

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

# **Quality Report**

## On the innovative activity of enterprises in the Republic of Kazakhstan in 2024

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- S.1 Contact Information
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- S.1.2 Structural Division Department of Service and Energy Statistics
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S.2 Introduction - Relevance

Innovation is a result of scientific and technical activity, which has received practical realization in the form of new or improved products (goods, services) or technology, which has qualitative advantages when used in practice compared to the analogues used and has economic and (or) public benefit.

The system of statistical indicators of innovation potential, formed on the basis of systematized results of the analysis of foreign and domestic experience of innovation research, serves as a methodological basis for the development and improvement of innovation statistics.

The purpose of observation is to collect indicators characterizing the use of the latest technologies and the development of new types of products (goods, services), as well as the collection and analysis of indicators characterizing the innovative activity of enterprises.

The basis for the formation of innovation statistics is the report on the form 1-innovation "Report on innovation activity".

The main users are the Ministry of Digital Development, Innovation and Aerospace Industry of the Republic of Kazakhstan, the Ministry of Industry and Construction of the Republic of Kazakhstan.

The Bureau of National Statistics of the Agency for Strategic Planning and Reforms of the Republic of Kazakhstan (hereinafter - the Bureau) holds meetings of working groups (focus groups), with the participation of potential users and respondents, representatives of interested government agencies, where indicators of national statistical forms are analyzed in detail for their relevance to exclude duplication with indicators of departmental statistical forms and forms of administrative data.

S.3 Metadata Update

- S.3.1 Last Confirmation of Updated Metadata 24.08.2022
- S.3.2 Last Publication of Metadata 24.08.2022
- S.3.3 Last Update of Metadata 24.08.2022
- S.4 Presentation of Statistical Information
- S.4.1 Description of Data

Basic information about the organization; product and/or business process (process, organizational and marketing) innovation; total volume of innovative products (goods and services); volume of innovative products (goods and services) sold.

S.4.2 Classification System

The following statistical classifiers are used in the survey:

- 1) CATO Classifier of Administrative-Territorial Objects;
- 2) OKED General Classifier of Economic Activities;
- 3) CFS Classifier of Forms and Types of Ownership;
- 4) CRP Classifier of the dimension of legal entities;
- 5) CSE Classifier of Economic Sectors.

These classifiers are available on the Bureau's website: www.stat.gov.kz / «Home» / «Classifiers».

S.4.3 Sectoral Coverage

Submit legal entities and (or) their structural and separate subdivisions with the number of more than 100 persons - by solid method, the number of up to 100 persons - by sampling method with the main type of economic activity according to the codes of the General Classifier of Economic Activities 01-03, 05-09, 10-33, 35, 36-39, 41-43, 45-47, 49-53, 58-63, 64-66, 71-74, 85.4, 86 and organizations, regardless of the type of economic activity, carrying out innovation activities according to the list.

S.4.4 Statistical Concepts and Definitions

1) Tools: Statistical form "Report on innovation activity" (index 1-innovation, annual periodicity).

2) Type of observation: Sampling.

3) Deadline for submission of respondents until February 25 (inclusive) after the reporting period. Submission of this statistical form shall be done on paper or electronically. Filling in the statistical form in electronic form is carried out through the information system «Data collection in on-line mode» available on the Internet resource of the Bureau www.stat.gov.kz in the section «For respondents»/ «Respondent's cabinet»

The last revision of the form was in 2022, and the statistical form is available on the Bureau's online resource at www.stat.gov.kz under «For Respondents» / «Statistical Forms for 2025» / «Annual Forms». Definitions:

1) innovation costs - actual expenditures in monetary terms related to the implementation of various types of innovation activities carried out on an enterprise-wide scale;

2) innovation activity - a type of activity related to the transformation of ideas into a new or improved product introduced on the market; into a new or improved technological process used in practical activities; a new approach to social services, involving a set of scientific, technical, organizational, financial and commercial activities, in the aggregate, leading to innovations.

S.4.5 Statistical Unit

Legal entities and (or) their structural and separate subdivisions engaged in innovation activities.

