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Kazakhstan AI Country Report

January 2026

POWERED BY

AI & DIGITAL MINISTRY

GITEX AI CENTRAL ASIA & CAUCASUS Kazakhstan

Kazakhstan is consistently shaping a new digital reality in which artificial intelligence becomes a key instrument for economic modernization, human capital development, and strengthening the country's international competitiveness.

Throughout 2025, the Ministry of Artificial Intelligence and Digital Development laid the foundations of the national AI ecosystem across three core dimensions: the formation of an institutional and regulatory framework, the development of digital and computing infrastructure, and the systematic preparation and advancement of human capital. At the same time, the innovation and entrepreneurial environment continued to expand actively, including fintech and deeptech startups, applied AI solutions, and pilot industry projects.

The Kazakhstan AI Country Report 2025 reflects the progress achieved and our strategy for further development, demonstrating tangible results of AI adoption in Kazakhstan and the country's commitment to the principles of transparency, responsible technological development, and open engagement with the global community.

Zhaslan Madiyev
Deputy Prime Minister–Minister of Artificial Intelligence and Digital Development of the Republic of Kazakhstan

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WHY THIS REPORT?

As Kazakhstan advances its national AI transformation agenda, timely, **data-driven insights** are essential for policymakers, businesses, and academia to make informed decisions.

The first Kazakhstan AI Country Report aims to:

1. **Map and consolidate Kazakhstan's AI ecosystem analysis** into a single, trusted reference, assessing progress, gaps, and maturity across policy, infrastructure, talent, innovation, and adoption

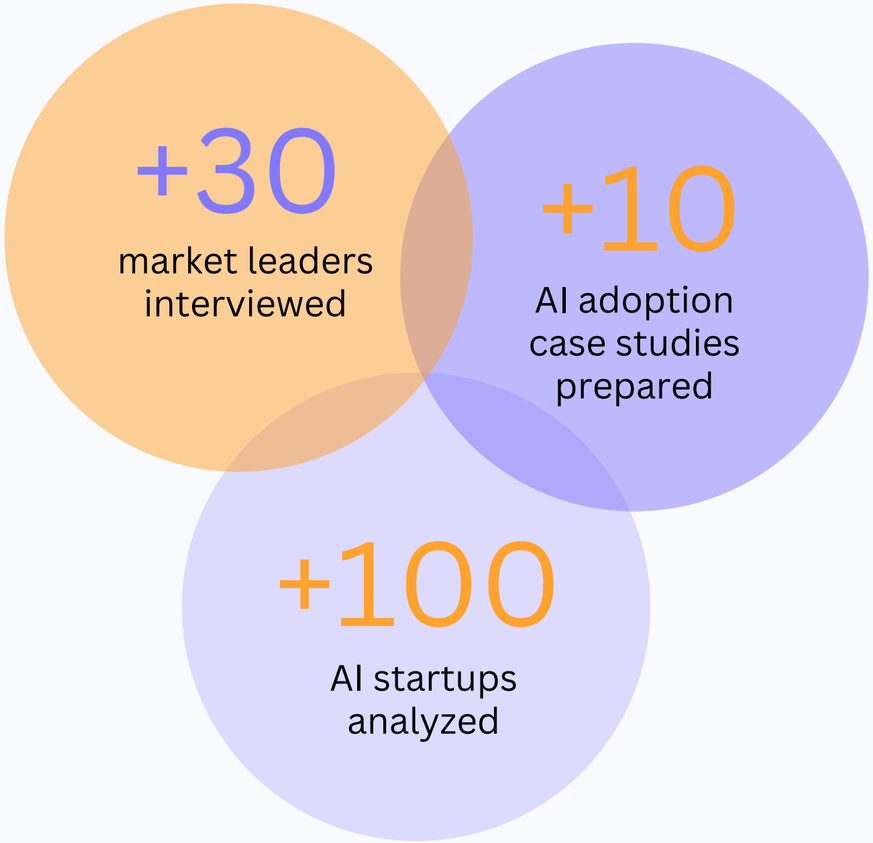
2. **Benchmark globally** – position Kazakhstan within the global AI context, highlighting strengths, challenges, and growth opportunities

3. **Foster collaboration** – encourage dialogue and partnership between government, business community, and international organizations driving AI development

360° Framework to decode Kazakhstan's AI landscape

No single metric can define a country's AI readiness or AI maturity.
We synthesized methodologies across major global AI benchmarking frameworks* to provide a balanced and actionable picture of Kazakhstan's AI ecosystem supported by local insights from expert interviews and case studies.

Dimension	Top 3 research questions asked
Strategy, policy and regulations	• Is there a national AI strategy and action plan with clear KPIs? • Are there dedicated investments for AI development? • Which AI-specific laws and regulations are in place?
Data and digital infrastructure	• How strong is Kazakhstan's connectivity foundation? • Does the country have sufficient compute and cloud capacity? • Is high-quality data available and accessible for AI?
Innovation ecosystem	• How dynamic is Kazakhstan's AI startup scene? • What is the scale and growth of AI-focused venture funding? • What programs and mechanisms exist to support AI innovators?
Human capital and R&D	• Are there enough skilled AI practitioners? • What is the pipeline of STEM and AI graduates? • How competitive is domestic AI research output?
Industry adoption	• Which sectors are currently at the forefront of AI adoption? • Which sectors hold the greatest potential for efficient AI integration? • What key challenges does the private sector face?



AI Preparedness Index, IMF | Government AI Readiness Index, Oxford Insights | Global AI Index, Tortoise Media | AI Maturity Matrix, BCG

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Our sincere gratitude to all contributing experts and partners of the report

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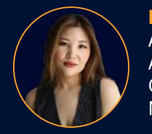

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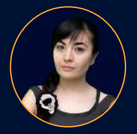

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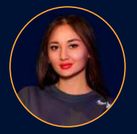

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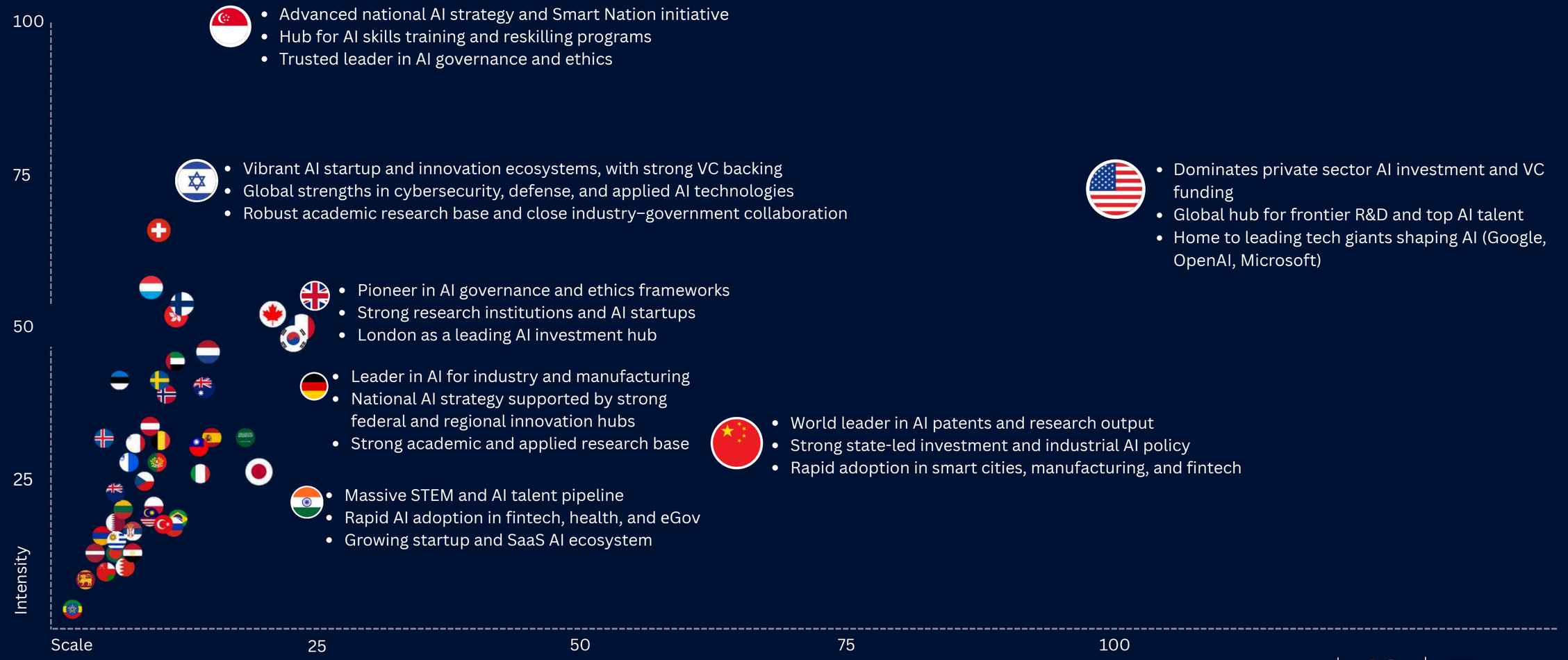
01

Global Trends

TREND 1

Polarized leadership: US and China set the pace in compute, talent, and capital

Global AI Index, 2024



Sources: The Global AI Index 2024, Tortoise Media; RISE Research analysis
Note: 'Intensity' measures AI capacity relative to the size of a country's population or economy | 'Scale' measures a nation's absolute AI capacity, showing its output on the global stage

