



Agency for Strategic planning
and reforms of the
Republic of Kazakhstan
Bureau of National statistics

Quality report

*Research and development activities in the Republic
of Kazakhstan*

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S.1 Contact details

S.1.1 Organization

Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan

S.1.2 Structural subdivision

Department of Services and Energy Statistics

S.1.3 Name of contact person

Ardakova Samal Ardakyzy

S.1.3.1 Name of the head of the responsible structural unit

Karaulova Gulmira Sailaubekovna

S.1.5 Postal address of the contact person

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S.1.6 E-mail address of the contact person

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S. 2 Introduction-Relevance

Science statistics is aimed at the development and improvement of science indicators, their systematization, the introduction of new definitions and their relationship, contributing to a more complete and comprehensive presentation of the state of the scientific sphere, as well as their impact on the socio-economic development of the country.

Science - the sphere of human activity, the function of which is to study the laws of nature, society and thinking, development and theoretical systematization of objective knowledge of reality for the rational use of natural resources and effective management of society.

Classification of enterprises engaged in R&D by economic sector: entrepreneurial, public, non-profit and higher education sector.

1) the entrepreneurial sector includes enterprises, organizations and private institutions that produce or provide market goods or services, with the exception of higher education services, for sale to consumers at an economically justified price;

- 2) the public sector includes institutions financed from the state budget, created to provide non-market services of an individual nature in the field of health care, social security, culture and art, recreation (except for educational services), as well as to provide services of a collective nature in the field of public administration, maintaining order and security, defense, science and scientific services, road facilities; state social insurance funds and other state funds organized and controlled by the state;
- 3) the non-profit sector includes legal entities financed by private non-profit organizations;
- 4) the higher education sector includes universities, institutes, academies, colleges and other institutions of post-secondary education, regardless of their source of funding and legal status; research institutes, experimental laboratories and clinics that are directly managed or otherwise associated with institutes of higher education.

R&D includes fundamental research work (R&D), applied R&D and experimental design work (R&D).

The basis for the formation of science statistics is a report in form 1-science "Report on research and development work". The main purpose of the statistical survey is to determine the number of enterprises and organizations carrying out research and development in the Republic of Kazakhstan.

The main users are the Ministry of Education and Science of the Republic of Kazakhstan, the Ministry of Industry and Infrastructure Development of the Republic of Kazakhstan.

In the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan, meetings of working groups (focus groups) are held, with the participation of potential users and respondents, representatives of interested government agencies, at which indicators of national statistical forms are analyzed in detail for their relevance and to avoid duplication with indicators of departmental statistical forms and administrative forms. data.

Feedback from users is carried out through the blog of the Minister of National Economy of the Republic of Kazakhstan on the website of the Ministry of National Economy of the Republic of Kazakhstan.

S.3 Updating metadata

S.3.1 Latest confirmation of updated metadata

S.3.2 Latest placement of metadata

S.3.3 Latest metadata update

S.4 Presentation of statistical information

S.4.1 Data description

The main indicators of statistical observation in the field of R&D include:

- 1) internal and external costs of research and development;
- 2) sources of financing for internal costs of research and development;
- 3) the number of research and development departments;
- 4) the number of employees who performed research and development.

S.4.2 Classification system

During the survey, the following statistical classifiers are used:

- 1) KATO - Classifier of administrative-territorial objects;
- 2) OKED - General classifier of economic activities;
- 3) KFS - Classifier of forms and types of ownership;
- 4) KRP - Classifier of the dimension of legal entities;
- 5) CSE - Classifier of sectors of the economy.

These classifiers are posted on the Internet resource Bureau of national statistics www.stat.gov.kz on the main page in the section "Official statistical information (by industry)" - Classifiers

S.4.3 Sectoral coverage

They are represented by legal entities and (or) their structural and separate subdivisions with primary and secondary types of economic activity in accordance with the codes of the General Classifier of Economic Activities (hereinafter - OKED) 72, 85.4 and organizations, regardless of the type of economic activity, that carried out research and development design work according to the list.

To ensure the coverage of enterprises with statistical observation and to ensure the comparability of R&D statistics at the international level, the classification of economic activities of the European Community NACE REV.2 is used, at the national level - the nomenclature of economic activities.

S.4.4 Statistical concepts and definitions

- 1) The circle of respondents: legal entities and (or) their structural and separate subdivisions with the main and secondary types of economic activity according to the codes of the General Classifier of Economic Activities (hereinafter - OKED) 72, 85.4 and organizations, regardless of the type of economic activity, that carried out scientific research and development work according to the list.