S.4.6 General total (The principle of choosing survey units)

The innovation survey is conducted on an annual basis by sampling method. To determine the general population, the Statistical Business Register (hereinafter referred to as SBR) is used, which contains a complete list of units with the necessary classification and address data. The main criteria for the formation of the sampling frame for the innovation survey are: OKED code of the enterprise (01-03, 05-09, 10-33, 35, 36-39, 41-43, 45-47, 49-53, 58-63, 64-66, 71-74, 85.4, 86);

activity code: 1 and 2 - the enterprise is active;

dimensionality codes: 105-160 (small) (30%);

dimensionality codes: 215-225 (medium) (100%);

dimensionality codes: 305-311 (large) (100%).

The sample population is formed on the basis of the order for sample design according to the "Methodology for conducting sample surveys of enterprises" approved by the Order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan dated August 22, 2016 No. 169, posted on the Internet resource of the Bureau www.stat.gov.kz in the section «Methodology» / «Formation of sample population for statistical observations».

S.4.7 Territorial Coverage

Republic of Kazakhstan (all regions and cities of republican significance)

S.4.8 Time Coverage

In Kazakhstan, the innovation survey has been conducted on an annual basis since 2003. Time series data are available from 2004 to 2024.

#### S.4.9 Base period

The base period is the year preceding the survey year.

S.5 Unit of Measure

Person thousand tenge and units

S.6 Reporting Period

Year

- S.7 Legal Framework
- S.7.1 Legal Basis

1. Law of the Republic of Kazakhstan dated March 19, 2010 No. 257-IV «On State Statistics».

2. Rules for the submission of primary statistical data by respondents, approved by Order No. 173 of the Chairperson of the Agency of the Republic of Kazakhstan for Statistics dated July 9, 2010 (registered in the State Register of Regulatory Legal Acts under No. 6459)

3. Statistical Work Plan, approved by the Order of the Head of the Bureau.

4. Schedule for Dissemination of Official Statistical Information, approved by the Order of the Head of the Bureau.

5. «Methodology for the formation of indicators of statistics of scientific research and development and innovation» approved by the order of the Chairman of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan from 6 October 2016 № 232.

- S.8 Confidentiality and Data Protection
- S.8.1 Confidentiality Policy

1. Article 8 of the Law of the Republic of Kazakhstan dated March 19, 2010 "On State Statistics" guarantees the confidentiality and protection of data submitted by respondents.

2. Article 28 of the Entrepreneurial Code of the Republic of Kazakhstan dated October 29, 2015 ensures the protection of information that constitutes a commercial secret.

3. The Information Security Policy (hereinafter – the Policy), approved by the Order of the Head of the Bureau dated February 10, 2021 No. 20, defines the goals, objectives, guiding principles, and practices in the field of information security.

The primary objective of the Policy is to ensure the availability of official statistical information, confidentiality of information stored and processed by the Bureau's computing systems, and integrity and authenticity of this information.

S.8.2 Confidentiality – Data Handling

Rules for the provision of de-identified databases for use in scientific and scientific-technical activities, approved by the Order of the Chairperson of the Agency for Statistics of the Republic of Kazakhstan dated July 2, 2010 No. 168 (registered with the Ministry of Justice of the Republic of Kazakhstan on August 13, 2010 No. 6388).

- S.9 Publication Policy
- S.9.1 Publication Calendar

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

he Statistical Work Plan and the Schedule of Dissemination of Official Statistical Information are available on the Unified Platform of Internet Resources of Public Authorities (UPIR of the CS) www.gov.kz in the section of the Bureau.

S.9.2 Access to the Schedule

Simultaneous and equal access of all users on the website of the Unified Platform of Internet Resources of Public Bodies (UPIR of the CS) www.gov.kz. in the section of the Bureau "Home" / "Basic Documents".

S.9.3 User Access

The Bureau's website www.stat.gov.kz «Home» / «Statistics» / «Social Statistics» / Statistics of Education, Science, and Innovation» / «Electronic Tables».

S.10 Frequency of Dissemination

Annually

- S.11 Format of Dissemination, Accessibility, and Clarity
- S.11.1 News Publications
- S.11.2 Publications

1) Spreadsheets "On Innovation Activity of Enterprises in the Republic of Kazakhstan", available on the Bureau's Internet resource www.stat.gov.kz. in the section «Statistics» / «Social Statistics» / «Statistics of Education, Science and Innovation» / «Spreadsheets» / «Innovation»;

2) Indicators of the Concepts of Industrial and Innovative Development of the Republic of Kazakhstan for 2021-2025 are available on the Office's website in the «Home» / «Publications»;

3) The main indicators and dynamic tables are available on the Bureau's Internet resource <u>www.stat.gov.kz</u>. in the section «Statistics» / «Social Statistics» / «Statistics of Education, Science and Innovation» / «Dynamic Series» / «Innovation»;

S.11.3 Online Databases

Internet resource of the Bureau www.stat.gov.kz. Information-analytical system «Taldau» / «Innovation Statistics» / «Innovation activity of enterprises».