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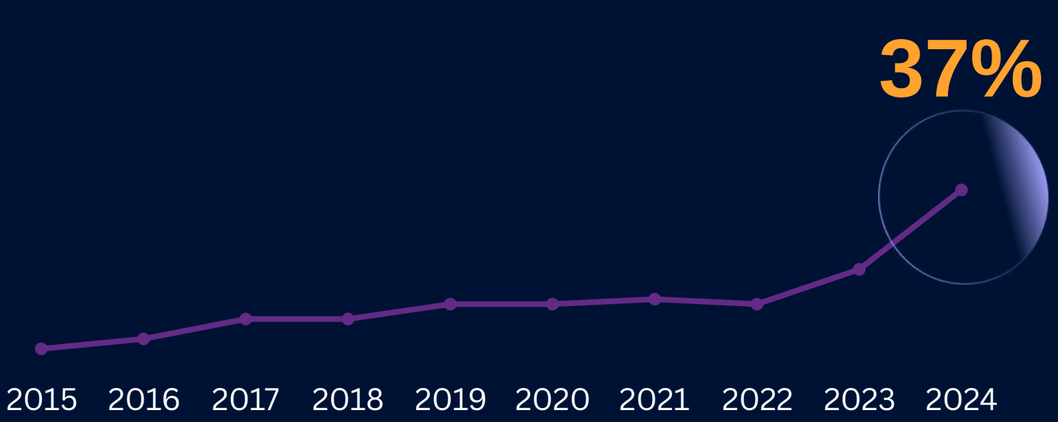
TREND 2

AI has become a top investment priority, with record funding and rapid enterprise-scale adoption

Global private investments into AI, $B [1]

Share of global venture capital investments into AI, % [2]



86%

of employers expect AI to be the primary driver of business transformation in the next 5 years [3]

88%

of organizations report using AI in at least one function in 2025, up from 78% in 2024 [4]

29%

annual projected growth of global AI spending until 2028 [5]

46%

of new unicorns in 2024 are AI-first companies [6]

Sources: 1. The 2025 AI Index Report, Stanford HAI | 2. State of AI Report, CB Insights | 3. Future of Jobs Report 2025, WEF | 4. State of AI Report 2025, McKinsey | 5. IDC | 6. Prof. Ilya Strebulaev, Venture Capital Initiative, Stanford Business School

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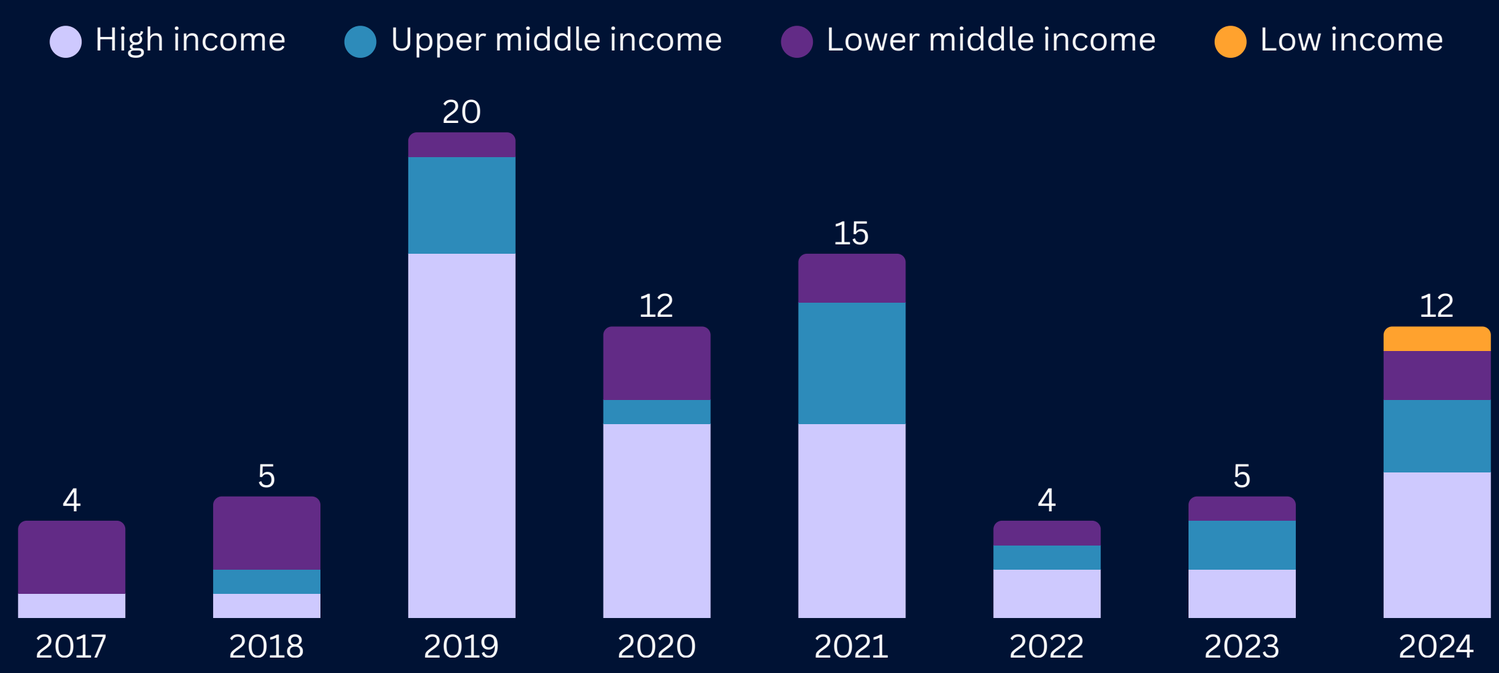
TREND 3

Global surge in AI governance and national AI strategy development

Number of national AI strategies published per year, by income group



Key remarks

AI as a national priority – AI is increasingly embedded into economic and security agendas globally, with massive public investments, human capital programs, and prestige-driven projects

Countries are committing **large-scale public investments** to build sovereign AI capabilities (i.e. UAE $100B AI 2031 Vision Fund, Saudi Arabia $40B AI investment fund, EU €200B InvestAI Initiative

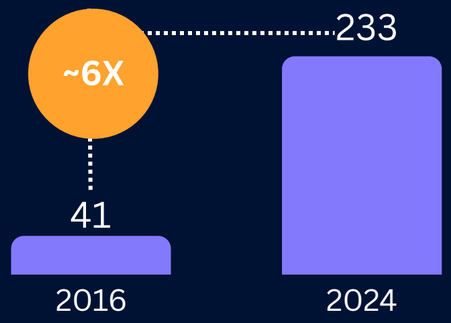
Source: Government AI Readiness Index 2024, Oxford Insights

TREND 4

National and cross-country AI regulation is accelerating worldwide

Policymakers worldwide are struggling to address key AI governance challenges and risks while maintaining balance between regulation and innovation

Number of reported AI incidents[1]

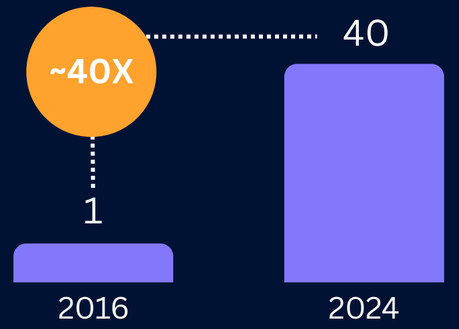


Number of AI-related incidents globally reached a record high in 2024. Most common cases - bias and discriminationin algorithmic decision-making, privacy breaches, misinformation and deepfakes

Number of countries with national AI policies or legal initiatives[2]

As of October 2025, at least 70 countries have adopted or proposed 1000+ national AI policies and AI-specific regulatory frameworks

Number of AI-related laws[3]



Number of AI-related laws grew from 1 in 2016 to 40 in 2024 (10 new laws in 2024 alone)

Source: 1. The 2025 AI Index Report, Stanford HAI | 2. OECD.AI: The OECD Artificial Intelligence Policy Observatory | 3. The 2025 AI Index Report, Stanford HAI

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Building Kazakhstan’s next digital chapter through responsible AI

Kazakhstan’s AI journey is accelerating—and doing so with purpose. As a technology company in the business of payments, Mastercard is proud to support the country’s vision for a dynamic and trusted digital economy where innovation and inclusion advance together. Through our multi-year Digital Country Partnership with the Ministry of AI, we have focused on practical initiatives that strengthen e-commerce, expand SME digital participation, and build cyber resilience across the ecosystem. We prioritize agentic AI that reshapes how commerce works from connecting merchants and customers through autonomous agents to managing personal finance.

We approach AI with responsibility at the core, using a risk-based governance framework to ensure innovation meets high standards and delivers impact. In Kazakhstan, this means pairing global expertise with local partners to strengthen cyber readiness and expand digital literacy and inclusion.

In designing this report, we are grateful to our research and industry partners for their leadership in shaping the country’s fintech and AI ecosystem. We invite readers to imagine Kazakhstan’s next digital chapter — one where AI helps entrepreneurs reach new customers, empowers households with better financial tools, and enables government and industry to deliver secure, seamless services at scale. Mastercard remains committed to this journey, ensuring AI’s benefits are shared broadly, responsibly, and securely across Central Asia.

