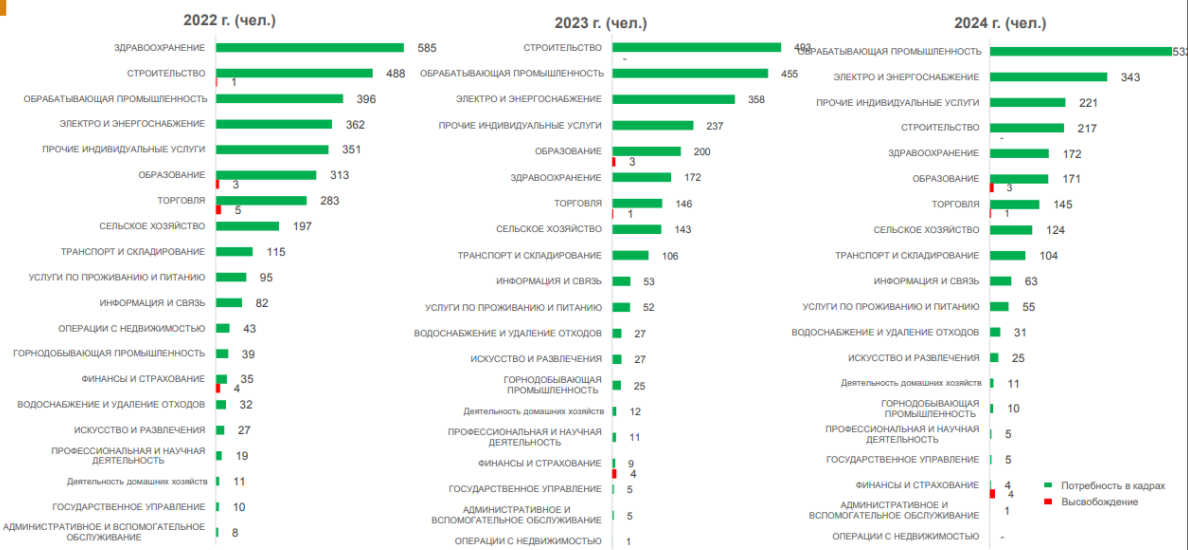
ОБЩАЯ СТАТИСТИКА В РАЗРЕЗЕ РАЙОНОВ													
№	Район	Кол-во анкет	Численность работников	Средняя ЗП	Потребность 2022 г.	Из них потребность в ИРС на 2022 г.	Потребность 2023 г.	Из них потребность в ИРС на 2023 г.	Потребность 2024 г.	Из них потребность в ИРС на 2024 г.	Высвобождение 2022 г.	Высвобождение 2023 г.	Высвобождение 2023-24г.
1	Абайский // Абай ауданы	24	525	151 667	61	4	57	5	57	6			
2	Актогайский // Актогай ауданы	82	98	76 000	17	-	10	1	11	2	1	1	1
3	Бухар - Жырауский // Бухар жырау ауданы	77	615	78 000	204	10	303	10	153	11	1	-	-
4	город Балхаш // Балхаш Қ.Ә.	14	564	138 333	13	-	5	-	4	-			
5	город Жезказган // Жезказган Қ.Ә.	100	2 159	127 305	305	88	227	42	110	27	2	-	-
6	город Караганда // Караганды Қ.Ә.	1 290	133 190	137 909	1 439	244	1 052	194	978	199	6	5	5
7	город Каражал // Қаражал Қ.Ә.	1	2	60 000	11	2	12	2	11	2			
8	город Приозерск // Приозерск Қ.Ә.	47	839	120 294	37	4	36	6	43	7			
9	город Сарань // Саран Қ.Ә.	33	743	187 143	247	2	345	1	445	1			
10	город Сатпаев // Сатбаев Қ.Ә.	10	1 163	196 429	407	-	4	2	3	1			
11	город Темиртау // Теміртау Қ.Ә.	200	2 214	114 530	155	-	75	-	71	2			
12	город Шахтинск // Шахтинск Қ.Ә.	82	925	115 833	7	-	4	1	3	1	1	-	-
13	Жанааринский // Жанаария ауданы	11	355	130 000	6	-	5	-	7	-			
14	Каркаралинский // Қарқаралы ауданы	168	4 664	179 063	126	1	79	3	74	2			
15	Нуринский // Нұра ауданы	65	3 362	191 184	159	80	98	35	75	35	2	2	2
16	Осакаровский // Осакаров ауданы	197	2 602	215 342	271	18	202	13	171	14			
17	Улытауский // Улытау ауданы	6	183	192 500	15	-	13	-	13	-			
18	Шетский // Шет ауданы	26	522	198 889	11	-	10	-	10	-			
	Общий итог	2 433	154 725	155 742	3 491	453	2 537	315	2 239	310	13	8	8

