

Brief information about the programm

Title	BR27101389 The introduction of artificial intelligence tools into the legislative process of the Republic of Kazakhstan to optimize and improve the efficiency and transparency of legislation
Relevance	The relevance of the tasks addressed is driven by the strategic priorities of the Republic of Kazakhstan, focusing on further democratization, enhancing government efficiency, and integrating innovative technologies. The program's implementation aligns with the requirements of the Legal Policy Concept until 2030 and the President's directives on digitalization and artificial intelligence (AI) in government processes, including «simplifying judicial proceedings through innovative technologies and artificial intelligence».
Goal	The objective of the program is to develop and implement artificial intelligence tools in the legislative process of the Republic of Kazakhstan to create a modern and balanced regulatory framework. This will contribute to enhancing the efficiency, transparency, and quality of legislation, as well as to the professionalization, debureaucratization, and democratization of the lawmaking process. The program is aimed at addressing the strategically important national task of modernizing public administration and advancing the information society. The program's implementation is expected to yield practical solutions for optimizing the legislative process through AI, ultimately improving governance and strengthening citizens' legal culture.
Tasks	1. Examine the current regulatory and legal framework for Kazakhstan's legislative activities. Identify shortcomings and contradictions, assess its effectiveness in public administration, and propose recommendations to address the issues. Measurable indicators: - Prepare an analytical report on legislative shortcomings and gaps. - Create a database categorizing issues by type and priority. Technology readiness level (TRL): - at submission: TRL 2 (formulation of the concept and/or application of the technology). - upon completion: TRL 4 (technology verification in laboratory conditions). Justification: provides essential baseline information to guide AI tool development and implementation. Relationship: - informs Task 3 (AI tools development) and Task 6 (legal mechanisms implementation). 2. Investigate advanced legal technologies used in foreign legislative processes, particularly AI and digital tools with mathematical models for pilot legislative drafts. Propose practical methods to integrate these technologies into the norm-setting process. Measurable indicators: - Prepare an overview report. - Host 3 international conferences with foreign experts. Technology readiness level (TRL): - at submission: TRL 1 (basic principles observed and recorded). - upon completion: TRL 3 (proof of concept). Justification: - adopts global best practices, avoiding duplication and accelerating

implementation.

Relationship:

- supports Task 3 (AI tools development) and Task 4 (Parliament engagement).

3. Develop strategies to actively involve Kazakhstan's Parliament, deputies, and Senate members in the legislative process, aiming to democratize society and strengthen Parliament's role within the framework of "a strong President – an influential Parliament – an accountable Government".

Measurable indicators:

- Develop and test 6 AI prototypes.
- Pilot tools in legislation with 3 agencies.

Technology readiness level (TRL):

- at submission: TRL 2 (concept development and/or application of technology).
- upon completion: TRL 6 (demonstration of system or subsystem prototype in real conditions).

Justification: crucial for achieving program goals and establishing the technological foundation to optimize the legislative process.

Relationship:

- utilizes results from Tasks 1 and 2, supporting Task 5 (professionalism) and Task 6 (legal mechanisms).

4. Enhance the professionalism and scientific rigor of legislative activities by systematically developing law projects focused on systemic effectiveness. Establish a unified center to coordinate and organize legislative efforts.

Measurable indicators:

- creation and launch of a digital platform for discussing draft laws.
- conducting 5 training seminars for deputies and the public.

Technology readiness level (TRL):

- at submission: TRL 2.
- upon completion: TRL 5 (technology verification in a working environment).

Justification: promotes democratization, enhances transparency, and increases public trust in the legislative system.

Relationship: connected to Task 3 (AI tools) and supports Task 5 (professionalism).

5. Implement legal mechanisms to improve legislative effectiveness and ensure the drafting process meets Kazakhstan's state, society, and citizens' needs.

Measurable indicators:

- Develop the concept and operational regulations for the coordination center.
- Staff the center with 50 specialists.

Technology readiness level (TRL):

- At submission: TRL 3.
- Upon completion: TRL 6.

Justification: systematizes and coordinates legislative work, improving law quality.

Relationship: integrates results from Tasks 1-4, ensuring program sustainability.

6. Create systems to assess legislative changes and enable timely adjustments.

Measurable indicators:

	- Develop and adopt regulatory acts to enhance the legislative process. - Update legislative work planning procedures. Technology readiness level (TRL): - At submission: TRL 2. - Upon completion: TRL 5. Justification: creates a regulatory framework for applying developed tools and methods, solidifying legislative changes. Relationship: based on the data from Task 1 and technologies from Task 3, supports Task 5. 7. Investigate AI in legislation for legal analysis and impact prediction. Measurable indicators: - Develop a KPI system. - Conduct at least two evaluation cycles with adjustments. Technology readiness level (TRL): - At submission: TRL 1. - Upon completion: TRL 4. Justification: enables measurement and improvement of implementation outcomes, provides feedback, and supports sustainable development. Relationship: supports Tasks 3-6, providing data for further improvement. 8. Transform Parliament by utilizing Big Data analytics to identify legal needs and develop interactive legislative discussion platforms. Measurable indicators: Develop a digital transformation strategy for Parliament. Implement Big Data tools to analyze public sentiment and regulatory needs. Technology readiness level (TRL): At submission: TRL 2. Upon completion: TRL 5. Justification: strengthens Parliament-society connections, enabling informed, data-driven decision-making. Relationship: linked to Task 4 (public engagement) and Task 3 (AI tools), complements Task 5.
Expected and Achieved Results	- Identification of gaps in legal regulation, preparation of an analytical report with conclusions on the necessary changes for the integration of AI. A dataset will be prepared for subsequent analysis using AI. - A concept for a system of automated analysis of regulatory acts is being created, and the structure of a database for storing and analyzing legal acts using AI has been developed. Completion form: Technical specification for the development of software and a database for legal classification. - Requirements for the implementation of the platform are being formulated. To fulfill this requirement, international experience is being studied. - A working prototype of the AI system is being developed, ready for initial testing on real data from the legislation of Kazakhstan. Design and development of the first version of the AI system prototype capable of automatically analyzing and systematizing legal documents. Creation of algorithms to identify contradictions and duplication in legal norms. Publication of 2 articles in journals recommended by the Committee for Quality Assurance in the Sphere of Science and Higher Education (CQASHE). - The basic algorithms are capable of analyzing the structure of legal documents, extracting keywords, topics, and interrelations between

legal norms. Software modules ensure the systematization of legal documents, which makes it possible to organize regulatory acts and facilitate their search and analysis.

- A package of documents for obtaining copyright certificates will be collected.
- Based on the collected materials, an international conference will be held.
- A dataset for writing an article will be prepared. Publication of 2 articles in journals recommended by the CQASHE.
- Master classes for members of the Mazhilis and the Senate of the Parliament of the Republic of Kazakhstan will be conducted. Automated systems help structure draft laws, ensure their compliance with standards of legal technique, and include all necessary legal elements. This will accelerate the process of drafting legislation and improve its quality.
- The legislative change monitoring system is fully operational, allowing tracking of all amendments to legal acts and automatic generation of reports. Partial implementation of AI for monitoring legislative changes and automating the preparation of reports on amendments to legal acts. Publication of 2 articles in journals recommended by the CQASHE. Publication of 2 articles or reviews in peer-reviewed journals indexed in the Social Science Citation Index or Arts and Humanities Citation Index databases of Web of Science and/or having a CiteScore percentile in Scopus of at least 25.
- An optimized version of the AI system will be developed that more accurately and efficiently identifies duplicate norms and contradictions in legislation. Modern technologies help automate the creation of legislative texts, minimizing manual work and reducing the risk of human errors. Publication of 2 articles or reviews in peer-reviewed journals indexed in the Social Science Citation Index or Arts and Humanities Citation Index databases of Web of Science and/or having a CiteScore percentile in Scopus of at least 25.
- Tools for data analysis and forecasting the consequences of legislative decisions will be optimized. AI helps improve the accuracy of regulatory impact assessment. Refinement of AI tools for automating the assessment of regulatory impact. Machine learning algorithms will be used to predict the consequences of legislative changes. Organization of legal monitoring. Using machine learning and data analysis algorithms, AI systems will automatically scan, classify, and analyze vast volumes of legal documents. Publication of a monograph recommended by the Academic Council of the university. Obtaining 2 copyright certificates based on the results of the program. Publication of 2 articles in journals recommended by the Committee for Quality Assurance in the Sphere of Science and Higher Education (CQASHE). Publication of 2 articles or reviews in peer-reviewed journals indexed in the Social Science Citation Index or Arts and Humanities Citation Index databases of Web of Science and/or having a CiteScore percentile in Scopus of at least 25;
- Based on the collected materials, an international conference will be held;
- A final report will be submitted for approval, containing all data on the results of the program, including scientific, economic, and social effects from the implementation of AI.

	The work is in progress. At this stage, 2 articles have been published in journals recommended by the CQASHE of the Ministry of Science and Higher Education of the Republic of Kazakhstan.
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Publications list with links to them	1. А.Б. Мұхамеджан, Д.А. Турсынкулова, А.А. Касымжанова, А.С. Ибраева, У.А. Ахатов. РОЛЬ ИСКУССТВЕННОГО ИНТЕЛЛЕКТА В СОВЕРШЕНСТВОВАНИИ ПРАВОТВОРЧЕСТВА: ПЕРСПЕКТИВЫ ВНЕДРЕНИЯ В ПРАВОТВОРЧЕСКИЙ ПРОЦЕСС РЕСПУБЛИКИ КАЗАХСТАН НА ОСНОВЕ ЗАРУБЕЖНОГО ОПЫТА // ҚазҰУ Хабаршысы. Заң сериясы. Том 113 № 1 (2025). – 13 С. https://doi.org/10.26577/JAPJ202511311 2. S.B. Akhmetova, A.A. Kassymzhanova, A.S. Ibrayeva. Modern development of artificial intelligence technologies and problems of legal regulation of profiling and targeted advertising in Kazakhstan // Л.Н. Гумилев атындағы Еуразия ұлттық университетінің ХАБАРШЫСЫ. ҚҰҚЫҚ СЕРИЯСЫ. LAW SERIES. СЕРИЯ ПРАВО. – 21 С. https://www.doi.org/10.32523/2616-6844-2025-150-1-77-97
Patent information	-