Sanzhar Zhamalov
Country Manager in Kazakhstan and Central Asia, Mastercard

02

Benchmarking and Government Strategy

Benchmarking Kazakhstan's AI development: mid-tier performance globally but the leader in Central Asia

IMF AI Preparedness Index, 2023 [1]

174

48th

....measures countries' macro-structural readiness to benefit from AI-driven economic transformation

Oxford Insights Government AI Readiness Index, 2025 [2]

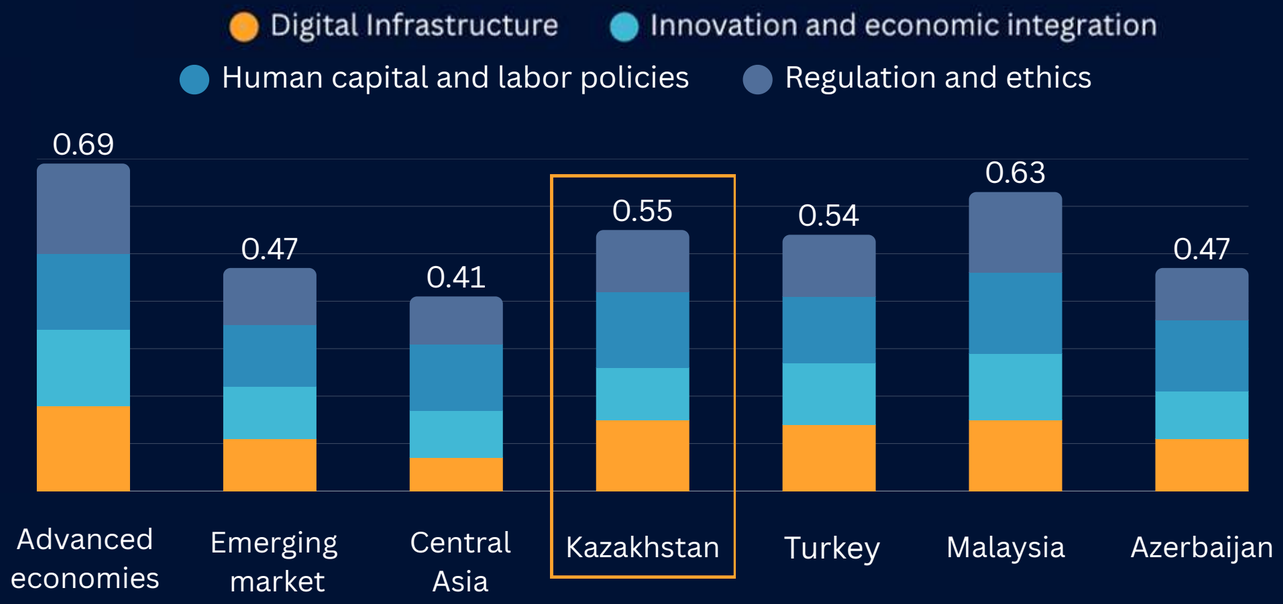
195

58th

...measures how prepared governments are to design, deploy, and regulate AI (up 16 positions since 2024)

Benchmarking Kazakhstan's preparedness for scaled AI adoption

IMF AI Preparedness Index scores, 2023 [3]

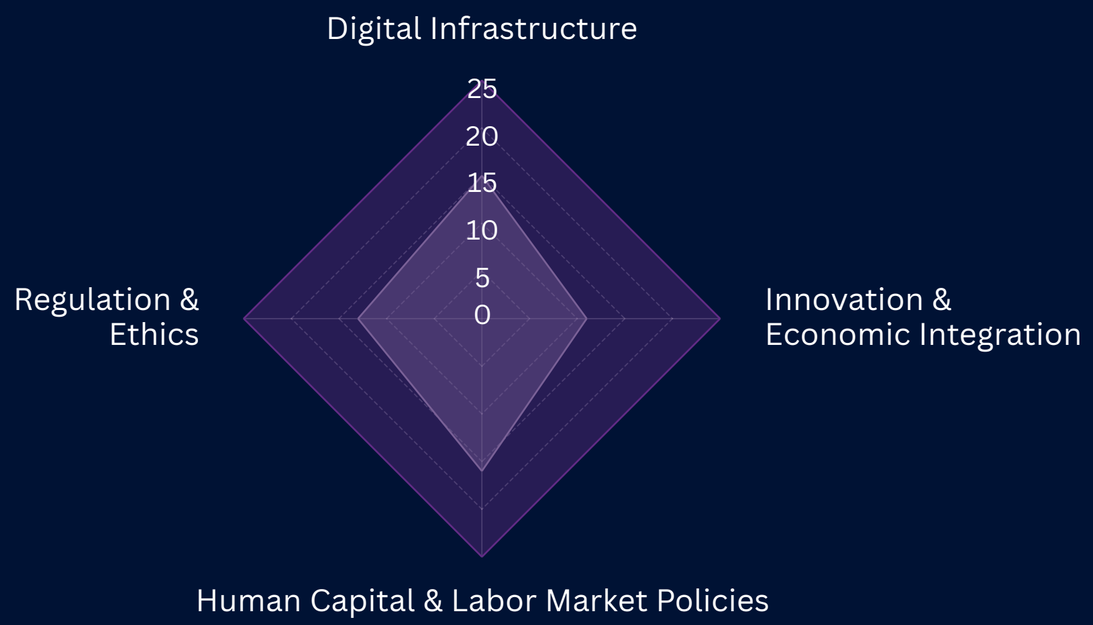


Kazakhstan' AI preparedness is broadly in line with countries of similar GDP per capita or economy structure (Russia, Turkey, Malaysia, Azerbaijan) and is above the Central Asia and emerging-market averages

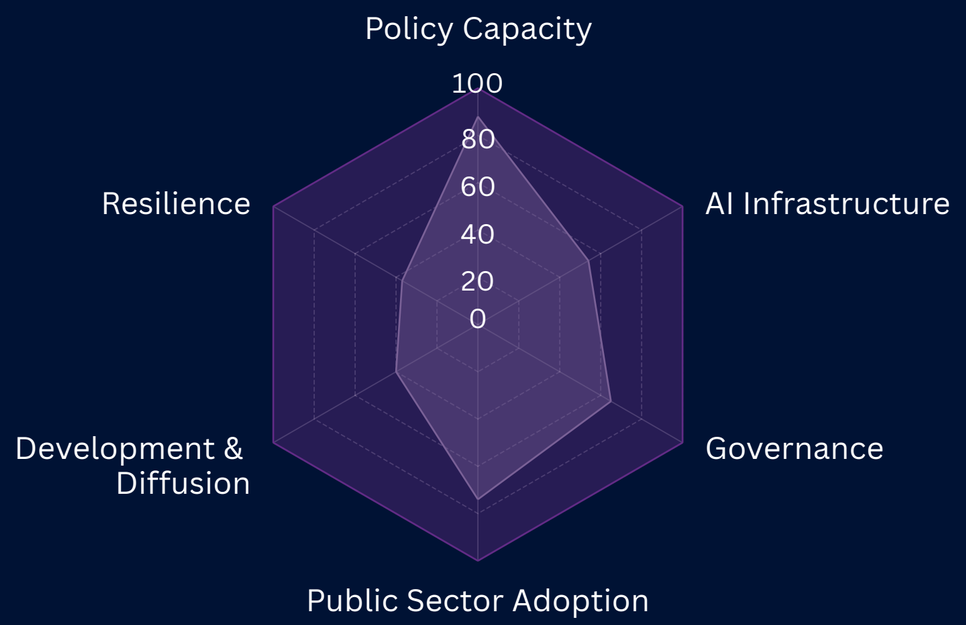
Sources: 1. AI Preparedness Index, IMF | 2. Government AI Readiness 2025, Oxford Insights | 3. AI Preparedness Index, IMF
Note: "Innovation and Economic Integration" score for Uzbekistan was missing in the IMF dataset and was therefore estimated as the average for Central Asia (excl. Turkmenistan due to lack of data)

Strong AI readiness fundamentals, but gaps remain in scaling AI across the real economy and building societal resilience for the AI transformation

Kazakhstan's AI Readiness Index score breakdown, 2023[1]



Kazakhstan's Government AI Readiness Index score breakdown, 2025[2]

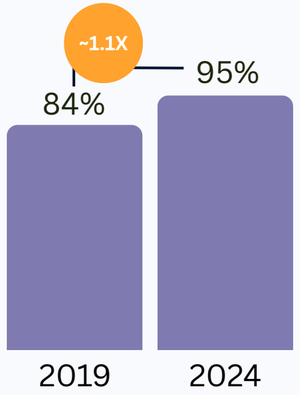


Kazakhstan demonstrates strong foundations in digital infrastructure, data availability, and public sector adoption, supported by a solid government policy framework and governance. However, the country needs to strengthen cross-sectoral AI adoption, corporate R&D activity, and societal readiness for the AI-driven era — to advance overall AI maturity

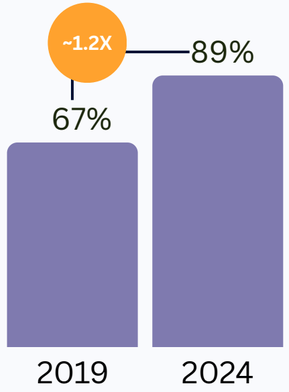
Sources: 1. AI Preparedness Index, IMF | 2. Government AI Readiness Index 2025, Oxford Insights

Since the launch of the “Digital Kazakhstan” program in 2018, significant progress made in digital services adoption, especially in fintech and eGov

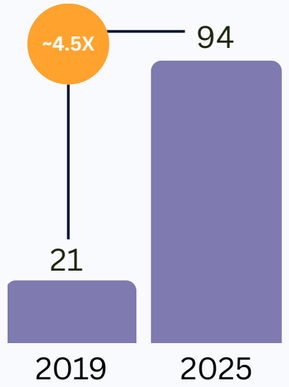
Internet users (% of population aged 6-74) [1]



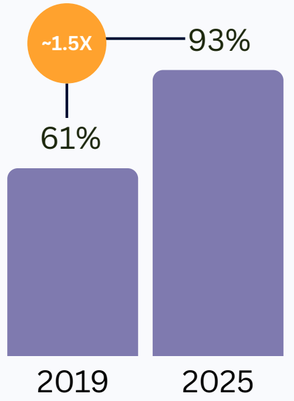
Share of non-cash payments [2]



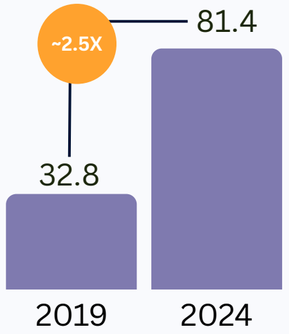
Median mobile download speed (Mbps) [3]