S.11.3.1 AC1. Data Tables – Consultations

Not implemented.

S.11.4 Access to Microdata

Rules for the provision of de-identified databases for use in scientific and scientific-technical activities, approved by the Order of the Chairperson of the Agency for Statistics of the Republic of Kazakhstan dated July 2, 2010 No. 168 (registered with the Ministry of Justice of the Republic of Kazakhstan on August 13, 2010 No. 6388)

S.11.5 Other

Not applicable.

S.11.5.1 AC2. Metadata - Consultations

Not implemented.

#### S.12 Documentation Availability

S.12.1 Methodology documentation

1. «Methodology on formation of indicators of statistics of research and development and innovation», approved by the order of the Chairman of the Committee on Statistics of MNE RK from October 6, 2016 №232 and registered in the Ministry of Justice of RK on November 8, 2016 №14404.

Available on the Internet resource of the Bureau www.stat.gov.kz in the section "Methodology» / «R&D and Innovation Statistics»;

2. «Methodology Statement on Statistics 2018» edition four, supplement. Available on the Internet resource of the Bureau www.stat.gov.kz in the section «Methodology»;

3. OSLO Guidelines for Innovation Data Collection and Analysis 2015, available on OSER's online resource at <u>www.oecd.org</u>.

S.12.2 Quality Documentation

1. Quality Policy approved by the Order of the Chairperson of the Committee on Statistics of the Ministry of National Economy of the Republic of Kazakhstan dated November 16, 2020.

2. Quality objectives of the relevant structural division.

3. Documented information of the quality management system: Quality Manual; Documented Procedures; Instructions; Process Maps.

4. Standard Methodology for Describing the Process of Statistical Information Production by State Agencies, approved by Order No. 53 of the Chairperson of the Committee on Statistics dated March 30, 2015.

5. Methodology for Evaluating the Quality of Official Statistical Information, approved by Order No. 63 of the Chairperson of the Committee on Statistics dated May 23, 2018.

S.13 Quality Management

S.13.1 Quality Management

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

- observance of 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 primary data collection and processing;

- obtaining additional information from respondents to confirm the reliability of primary data;

- carrying out comparative analysis of statistical data in dynamics;

- definition of validity check at the level of input of primary data in electronic format, also inclusion of different format-logical controls in the software for processing of primary statistical information in order to improve the quality of data, to check the correctness of filling in the statistical form and to minimize the lack of answers on some questions of statistical form.

S.13.2 Quality Assessment

«Methodology on Formation of Indicators of Statistics of R&D and Innovation» complies with international standards.

- S.14 Relevance
- S.14.1 User Needs

Information users: Ministry of Digital Development, Innovations and Aerospace Industry of the Republic of Kazakhstan, Ministry of Industry and

Construction of the Republic of Kazakhstan, local executive bodies and other state bodies, individuals and legal entities - for analytical works.

S.14.2 User Satisfaction

A user questionnaire is available on the Bureau's website www.stat.gov.kz «Home» / «Surveys» / «User Questionnaire».

- S.14.3 Completeness / R1. Data Comlpleteness Share
- S.15 Accuracy and Reliability (based on observation type)
- S.15.1 Overall Accuracy

The national survey on innovation statistics is designed in such a way that possible errors can be minimized and controlled. When conducting the survey there are possible inaccuracies, called in statistics random errors (e.g. incorrect filling in of cost data, error of specialist when entering the report). Such errors are identified and corrected by the Departments of Statistics of regions and cities of Almaty, Astana, Shymkent and the Bureau in the course of statistical observation.

In 2024, the number of reported organizations amounted to 30756 units, of which having innovations - 3662 units. The level of activity in the field of innovations amounted to 11.9%, the share of innovative products to GDP amounted to 1.37%. The largest shares in the composition of sources of financing of innovation expenditures fall on the enterprises' own funds - 41.6%, funds of the republican and local budget - 2.8% and funds of other sources - 55.6%.