General statistics in terms of EAT

ОБЩАЯ СТАТИСТИКА В РАЗРЕЗЕ ВЭД СП													
№	Отрасль	Кол-во анкет	Численность работников	Средняя ЗП	Потребность 2022 г.	Из них потребность в ИРС на 2022 г.	Потребность 2023 г.	Из них потребность в ИРС на 2023 г.	Потребность 2024 г.	Из них потребность в ИРС на 2024 г.	Высвобождение 2022 г.	Высвобождение 2023 г.	Высвобождение 2024 г.
1	АДМИНИСТРАТИВНОЕ И ВСПОМОГАТЕЛЬНОЕ ОБСЛУЖИВАНИЕ	87	1 844	153 000	8	-	5	-	1	-			
2	ВОДОСНАБЖЕНИЕ И УДАЛЕНИЕ ОТХОДОВ	20	3 015	146 667	32	-	27	-	31	-			
3	ГОРНОДОБЫВАЮЩАЯ ПРОМЫШЛЕННОСТЬ	32	2 858	238 571	39	2	25	1	10	-			
4	ГОСУДАРСТВЕННОЕ УПРАВЛЕНИЕ	14	274		10	-	5	1	5	-			
5	Деятельность домашних хозяйств	1	2		11	2	12	2	11	2			
6	ЗДРАВООХРАНЕНИЕ	109	11 662	169 310	585	22	172	26	172	22			
7	ИНФОРМАЦИЯ И СВЯЗЬ	42	3 386	135 800	82	16	53	18	63	19			
8	ИСКУССТВО И РАЗВЛЕЧЕНИЯ	33	147	130 714	27	22	27	22	25	22			
9	ОБРАБАТЫВАЮЩАЯ ПРОМЫШЛЕННОСТЬ	89	6 069	174 355	396	44	455	38	532	37			
10	ОБРАЗОВАНИЕ	167	11 152	165 109	313	102	200	57	171	59	3	3	3
11	ОПЕРАЦИИ С НЕДВИЖИМОСТЬЮ	26	1 043		43	-	1	-	-	-			
12	ПРОФЕССИОНАЛЬНАЯ И НАУЧНАЯ ДЕЯТЕЛЬНОСТЬ	57	1 210	193 774	19	-	11	-	5	-			
13	ПРОЧИЕ ИНДИВИДУАЛЬНЫЕ УСЛУГИ	459	5 622	117 143	351	149	237	97	221	102			
14	СЕЛЬСКОЕ ХОЗЯЙСТВО	266	1 441	213 115	197	16	143	11	124	14			
15	СТРОИТЕЛЬСТВО	162	3 813	146 538	488	52	493	31	217	27	1	-	-
16	ТОРГОВЛЯ	499	93 883	125 286	283	19	146	2	145	2	5	1	1
17	ТРАНСПОРТ И СКЛАДИРОВАНИЕ	226	1 756	157 581	115	1	106	-	104	-			
18	УСЛУГИ ПО ПРОЖИВАНИЮ И ПИТАНИЮ	92	1 185	125 000	95	4	52	4	55	4			
19	ФИНАНСЫ И СТРАХОВАНИЕ	36	2 386	127 626	35	-	9	-	4	-	4	4	4
20	ЭЛЕКТРО И ЭНЕРГОСНАБЖЕНИЕ	16	1 977	133 333	362	2	358	5	343	-			
	Общий итог	2 433	154 725	155 742	3 491	453	2 537	315	2 239	310	13	8	8

Need for personnel and its deliverance in terms of EAT

ПОТРЕБНОСТЬ И ВЫСВОБОЖДЕНИЕ КАДРОВ В РАЗРЕЗЕ СП ПО ВЭД



В 2022-2024 гг. наибольшую потребность испытывают такие отрасли как здравоохранение, строительство, обрабатывающая промышленность и электро-энергоснабжение.

Table 9 – Analyzing the need for personnel in educational programs for 2022-2024 in the Republic of Kazakhstan

Number of questionnaires	Number of employees	Average salary	2022 need	2023 need	2024 need
			2022 deliverance	2023 deliverance	2024 deliverance

Table 10 – Analyzing the need for personnel in educational programs for 2022-2024 in the Karaganda region

Number of questionnaires	Number of employees	Average salary	2022 need	2023 need	2024 need
			Graduates of 2022	Graduates of 2023	Graduates of 2024

Table 11 – Need for personnel in 2022-2024 in terms of EAT in the Karaganda region

Profession	2022 need	2023 need	2024 need
	312	199	158
	Graduates of 2022	Graduates of 2023	Graduates of 2024
	83	97	103

4 SWOT – analysis of the activities

- Academic process
- Research activities
- Educational process
- Development of human resources

Internal factors	Strong points	Weak points
	Academic process	
	Research activities	
	Educational process	
	Development of human resources	
External factors	Opportunities	Threats
	Academic process	
	Research activities	
	Educational process	
	Development of human resources	

5 Sustainable development of the faculty/department

5.1 Prospective areas for the development of educational programs in accordance with forecast needs and an atlas of new professions.