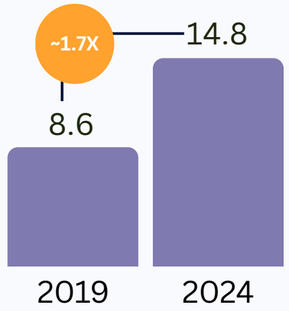
Share of eGov services provided online, % [4]



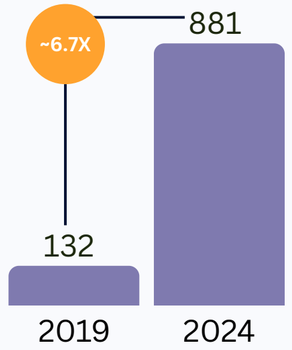
Number of active payment cards, M [5]



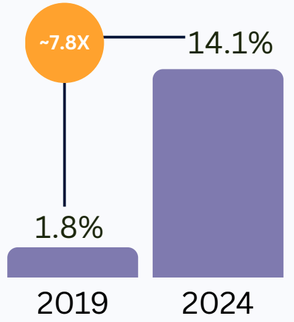
Number of eGov platforms users, M [6]



ICT service exports (BoP, current US$) [7]



Share of ecommerce in retail trade, % [8]



Sources: 1. National Bureau of Statistics of Kazakhstan | 2. National Bank of Kazakhstan | 3. Ookla | 4. NITEC | 5. National Bank of Kazakhstan | 6. NITEC | 7. World Bank | 8. National Bureau of Statistics of Kazakhstan

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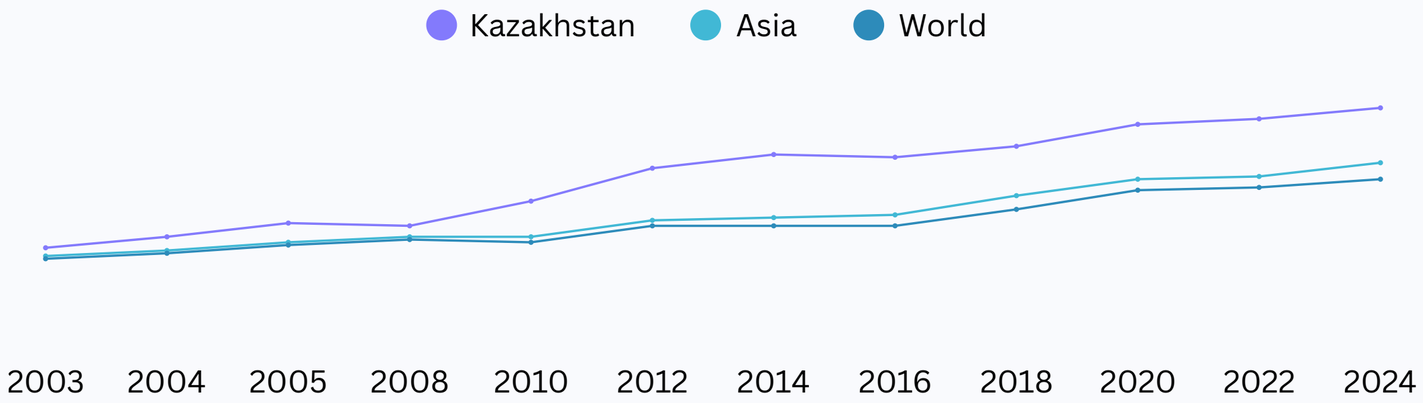
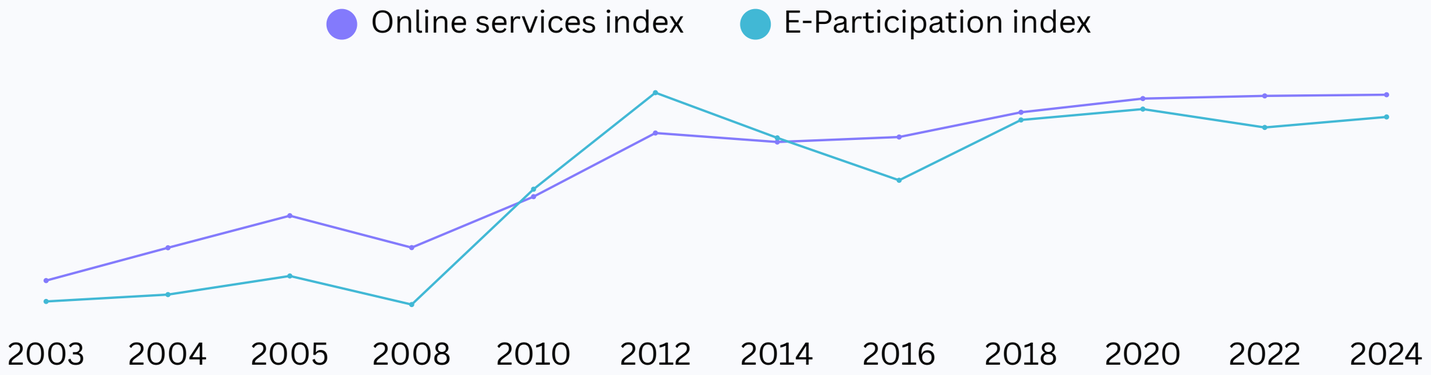
Kazakhstan emerges as a regional leader in digital government

UN E-Government Development Index (EDGI)



Kazakhstan's UN EDGI score breakdown



Source: UN E-Government Knowledgebase

Key remarks

Kazakhstan has made significant progress in **eGov online services delivery and public data openness**, consistently outperforming both global and Asian averages across UN E-Government indices. The country is now among the global top 25 in eGov development and among top 10 in online service maturity (ranking 1st in the CIS region)

24th in UN E-Government Development Index (up 10 positions since 2020), leader in CIS

10th in the UN Online Services Index (OSI)

44th in the Global Open Data Inventory (ODIN) ranking (up 10 positions since 2020)

«A» Group in World Bank GovTech Maturity Index (2022)

“Generative Nation” AI vision - from AI adopter to global innovator

Key pillars and focus areas for 2025–2030

- Infrastructure
- Data
- Human Capital
- R&D and Innovation
- Governance
- Industry adoption

...have shaped the national AI initiatives...

- establishment of **National AI Platform**
- adoption of the specialized **AI Law**
- launch of **Alem.Cloud supercomputer**
- launch of Kazakhtelecom’s AI cluster - **Al-Farabium** - and the subsequent rollout of **AI Factory** built on its foundation
- release of Kazakh-language **AlemLLM**
- establishment of **Alem.ai** International Center for Artificial Intelligence
- development of **National Data Management Principles**
- establishment of the **National Council on AI Development** under the President
- founding a specialized **AI University**
- scaling **AI skills development programs** (AI- Sana, AI Qyzmet, Tomorrow School)
- launching national **AI Maturity Index** for the corporate sector

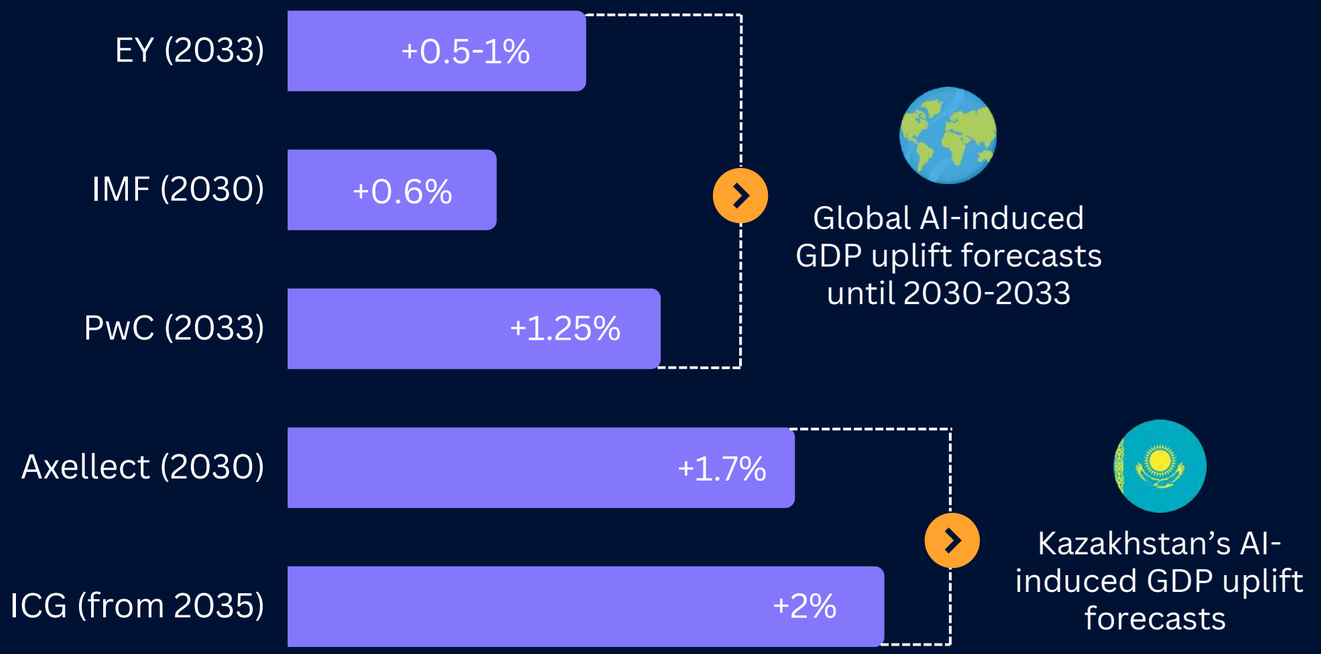
...each defined by clear KPIs and measurable targets