- 2) Toolkit: Statistical form "Report on research and development work" (code 241112123, index 1-science, annual frequency).
- 3) Type of observation: carried out on the basis of a "panel".
- 4) The deadline for the provision of respondents is January 25 (inclusive) after the reporting period. The submission of this statistical form is carried out on paper or electronically. Filling out the statistical form in electronic form is carried out through the information system "Data collection in on-line mode" posted on the Internet resource Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan (www.stat.gov.kz).

The last revision of the form was in 2017, the statistical form was posted on the Internet resource Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan (www.stat.gov.kz) in the section for respondents - statistical forms for 2019 year - annual forms.

Definitions:

- 1) external costs - the cost of research and development carried out by third-party organizations under contracts or the acquisition of R&D results performed by other enterprises during the reporting period;
- 2) internal costs - the costs of R&D carried out within the enterprise during the reporting period, as well as outside the enterprise, but to ensure internal R&D.

S.4.5 Statistical object

The statistical object is legal entities and (or) their structural and separate divisions that carried out research and development work.

S.4.6 General population (principle of selection of survey units)

The basis for the formation of the "panel" is the Statistical Business Register, a list of enterprises formed according to the results of annual surveys for 1-Science, 1-PF and 2-MP, i.e. for those enterprises that in the reporting year answered positively to the question of planning R&D in the next year in relation to the reporting year, the sources of the "panel" are also the list of subsoil users provided by the administrative source.

S.4.7 Territorial coverage

Republic of Kazakhstan and its regions

S.4.8 Time coverage

In Kazakhstan, the survey on science has been carried out since 2003 on an annual basis. There are time series for 2003-2018.

S.4.9 Base period

The base period is the year preceding the survey year.

S.5 Unit of measurement

Thousand Kazakh tenge

S.6 Reporting period

year

S.7 Legal basis

S.7.1 Legal framework

1. Law of the Republic of Kazakhstan dated March 19, 2010 No. 257-IV "On state statistics".
2. Rules for the provision of primary statistical data by respondents, approved by order of the Chairman of the Agency of the Republic of Kazakhstan on statistics dated July 9, 2010 No. 173.
3. Rules for the submission of administrative data by administrative sources on a gratuitous basis, approved by the order of the Acting Chairman of the Agency of the Republic of Kazakhstan on statistics dated July 14, 2010 No. 183.
4. The plan of statistical work, approved in accordance with the established legislative procedure of the Republic of Kazakhstan by the Order of the Minister of National Economy of the Republic of Kazakhstan.
5. Schedule for the dissemination of official statistical information, approved by the Order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan.
6. Rules for the provision on a gratuitous basis of statistical information not provided for by the schedule for the dissemination of official statistical information and developed on the basis of primary statistical data submitted by respondents in accordance with the schedule for submitting primary statistical data by respondents, approved by the order of the Chairman of the Agency of the Republic of Kazakhstan on Statistics of May 20, 2010 No. 113.
7. Rules for the provision and use for scientific purposes of databases in a de-identified form, approved by the Order of the Minister of National Economy of the Republic of Kazakhstan dated December 18, 2015 No. 778.
8. "Methodology for the formation of indicators of statistics of research and development work and innovations" approved by the order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated October 6, 2016 No. 232

S.8 Privacy and data protection

S.8.1 Privacy Policy

1. Article 8 of the Law of the Republic of Kazakhstan dated March 19, 2010 "On State Statistics", in accordance with which a guarantee of confidentiality and protection of the submitted data by respondents is ensured.
2. Article 28 of the Entrepreneurial Code of the Republic of Kazakhstan dated October 29, 2015 ensures the protection of information constituting a commercial secret.
3. Information security policy (hereinafter referred to as the Policy) approved by the Order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated October 31, 2016 No. 252 defines the goals, objectives, guidelines and practical techniques in the field of ensuring information security of the Committee. The main goal of the Policy is to ensure the accessibility of official statistical information, confidentiality of information stored and processed on the Committee's computer facilities under the conditions of its integrity and authenticity.

S.8.2 Confidentiality - data handling

The rules for the provision and use of databases in a de-identified form for scientific purposes, approved by the Order of the Minister of National Economy of the Republic of Kazakhstan dated December 18, 2015 No. 778.