#### Structure of innovation costs for 2024, in percent

Share of innovative products to GDP, in percent



2006 2007 2008 2009 2010 2011 2012 2013 2014 2015 2016 2017 2018 2019 2020 2021 2022 2023 2024

S.15.2 Sampling Errors – Indicators A1.

Not applicable.

S.15.3 Non-Sampling Errors

In order to improve the quality of data, to check the correctness of filling in the statistical form and to minimize the non-response on some questions, the validity checks at the level of input of primary data in electronic format are provided, also different format-logical controls between sections, modules, items in the software for processing of primary statistical information are included.

S.15.3.1 Coverage Error

Not applicable.

- S.15.3.1.1 A2. Over-coverage Share Not applicable.
- S.15.3.1.2 A3. Common Units Ratio Not applicable.
- S.15.3.3 Non-Response Errors
- S.15.3.3.1 A4. Unit Non-Response Share Not applicable.
- S.15.3.3.2 A5. Item Non-Response Share Not applicable.
- S.16 Timeliness and Punctuality
- S.16.1 Timeliness
- S.16.1.1 TP1. Time Lag First Results

The time taken to process the first results from the date of submission by respondents to the first publication is on average 80 days.

The results are published annually, according to the release date, the approved Statistical Work Plan and the schedule of dissemination of official statistical information for the current year.

S.16.1.2 TP2. Time Lag – Final Results

The results are published annually, according to the approved Statistical Work Plan for the current year, the results are finalized.

- S.16.2 Punctuality
- S.16.2.1 Punctuality /TP3

Data are published and disseminated on time, according to the Statistical Work Plan and the Schedule for Dissemination of Official Statistical Information, approved by the Order of the Head of the Bureau.

- S.17 Comparability
- S.17.1 Geographical Comparability

Data are comparable across the regions of the Republic of Kazakhstan.

- S.17.1.1 Mirror Flow Asymmetry Coefficient /CC1 Not applicable.
- S.17.2 Length of Comparable Time Series /CC2

The dynamic series of innovation statistics indicators are comparable and continuous since 2003. Time series for 2003-2024 are available on the

Internet resource of the Bureau www.stat.gov.kz in the section «Statistics» / «Social Statistics» / «Statistics of Education, Science and Innovation» / «Dynamic series» / «Innovation».

- S.18 Coherence
- S.18.1 External Cross-Coherence

The methodology for compiling indicators of R&D and innovation statistics is developed in accordance with international recommendations, received within the framework of KAZSTAT Project (Project on strengthening national statistical system) and Eurostat standards. The experience of the statistical office of Finland was used.

- S.18.2 Internal Coherence
- S.19 Load

Data are collected electronically and on paper at the respondent's request.

When collecting data in online mode, automated arithmetic and logical controls are provided for the respondent, eliminating the possibility of typical input errors. Information processing processes are automated with the use of local program complexes, input and output information controls are provided. The average time spent on filling in the form is 1-2 hours.

Duplication with other surveys is excluded. Administrative data are not used.

- S.20 Data Revision
- S.20.2 Data Revision /A6

No revisions or re-publications were made for 2024.

- S.21 Processing of Statistical Data
- S.21.1 Source Data

Statistical information on innovation statistics is formed on the basis of primary reports of respondents on the form 1-innovation "Report on innovation activity".

Statistical observation is carried out by sampling method.

The Statistical Business Register (SBR) is used as the general population. When forming the sample population for innovation statistics, stratified sampling using simple random sampling method is used.

In this survey, the target population is stratified by economic activity, firm size, and region.

Data from the sample population are propagated to the general population using propagation coefficients.

Dissemination coefficients are calculated by strata.

S.21.2 Frequency of Survey

Annual.

S.21.3 Method of Primary Statistical Data Collection

For innovation statistics, the submission of the statistical form is carried out on paper or electronically.

Filling in the statistical form in electronic form is carried out through the information system "Data collection in on-line mode" available on the Internet resource of the Bureau <u>www.stat.gov.kz</u>.

S.21.4 Reliability of Primary Statistical Data

In order to improve the quality of data, to check the correctness of filling in the statistical form and to minimize the non-response on some questions, the validity checks at the level of input of primary data in electronic format are provided, also different format-logical controls between sections, modules, items in the software for processing of primary statistical information are included.

- S.21.5 Imputation Share /A7 Not applicable.
- S.21.6 Adjustment
- S.21.6.1 Seasonal Adjustment
  - Not applicable.

#### S.22 Comments

Continue efforts to ensure the quality of data.