- expand local data centers capacity from **4 000 to 20 000** server racks and launch **10** Tier III+ data centers by 2030
- increase the number of curated, quality-checked public datasets for AI training to **120** by 2029
- launch **25+ production-grade AI solutions** by 2029 as the result of **Industry Acceleration Programs**
- bring total **IT exports to $5B** by 2029 with AI share of at least 10%
- train at least **1M people** with AI skills by 2029
- launch up to **100 AI startups** annually
- finance and deliver ~**10 AI research projects** every year
- bring the share of universities and vocational colleges with **mandatory AI courses** to **60%** by 2029

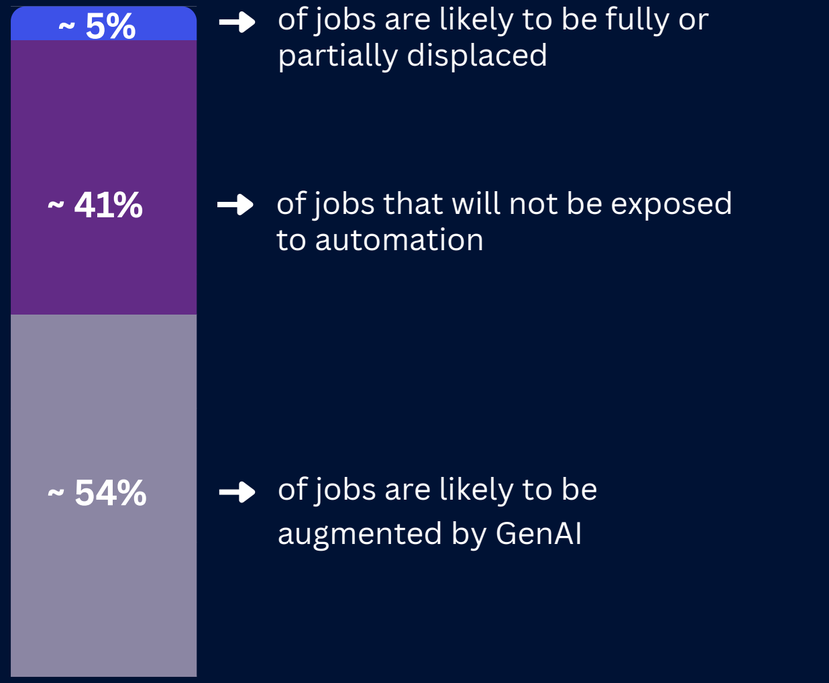
Sources: Concept for the Development of AI in Kazakhstan for 2024–2029 (approved on 24 June 2024), public data (Alem.ai development plans, Ministry of AI and Digital Development of Kazakhstan publications), RISE Research analysis

Successful AI execution projected to add 0.5–2% to annual GDP and enhance productivity across 54% of jobs

Projected annual GDP growth from AI [1]



Share of jobs to be impacted by GenAI in Kazakhstan [2]



Sources: 1. EY, IMF, PwC, Axellect and Implement Consulting Group (ICG) | 2. Economic Opportunity of AI in Central Asia and Caucasus, ICG (Google commissioned study)
Note: Axellect estimates of the economic effects of GenAI adoption on Kazakhstan GDP, 2024 | ICG estimates of annual contribution in ten years from now (2035) with a 2023 GDP baseline, assuming the country harnesses the GenAI opportunity in line with other emerging markets

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International partnerships with leading technology firms accelerate the local AI ecosystem development

Not exhaustive

Global technology partners supporting AI in Kazakhstan across infrastructure, research, talent, and public-sector innovation

OpenAI, NVIDIA, Google, Microsoft, perplexity, presight (A G42 company), groq, cisco, Meta, HPE, Apple, ORACLE, AGIBOT, Yandex, IBM, BETA, paloalto NETWORKS, Joby, inDrive, HUAWEI, Telegram

Case study: Google's initiatives and projects for AI ecosystem development in Kazakhstan

Google

Startup programs and developer support
Running Silkway Accelerator at Astana Hub (80+ startups since 2022), granting $600k in cloud credits for local startups, and fostering the community through ecosystem events (‘Build with AI’ workshops)

Academic and skilling collaborations
Training academics, AI/ML courses for universities, piloting Chromebooks and localized Classroom in schools, upskilling for developers and SMEs, supporting the Alem.Ai center

Public sector and Responsible AI
Regional Sustainable Growth program, “Build with AI for Public Officials” program, Rapid Prototyping Central Asia Championship addressing critical social challenges

Local R&D and Language support
Grant to the Institute of Smart Systems and AI to fine-tune the Gemma 3 model for the Kazakh language

Sources: Ministry of AI and Digital Development of Kazakhstan publications, Google data, RISE Research analysis

Building world-class AI infrastructure to drive Kazakhstan's digital economy

Today, AI has become the most significant infrastructural project of our time, comparable in impact to the emergence of telecommunications or the internet in the last century. A country’s position in the global economy now depends on how quickly it can build computational power and AI ecosystems.

In Kazakhstan, we are prioritizing practical implementation: we have launched a supercomputer ranked among the world's TOP500, we are developing a cloud-based AI factory powered by NVIDIA, and we are integrating AI into the telecom and public sectors.

In his address to the nation, Head of State Kassym-Jomart Tokayev noted that Kazakhstan must become a digital power. Therefore, at Kazakhtelecom, we are committed to the development of artificial intelligence infrastructure and its ecosystem.

Bagdat Mussin
CEO, Kazakhtelecom

Bakhtiyar Mukhametkaliyev
DGSC

“Kazakhstan is emerging as one of the most promising countries to claim a strong and lasting position in the global AI value chain. This rise is driven by the nation’s rapid technological adoption, a strong pool of talent, high-quality public services, and an advanced digital infrastructure - including supercomputing capabilities. A young and dynamic society provides additional momentum, enabling Kazakhstan to integrate AI faster than many larger markets. This progress is already visible through concrete use cases in public administration and leading financial institutions, where AI is applied in proactive payments, personalized public services, and joint pilot projects with Kazakhstan startups in education and healthcare.”

Maxat Koshumbayev
Presight Kazakhstan

“We entered the Kazakh market because we saw the country’s strategic commitment to building a regional AI hub. Kazakhstan has already created the key conditions for the next stage of development: strong talent, a mature IT sector, and a large volume of data accumulated over years of digitalisation. Our R&D team in Kazakhstan, which delivers Presight’s international projects, confirms the high level of local specialists. At the same time, I am convinced that Central Asian countries should develop together — individually, it is difficult for the region to compete with larger and wealthier states.”

Anton Musin
Axellect Kazakhstan

“Kazakhstan has a unique combination for the region of scalable digital infrastructure, mature institutions and an advantageous economic and geographical location, which forms the basis for leadership as an AI hub. Implementing AI across the entire value chain can drive double-digit growth in operational efficiency and open up new revenue streams.Sustainable scaling requires a national data platform and regulatory sandboxes. According to our assessment, based on the extrapolation of global research results to the economy of Kazakhstan, the systematic use of AI can provide up to 1.7% additional GDP growth annually, transforming the country's digital maturity into a global intellectual advantage.”

Gizzat Baitursynov
MAIDD

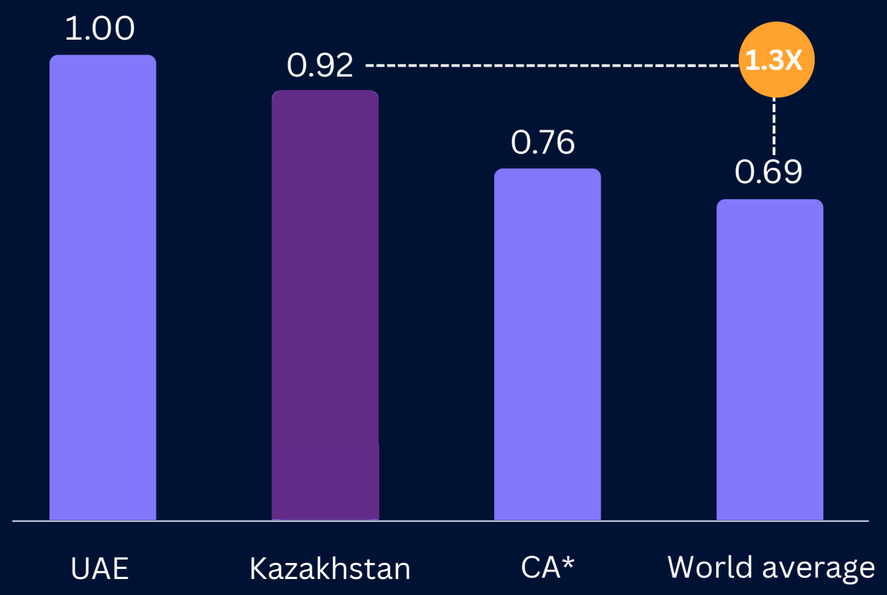
“Kazakhstan is moving from declarations to large-scale deployment of artificial intelligence. A national supercomputing center has already been launched, a Fund of Funds with a target investment volume of $1B has been established, and exports of IT services have increased more than elevenfold over the past three years. Our goal is to embed AI across the real sector of the economy, public services, and education—building a sovereign, competitive, and export-oriented AI ecosystem in Kazakhstan.”