S.9 Publication Policy

S.9.1 Publication Calendar

Clause 1, Clause 2 of Article 26 of the Law of the Republic of Kazakhstan "On State Statistics" dated March 19, 2010 No. 257.

The schedule for the dissemination of official statistical information is posted on the website of the Bureau of national statistics www.stat.gov.kz in the section "Home" // "Basic documents".

S.9.2 Access to the Graph

The schedule for the dissemination of official statistical information is posted on the website of the Bureau of national statistics www.stat.gov.kz in the section "Home" // "Basic documents".

S.9.3 User access

Bureau of national statistics website www.stat.gov.kz. Official statistical information> Operational data (express information, bulletins)> Science and innovation

S.10 Propagation frequency

year

S.11 Dissemination format, accessibility and clarity

S.11.1 News publications

S.11.2 Publications

1) Statistical bulletin "Research and development work in the Republic of Kazakhstan", posted on the Internet resource Bureau of national statistics in the section Official statistical information (by industry) - Operational data (express information, bulletins) - Science and innovation - Bulletins;

2) Statistical collection "Science and innovation activity of Kazakhstan", posted on the Internet resource Bureau of national statistics in the section Official statistical information (by industry) - Collections, quarterly publications, spreadsheets, analytics - Statistical collections;

3) Indicators of the State Program "Development of Education and Science of the Republic of Kazakhstan for 2016-2019", posted on the Internet resource Bureau of national statistics in the section Official statistical information (by industry) - Indicators of state and government programs;

4) The main indicators and dynamic tables are posted on the Bureau of national statistics Internet resource in the section Official statistical information (by industry) - Science and innovation

S.11.3 Online databases

Information and analytical system "Taldau" - Science statistics - Scientific and technical activities of organizations.

S.11.3.1 AC1. Data tables-consultation

Not implemented

S.11.4 Microdata access

The rules for the provision and use of databases in a de-identified form for scientific purposes, approved by the Order of the Minister of National Economy of the Republic of Kazakhstan dated December 18, 2015 No. 778.

S.11.5 Other

unacceptably

S.11.5.1 AC2. Metadata consultation

Not implemented

S.12 Availability of Documentation

S.12.1 Methodology documentation

- 1) "Methodology for the formation of indicators of statistics of research and development work and innovations", approved by order of the Chairman of the Bureau of national statistics dated October 6, 2016 No. 232 and registered with the Ministry of Justice of the Republic of Kazakhstan on November 8, 2016 No. 14404. Posted on the Bureau of national statistics Internet resource www.stat.gov.kz in the "Methodology" section - R&D and innovation statistics;
- 2) "Methodological regulation on statistics 2018" fourth edition, addition. Posted on the Bureau of national statistics Internet resource www.stat.gov.kz in the "Methodology" section;
- 3) Frascati Manual "Science, Technology and Industry Sector Committee on Science and Technology Policy" 2002, posted on the OECD website www.oecd.org

S.12.2 Quality documentation

1. Policy in the field of quality, approved by the order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated April 23, 2015 No. 67.
2. Quality objectives Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan, Quality objectives of the Office of Services and Energy Statistics.
3. Documented information of the quality management system: Quality manual; Documented procedures; Instructions; Process maps.
4. Standard methodology for describing the process of production of statistical information by state bodies, approved by the Order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated March 30, 2015 No. 53;
5. Methodology for assessing the quality of official statistical information, approved by the Order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan dated May 23, 2018 No. 63

S.13 Quality management

S.13.1 Quality assurance

The quality and reliability of data on science statistics is supported by generally accepted procedures:

- compliance with the basic principles of primary accounting;
- use of standard statistical classifications of goods, products, services;
- development and implementation of various controls (format-logical, arithmetic) at the stages of collection and processing of primary data;

- obtaining additional information from respondents to confirm the reliability of primary data;
- carrying out a comparative analysis of statistical data in dynamics;
- the definition of a plausibility check at the level of inputting primary data in electronic format, as well as the inclusion of various format and logical controls in the software for processing primary statistical information to improve the quality of data, check the correctness of filling out the statistical form and minimize the lack of answers on some questions of the statistical form.

S.13.2 Quality assessment

S.14 Relevance

S.14.1 Needs

The Ministry of Education and Science of the Republic of Kazakhstan, the Ministry of Industry and Infrastructure Development of the Republic of Kazakhstan, local executive bodies and other state bodies - for analytical work, individuals and legal entities.

S.14.2 User satisfaction

An annual survey of users of official statistical information is carried out according to the questionnaire Q-002 "Survey of users".