5.2 Promising areas of research activities in accordance with the objectives of national projects.

5.3 Priority areas of educational work in accordance with the objectives of national projects.

5.4 Analysis of staffing needs (department employees) for change management.

5.5 Analysis of resource needs, including the development of MTB and book supply.

6 Risk Portfolio

6.1 Analyzing potential risks

Strategic Risk is a risk that arises at the level of strategic decision-making. Thus, this risk has a direct impact on the University's Strategic Development Plan.

Financial Risk is a risk that arises during daily financial transactions and is largely caused by unexpected changes in external financial and macroeconomic factors.

Legal Risk is a risk arising as a result of violation or non-compliance with internal and external legal norms, such as laws, regulatory regulations, rules, regulations, instructions, constituent documents of the University.

Academic Risk is a risk that arises during educational activities.

Operational Risk is a risk arising in the course of daily operational activities related to the implementation of the Strategic Development Plan

Risk type	The degree of risk influence on the activities of the University on a scale from 1 to 5	Possible consequences in case of failure to take timely response measures	The level of negative consequences of the risk for the University	Probability of occurrence
			Indicate the figure: 1 – insignificant, 2 – low, 3 – medium, 4 – rather high, 5 – very high	
1. Risk type: strategic				
Risk 1.1:				
Risk 1.2				
Risk 1.3				
2. Risk type: financial				
Risk 2.1:				
Risk 2.2:				
Risk 2.3 :				
Risk ...				
3. Risk type: legal				
Risk 3.1:				
Risk 3.2				
4. Risk type: academic				

Risk 4.1:			
Risk 4.2			
Risk ...			
5. Risk type: operational			
Risk 5.1:			
Risk 5.2			
Risk ...			

6.2 Preventive measures

Risk type	Preventive measures
1. Risk type: strategic	
Risk 1.1:	
Risk 1.2	
Risk 1.3	
2. Risk type: financial	
Risk 2.1:	
Risk 2.2:	
Risk 2.3 :	
Risk ...	
3. Risk type: legal	
Risk 3.1:	
Risk 3.2	
4. Risk type: academic	
Risk 4.1:	
Risk 4.2	
Risk ...	
5. Risk type: operational	
Risk 5.1:	
Risk 5.2	

6.3 Response measures

Risk type	Response measures
1. Risk type: strategic	
Risk 1.1:	
Risk 1.2	
Risk 1.3	
2. Risk type: financial	
Risk 2.1:	
Risk 2.2:	
Risk 2.3 :	
Risk ...	
3. Risk type: legal	
Risk 3.1:	
Risk 3.2	
4. Risk type: academic	
Risk 4.1:	
Risk 4.2	
Risk ...	
5. Risk type: operational	
Risk 5.1:	
Risk 5.2	

Appendix B
Strategic Plan

Category	Name	Indicators of implementing by years			
		units	2023	2024	2025
Strategic trend 1					
Taks 1		units	2023	2024	2025
Implementation indicator 1					
Implementation indicator 2					
Implementation indicator 3					
...					
Task 2		units	2023	2024	2025
Implementation indicator 1					
Implementation indicator 2					
Implementation indicator 3					
...					
Taks...		units	2023	2024	2025
Strategic trend 2					
Taks 1		units	2023	2024	2025
Implementation indicator 1					
Implementation indicator 2					
Implementation indicator 3					
...					
Task 2		units	2023	2024	2025
Implementation indicator 1					
Implementation indicator 2					
Implementation indicator 3					
...					
Strategic trend 3					
Task 1		units	2023	2024	2025
Implementation indicator 1					
Implementation indicator 2					
Implementation indicator 3					
...					
Task 2		units	2023	2024	2025
Implementation					

Non-profit Joint-stock Company Abylkas Saginov Karaganda Technical University

indicator 1					
Implementation indicator 2					
Implementation indicator 3					
...					
Task...		units	2023	2024	2025

Head of the
department

Name

Dean

Name

Non-profit Joint-stock Company Abylkas Saginov Karaganda Technical University

Key indicator 3																		
...																		
Task 2		units	2023	2024	2025													
Key indicator 1																		
Key indicator 2																		
Key indicator 3																		
...																		