03

Data and Infrastructure

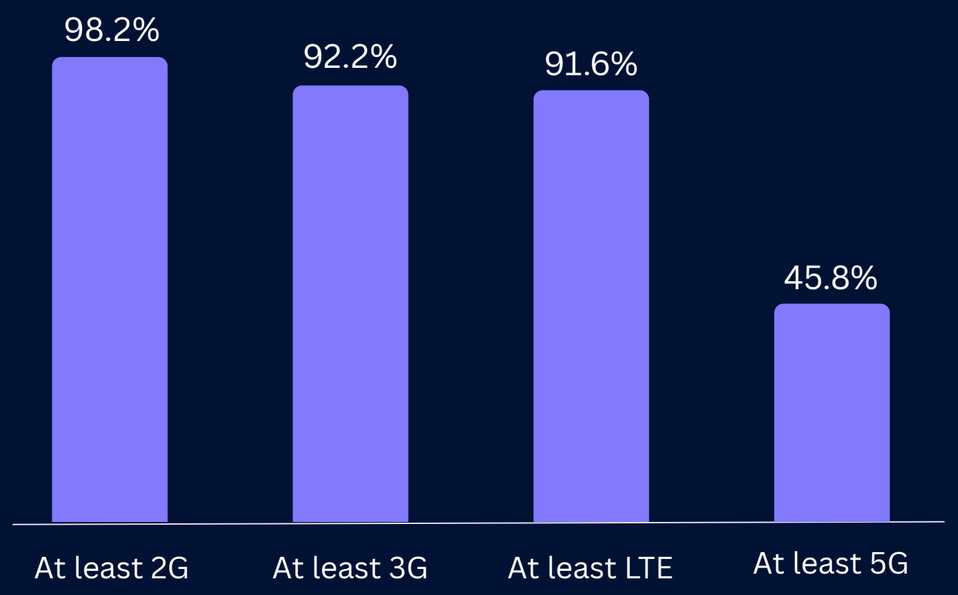
Strong telecom infrastructure and broadband connectivity are key enablers of national-scale AI adoption

Telecommunication Infrastructure Index (UN EDGI), 2024[1]



Kazakhstan leads Central Asia in the Telecom Infrastructure Index, a subcomponent of the UN E-Government Development Index. The country scores well above the global average, with further growth expected as infrastructure initiatives advance (e.g., “Affordable Internet”)

Population coverage by mobile network technology, 2024[2]



Kazakhstan is one of two CIS countries whose operators have announced 3G sunset plans — a phased shutdown of third-generation mobile networks. This process aims to free up spectrum and enhance the performance of faster and more efficient 4G and 5G[3]

Sources: 1. UN E-Government Knowledgebase | 2. ITU DataHub | 3. The Mobile Economy Eurasia 2025, GSMA
**CA - Central Asian average*

The country aims to achieve 100% high-speed internet coverage by 2027 under the Affordable Internet program, with a focus on rural and remote areas

Selected KPIs of Affordable Internet program and related telecom initiatives by 2027

94 > 100

median download speed (Mbps), 2025 vs 2027

1.5% > 5%

Kazakhstan in Europe–Asia traffic transit, 2025 vs 2027*

40,000 km

of highways will be covered by 4G

Satellite internet

KAZSAT · OneWeb · STARLINK · Shanghai Spacecom Satellite Technology · amazon project kuiper

All rural settlements

90% fiber-optic networks

100% of rural settlements are to be provided with high-speed internet (90% - fiber-optic, 10% - satellite)

4G coverage

92% with 5,291 villages**

4G coverage will reach 92% of all settlements across the country

5G coverage in major cities

75%

5G coverage to reach 75% in Astana, Almaty, Shymkent, and 60% across 17 regional centers

Source: Ministry of Artificial Intelligence and Digital Development of Kazakhstan
**Transit capacity will expand through two major projects: the Trans-Caspian route and the East–West hyperline*
***This figure reflects only the number of villages where 4G will be operational by 2027 and does not include cities*

New data centers, including GPU facilities, are being built nationwide to boost IT rack capacity fivefold in five years

nitec

Government DC

- Astana, 2024
- 200 IT racks - 6 MW
- Tier III Uptime Institute

Kaspi.kz

Kaspi DC

- Almaty, 2025
- 132 IT racks - 3 MW
- Tier III Uptime Institute

presight.ai
A G42 company

Presight AI DC

- Astana, 2025
- 100 IT racks - 2.4 MW
- Tier III Uptime Institute

Beeline™

Beeline DC

- Almaty, 2026
- 66 IT racks - 2 MW
- Tier III (Design&Facility)

KAZAKHTELECOM

Kazakhtelecom DC

- Kosshy, 2026
- 248 IT racks - 6 MW
- Tier III Uptime Institute

nitec

Government DC

- Ekibastuz, 2026
- 220 IT racks - 4.9 MW
- Tier III Uptime Institute

AKASHI
KHAN DATA CENTER

Akashi Khan DC

- Astana, 2026-2027
- 4 224 IT racks - 42 MW
- Tier IV Uptime Institute

FREEDOM CLOUD

Freedom DC

- Almaty, 2027
- 240 IT racks - 13 MW
- Tier III (Design&Facility)

KAZAKHTELECOM

Kazakhtelecom DC

- Kosshy, 2027
- 4 800 IT racks - 100 MW
- Tier III Uptime Institute

Anticipated impact of new data centers

4k > 20k

IT racks in 2025 — IT racks by 2030

10 Tier III-IV

data centers by 2030

+180 MW

of new data centers by 2030

Source: Ministry of Artificial Intelligence and Digital Development of Kazakhstan
Note: NITEC - operator of the country's digital government ecosystem | DC - data center | MW - megawatt

Kazakhstan is expanding its GPU capacity through two newly installed AI clusters, with such imports now exempt from VAT and customs duties

AlemCloud

- 86th in the TOP500
- 64 HGX nodes
- 512 GPU H200
- ~2 exaflops (FP8)

Kazakhstan launched **Alem.Cloud**, Central Asia's most powerful supercomputer, in July 2025. In November, it ranked 86th in the TOP500 supercomputers. Located in Astana's Tier III NITEC data center, it powers the National AI Platform. Through **QazCompute**, startups, universities, and government bodies access it for free, while mature companies use it commercially

~250

estimated number of H100/H200/B200 GPU nodes in Kazakhstan*

KAZAKHTELECOM

- 103rd in the TOP500
- 50 HGX nodes
- 400 GPU H200
- ~1.6 exaflops (FP8)

Kazakhtelecom launched **AI-Farabium**, Central Asia's second-largest AI cluster, in October 2025. It will support AI development for Kazakhtelecom and Samruk-Kazyna and be available commercially. The cluster features **NVIDIA's AI Factory**, enabling the full AI pipeline from data processing to training, fine-tuning, and large-scale inference

~2k

estimated number of H100/H200/B200 GPUs in Kazakhstan

Sources: Ministry of Artificial Intelligence and Digital Development of Kazakhstan, Kazakhtelecom, public data, RISE Research analysis
**Total GPU nodes owned by Kazakhstani companies and the government, domestically and abroad (RISE Research estimate)*
Note: TOP500 - a biannual ranking of the world's 500 most powerful non-distributed computer systems | HGX - NVIDIA's high-performance server platform

Kazakhstan enters the AI era with a robust digital foundation

Our timely strategic focus on e-government, infrastructure, and fintech has ensured that the technological leap into AI presents an opportunity rather than a challenge.

Today, Kazakhstan’s key competitive advantage lies in its young generation. A growing cohort of IT specialists, engineers, and entrepreneurs is already delivering competitive digital solutions. The government nurtures this potential through accelerators, technology parks, and educational programs, while the private sector actively shapes the new economy.

Now, AI infrastructure is emerging as the primary growth driver. Our geography and policy of openness position Kazakhstan as a natural magnet for global technology leaders. In this context, Freedom, in partnership with NVIDIA, is launching a project worth up to $2 billion, which will be integral to establishing a regional AI hub.

Artificial intelligence unlocks numerous new avenues for growth, and I am confident that Kazakhstan is poised to seize this opportunity.

Timur Turlov
CEO, Freedom Holding Corp.

Building the foundations for AI-ready governance through unified data, platforms, and infrastructure

Foundational layers of Kazakhstan’s electronic government

Not exhaustive

Infrastructure	Platforms	Database	Electronic government	AI ecosystem
Kazakhstan has built a strong eGov infrastructure that supports AI adoption across public services	Within eGov, platform solutions have been developed to unify and support all data interactions	Data storage systems for individuals and legal entities of the Republic of Kazakhstan	Online interfaces for delivering integrated services to citizens and businesses via a single access point	Secure and rapid creation of AI agents for government processes using Kazakh LLMs (e.g., Alem LLM)
Selected elements: • 2 state data centers in Astana (inc. Tier III) • 14 regional data centers • AI cluster Alem.Cloud (86th in the TOP500)	Selected platforms: • QazTech • eOtinish • Smart Bridge • Smart Data Ukimet	Selected databases: • “Civil Registry Office” information system • “Individuals” state database • “Legal Entities” state database	Selected elements: • eGov.kz • eGov Mobile • eGov Business • Ashyq Ukimet • eLicence	Key elements: • National Artificial Intelligence Platform • Kazakh LLMs

Sources: NITEC, Ministry of Artificial Intelligence and Digital Development of Kazakhstan, RISE Research analysis

End-to-end platform solutions standardize how government builds, shares, and uses data - and now enable the development of AI agents for routine task automation

Selected e-government platform solutions

sdu smart data ukimet

Smart Data Ukimet - central data-analytics platform consolidating government systems into a secure data lake for analysis, forecasting, and decision-making

124
government systems connected

80
analytical cases supported

8.5k+
public officials being served

smart bridge

Smart Bridge ensures standardized, secure, and seamless information system integration between the public and private sectors in a Display of Services format

2.8k+
published services

6.2k+
completed integrations

17B+
requests in 2024

qaztech

QazTech sets unified standards across the full lifecycle of government information systems. This cloud solution provides development, management, and security tools

6 months
reduced launch time for digital solutions (from 1.5-3 years)

6 modules
Cloud, Development, Qaztech UI, Identity, Qaztech bus, Security

platforma

National AI Platform - cloud-based national platform that provides a unified and secure environment for building and deploying AI solutions for government bodies, namely specialized AI agents