S.14.3 Completeness / R1. Data completeness-share

S.15 Accuracy and reliability (to be completed according to the type of observation)

S.15.1 Overall accuracy

The National Survey on Science Statistics is designed in such a way that possible errors can be minimized and controlled. Nevertheless, when conducting a survey, inaccuracies are possible, called random errors in statistics (incorrect filling of data on cost, a specialist's error when filling out a report, etc.), even if the survey was carried out with the greatest care. Such errors are identified and corrected by the regional departments of statistics and the Bureau of national statistics in the course of statistical observation.

S.15.2 Sample errors - indicators / A1.

unacceptably

S.15.3 Non-sampling error

Errors not caused by a sample survey: due to the obligatory provision of primary statistical data, there are no non-responses during the survey. When conducting the survey on science, there were no non-sampling errors.

S.15.3.1 Coverage error

unacceptably

S.15.3.1.1 A2.Excess coverage-share

unacceptably
S.15.3.1.2 A3 General units-ratio
unacceptably
S.15.3.3 No response errors
S.15.3.3.1 A4. Absence unit-fraction
unacceptably
S.15.3.3.2 A5. No response-share clause
unacceptably
S.16 Timeliness and punctuality
S.16.1 Timeliness
S.16.1.1 TP1 Waiting period - first results

The results in the newsletter are published annually on March 19th and are final.

S.16.1.2 TP2.Waiting Period - Latest Results

Results are final

S.16.2 Punctuality

S.16.2.1 Punctuality / TP3

The data are published in accordance with the Plan of statistical work, approved in accordance with the legislation of the Republic of Kazakhstan by the Order of the Minister of National Economy of the Republic of Kazakhstan and the Schedule for the dissemination of official statistical information, approved by the Order of the Chairman of the Bureau of national statistics of the Agency for strategic planning and reforms of the Republic of Kazakhstan.

S.17 Comparability

S.17.1 Geographic comparability

Data is comparable across regions

S.17.1.1 Asymmetry in mirror flow statistics-coefficient / CC1

unacceptably

S.17.2 Length of comparable time series / CC2

The dynamic indicator for the indicator of research and development is comparable and continuous since 2003. There are time series for 2003-2018.

S.18 Consistency

S.18.1 Consistency, external, cross

The methodology for generating R&D and innovation statistics indicators has been developed in accordance with international recommendations received within the framework of the KAZSTAT Project (Project to Strengthen the National Statistical System) and Eurostat standards. The experience of the statistics office of Finland was used.

S.18.2 Internal consistency

The methodology for the formation of indicators for statistics of research and development work and innovations has been agreed with all structural divisions of the Bureau of national statistics.

S.19 Load

Data collection is carried out electronically and on paper at the request of the respondent.

When collecting data online, the respondent is provided with automated arithmetic and logical controls, excluding the possibility of typical input errors. Information processing processes are automated using local software systems, control of input and output information is provided. The average time spent on filling out the form is 1-2 hours. Duplication with other examinations is excluded. Administrative data is used to ensure coverage of respondents.

S.20 Revision of data

S.20.2 Revision of data / A6

unacceptably

S.21 Processing of statistical data

S.21.1 Input data

The basis for the formation of the "panel" is the Statistical Business Register, a list of enterprises formed according to the results of annual surveys for 1-Science, 1-PF and 2-MP, i.e. for those enterprises that in the reporting year answered positively to the question of planning R&D in the next year in relation to the reporting year, the sources of the "panel" are also the list of subsoil users provided by the administrative source.

S.21.2 Inspection frequency

year

S.21.3 Method (method) of collecting primary statistical data

According to R&D statistics, the provision of the statistical form is carried out on paper or in electronic form. Filling in the statistical form in electronic form is carried out through the information system "Data collection in on-line mode" posted on the Internet resource Bureau of national statistics (www.stat.gov.kz).

S.21.4 Reliability of primary statistical data

In order to improve the quality of data, check the correctness of filling out the statistical form and minimize the lack of answers on some questions of the statistical form, plausibility checks are defined at the level of input of primary data in electronic format, and various format-logical controls are also included in the software for processing primary statistical information. Format-logical controls: between sections, within sections.

S.21.5 Imputation - share / A7

unacceptably

S.21.6 Correction

Correction of data is carried out directly in the course of statistical observation.

S.21.6.1 Seasonal adjustment

unacceptably

S.22 Notes

In the future, continue to work to ensure data quality.