50
AI agents

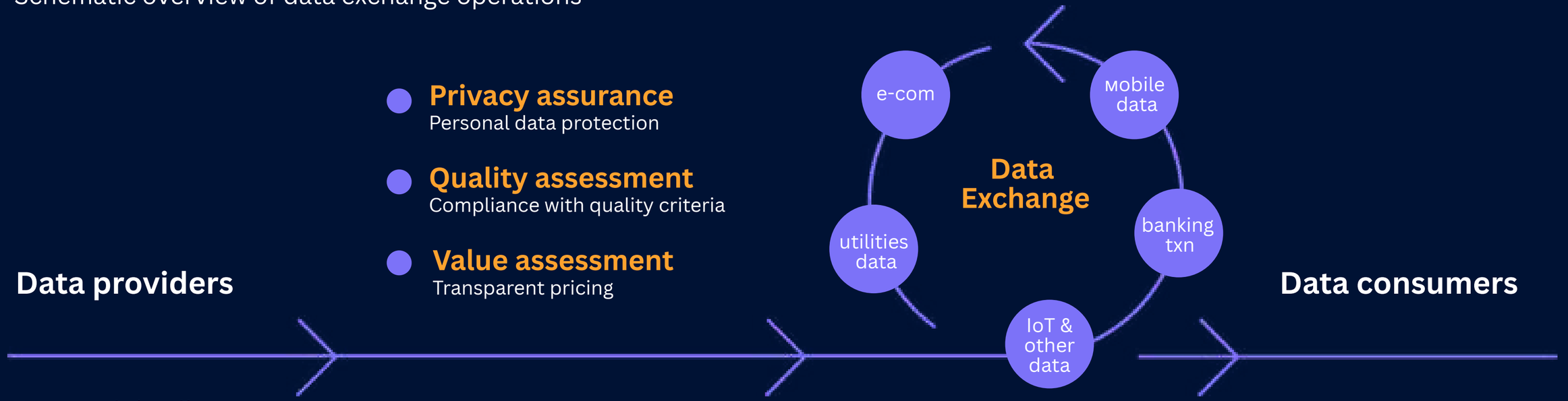
3k+
platform-trained civil servants

2.7k+
platform users

Sources: NITEC, Ministry of Artificial Intelligence and Digital Development of Kazakhstan, RISE Research analysis
Note: as of October 2025

To further supply the market with high-quality data, Kazakhstan is establishing a national data exchange under the Bureau of National Statistics

Schematic overview of data exchange operations



Expected timelines

February 2025	July 2025	September 2025	November 2025	2026
Working group with international organizations has been established under the ASPR	Strategic partnership with the Shanghai Data Exchange was established with a joint roadmap	White paper “Unleashing the Economic Potential of Data in Kazakhstan”	Launch of a pilot to test data-exchange processes	Full-scale platform launch

Source: Agency for Strategic Planning and Reforms of Kazakhstan

Olzhas Tuleuov
ASPR

"We are modernizing Kazakhstan's data infrastructure by combining administrative records with alternative inputs such as mobile data, satellite monitoring and fiscal receipts, enabling more efficient regulation and reducing the burden on businesses. Our analytical units apply AI to behavioral and demographic modelling, strengthening policy insights. By embedding the legal foundations for launching and running the National Data Exchange into the Digital Code, and working jointly with the Shanghai Data Exchange, we are establishing the basis for a transparent, secure, and economically efficient data market."

Yernat Ibraev
Samruk-Kazyna

"Samruk-Kazyna has mandated its portfolio companies to deliver measurable economic impact from AI. We have reassessed and expanded our pipeline to more than sixty initiatives, and next-year KPIs require tangible EBITDA uplift driven by AI-enabled solutions. Looking beyond these immediate targets, a key long-term focus is strengthening information collaboration across portfolio companies—spanning extraction, processing, and logistics—to eventually model and predict the entire value chain and enable more accurate planning and resilient operations."

Baurzhan Mukanov
Transtelecom

"Kazakhstan's AI market is rapidly taking shape. We are experiencing a phase similar to the early years of cloud adoption: demand is growing, yet many businesses still struggle to understand where to start, how to assess the value of AI solutions, and what their real cost will be. That is why our task is to provide ready-to-use services, demonstrate tangible impact, and lower the barrier to entry. Telco operators play a particularly important role in the AI market: we simultaneously supply the infrastructure, build the services, and deploy them across key sectors of the economy — while ensuring that data and models remain within a secure national environment."

Yerbol Absalyamov
ISSAI

"It would be highly beneficial for the government to establish an efficient mechanism for GPU cluster utilization. Usually, GPUs are used heavily during the day for services, yet much of this capacity remains idle in the evening and overnight. By allowing startups and academic institutions to access these GPUs during off-peak hours, the government can maximize public computing resources and significantly accelerate the development and training of local AI models and applications."

04

Startup Ecosystem and VC investments

Over 100 projects are shaping the country's AI startup ecosystem

Not exhaustive

Business automatization

PLATMA · shai.pro · finflow · //SURF(AI)CE: · RPA python · KOZ · MY BOTS · STIKER.AI · 22 AI · AVM.AI · pointai · Gen2B · MacDent · Fleevo · STIKER

Industry 4.0

dereknet · NEURON OIL Oil production at a desired level with minimum expenses · BELKA DIGITAL · RECADO · qala.ai · ESEP AI · WES · TWIN · multicode

MarTech

Perceptis · Pleep · RE:CREATE · on.ai · oina · MoonAI · IceCore.ai · ATHENA AI · Tobi AI · VIRAL VIDEOS · AI PRADAVAN · Clario · CoFounder AI

Voice Agents

Call2action · cybernet · LeapingAI · Atlanti · sonetix

MedTech

CEREBRA · AIDENTIS · Defect AI · ZebraEye · MIRAI TECH Innovating a brighter future · emai · flection.ai · NeuroGuard · HEMO.LABS · OncoZero.AI · Smart ECG · MIND SHIELD · WDSOFT · Cortex AI · Soile AI · FORUSDATA

Video Analytics

KEPL · Parqour · bizdinAI · PROTECTOR AI · TargetAI · aldente ai · SUNSOFT От идеи к успеху

LegalTech

alma · Porttus · BlackStone AI

KYC

alaqan · Verigram · BIOMETRIC

FinTech

Altbridge · investbanq · klaxa

EdTech

CODIPLAY · TrustExam · outpeer.ai · Beyim.ai · CYBERPACK.AI · YerAI Mentor · Aleem · nFactorial AI · WEGLOBAL.AI

Specialized AI tools

causaly · nace.ai · ASCLE · PanDev metrics · TEXER.AI · Wonder · Atarino · NEURYS AI · ARMETA.AI · Valinor · Command Center · Vetra AI · SODA · Logical Health · redflags · Amurex · dapmeet · FOODY AI · blink

Generative AI

Higgsfield · ARLAN BIOTECH

AI agent builder

axellero

AI Enablement

Nia AI · deepinfra · ZenGuard AI Trust Layer for AI Agents · laminar

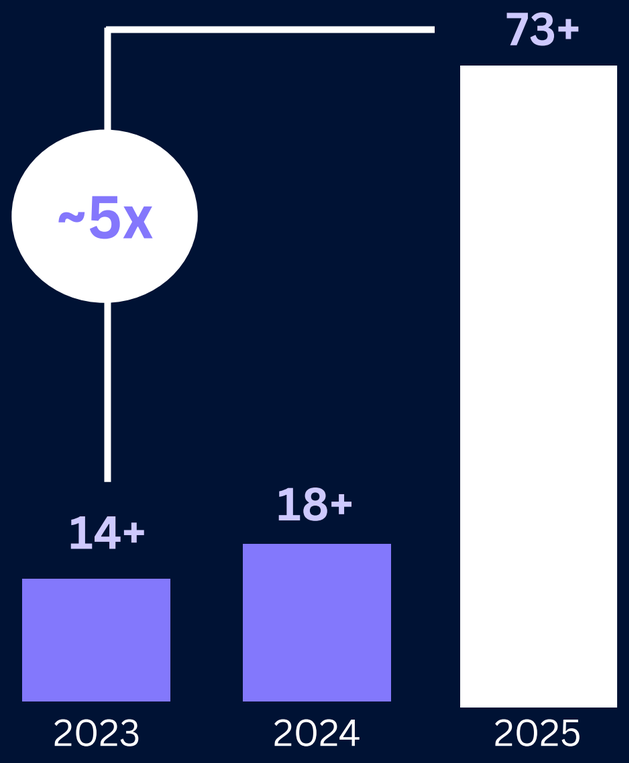
Source: RISE Research analysis

Note: since AI has become a cross-cutting technology — and many startups add "AI" for visibility — we focused on projects that genuinely rely on it. This includes both pure AI companies (e.g. GenAI startups, specialized AI agents, KYC solutions, etc.) and startups from other sectors using AI as a core component. Startups with Kazakhstani co-founders but limited local ties are also included

AI venture investment in Kazakhstan grew more than 5x from 2023 to 2025

In 2025, the ecosystem reached a pivotal milestone with the emergence of its first unicorn - Higgsfield

Venture capital investment in AI startups in Kazakhstan, $M



Selected funding rounds raised by Kazakhstani AI startups, 2024-2025

KenesAI $200 000 Aug 2024 - pre-seed	PLATMA No/Low Code Development Platfor $2 250 000 Sep 2024 - pre-seed	Amurex $250 000 Dec 2024 - pre-seed	//SURF(AI)CE: $1 500 000 2024 - pre-seed
nace.ai $5 000 000 Mar 2025	shai.pro $1 000 000 Apr 2025	AVM.AI $200 000 June 2025	blink $200 000 June 2025
ATHENA AI $200 000 June 2025	Higgsfield $3 100 000 2025 - Bridge round	Higgsfield $50 000 000 2025 - Series A	shai.pro $5 000 000 Sep 2025
Nia AI $6 200 000 Oct 2025	PanDev metrics $400 000 Oct 2025	ARMETA.AI $1 000 000 Nov 2025	outpeer.ai $640 000 Dec 2025 - pre-seed

Sources: RISE Research analysis, public data

Note: data is sourced from publicly available materials. Unlike 2024, these data have not yet been verified by the RISE Research team and may be subject to change in the final 2025 VC results. The months indicated for 2025 refer to the date of public disclosure. Startups with Kazakhstani co-founders but limited ties to Kazakhstan (e.g., staff share, headquarters, etc.) are excluded from the analysis

High valuations of AI companies are not a bubble — they reflect a new technological cycle

We are witnessing the emergence of an economy in which the speed of AI adoption shapes future capitalization faster than traditional financial metrics. The real risk is not overvaluation, but being left on the sidelines. Corporations are allocating substantial budgets to AI implementation, and despite a 90% failure rate, no one is reducing these investments — because cutting them would mean guaranteed loss.

Central Asia does not need to compete with the US and China in building foundational models — that game is long and capital-intensive. Our opportunity lies in applied solutions, specialized AI models, and products at the intersection of technologies and industries.

Higgsfield is a vivid example: a breakthrough in a specific category — video generation. It has shown that global leaders can emerge from this region.

This will raise ambition and open the region to global capital.

Murat Abdrakhmanov
Super Angel Investor, Founder
MA7 Ventures

VC ecosystem advances: 2025 deal volume set to exceed $100M, fueled by AI investments, new GPs and stategics

Accelerators & Incubators

+ 19 Regional IT Hubs

astana hub

MOST

NAZARBAYEV UNIVERSITY RESEARCH AND INNOVATION SYSTEM

Terricon Valley

Google for Startups

Meta Llama Accelerator

500

in!

StartX

DRAPER UNIVERSITY

KBTU STARTUP INCUBATOR

+ 17 University-based Incubators

Innovation Funding Agencies

QazInnovations Cool to be Innovator

ФЫЛЫМ ҚОРЫ ФОНД НАУКИ

astana hub

VC Facilitators

QAZAQSTAN VENTURE GROUP

QIC QAZAQSTAN INVESTMENT CORPORATION

Active VC Funds & Angel Clubs

EA VENTURES

MA7 Ventures

Big Sky Capital

WHITE HILL CAPITAL

MOST Ventures

BGLOBAL VENTURES

astana hub ventures

AXIOM

byb capital

ALMAK CAPITAL INVESTMENT FIRM

Chevron

Jas Ventures

myventures

ACTIVAT VC

investbanq

Terricon Venture

SILKROAD INNOVATION HUB

ASTANA VENTURE CLUB

Eurasian Hub Ventures

Sturgeon Capital

DOMiNO VENTURES

500

AloqaVentures

CAUCASUS VENTURES

STARTUP WISE GUYS

Seven Rivers Capital investment company

ANTLER

Corporate strategics

Halyk

inDrive

FREEDOM HOLDING CORP.

Kaspi.kz

Beeline

Kusto GRUP

Not exhaustive

Key remarks

In recent years, Kazakhstan's venture ecosystem has matured significantly, driven by:

- Rapid scaling of Astana Hub, alongside emerging university-based and private accelerators
- Rise of local VC firms (GPs), further strengthened by the planned launch of a $1B fund of funds
- Major investments from international funds in AI startups founded by Kazakhstani entrepreneurs
- Emergence of domestic strategics, creating additional exit opportunities

Source: RISE Research analysis

The government aims to increase IT exports to $5B by 2029, with Astana Hub prioritizing global expansion initiatives for Kazakh startups

Selected startup support programs by Astana Hub and its partners

- Silkway Accelerator (astana hub | Google for Startups)
- AlchemistX
- Industrial AI
- Silicon Valley Residency
- aipreneurs by astana hub
- Scalerator 2.0
- Global Outsourcer
- startup orda
- Startup Academy
- Hero Training

Global IT hub network for Kazakhstani startups by the Ministry of AI and Astana Hub

Sources: RISE Research analysis, Astana Hub

05

Human capital and R&D

National focus on scaling AI specialist training and basic AI skills, with major initiatives announced in 2024 and actively implemented in 2025

2019-23

- Initiatives and educational programs on AI in technical universities
- Launch of alem - peer-to-peer programming school (2019)
- Opening of Astana IT University (2019)
- ISSAI founded at Nazarbayev University (2019)
- Astana Hub launched Tech Orda, offering IT training grants (2021)

2024

- Interuniversity Standard for integrating AI into the educational process
- AI-related courses in all university programs
- ISSAI transformed into full-fledged research institute
- Astana Hub launched AI Movement initiative
- Launch of Tomorrow School - peer-to-peer AI school
- Release of KazLLM - first Kazakh Large Language Model

2025

- Release of SHERKALA - Kazakh LLM
- Launch of the AI-Sana program
- First National AI Olympiad for scoolchildren — AI Olymp
- Release of Alem LLM — Kazakh LLM
- Day of AI for schoolchildren and training for educators
- AI Implementation Concept in secondary education
- Official launch of Alem.ai
- Proposal to establish a research university in AI with a special status

Source: RISE Research analysis

Universities actively expand AI-related academic programs since 2024

38 AI-related academic programs across...

30 universities, enrolling a total of...

2.8k+ students

95 universities incorporated AI courses

Not exhaustive

Source: Ministry of Science and Higher Education of Kazakhstan, as of October 2025

Note: the listed programs include both bachelor's and master's levels. Program titles were translated by the authors, and inaccuracies may occur

International AI center - Alem.ai - was officially opened in October 2025

Located in the heart of the EXPO-2017 complex, the center aims to become a hub for talent, innovation, and the global AI community

AI-driven Gov

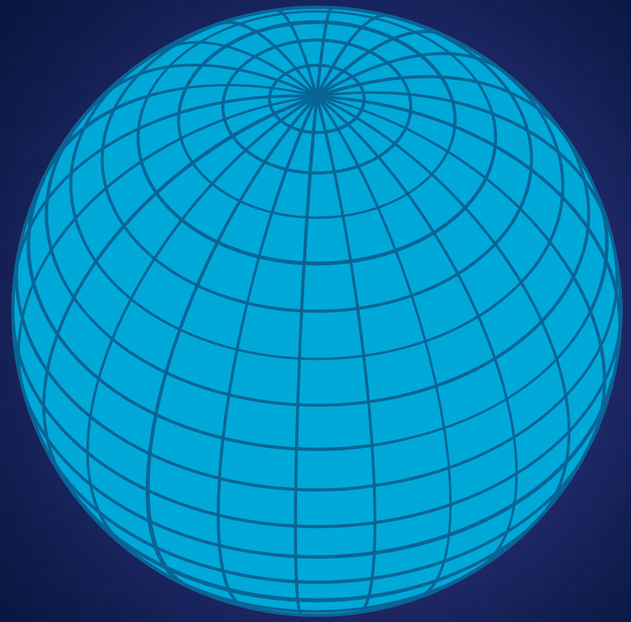
A situational center for monitoring, analysis, and management of government processes

presight Google inDrive

R&D Labs of major Kazakhstani and global technology companies*

Startup Campus

AI startup incubation and acceleration programs run by Astana Hub and its partners



Tomorrow School

AI-focused institution based on the peer-to-peer learning model, with a 24-month program

Tumo Astana

Innovative extracurricular center for creative and digital technologies for students aged 12–18

Tours & Events

Dedicated spaces for hackathons and events, as well as a modern AI museum

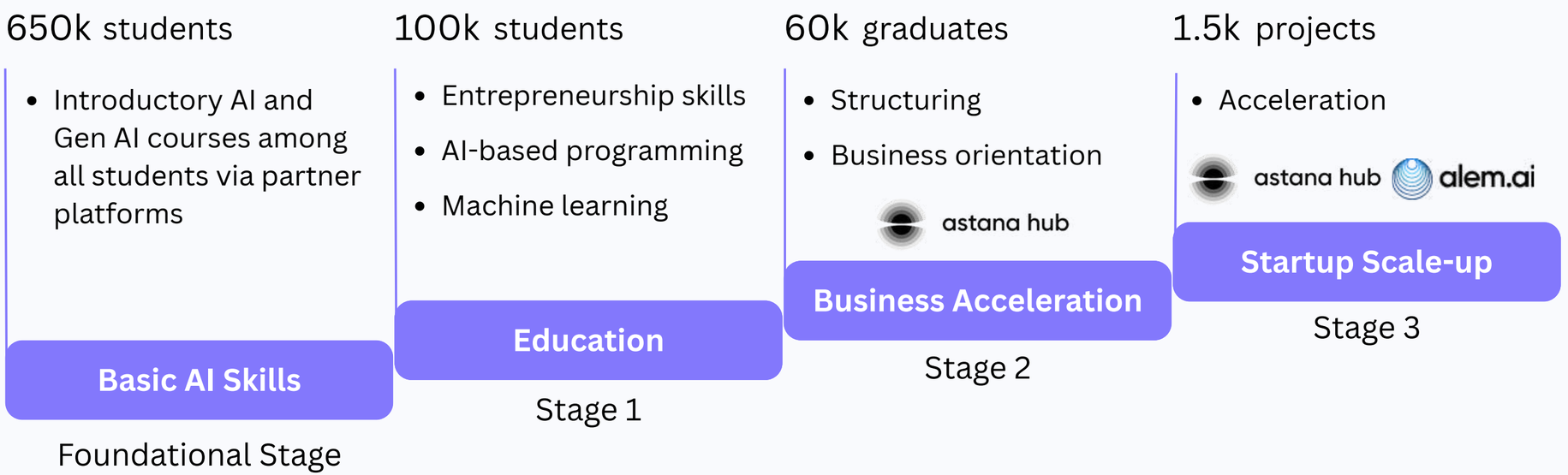
Sources: Ministry of Artificial Intelligence and Digital Development of Kazakhstan, Astana Hub, alem.ai
**The final list of companies that have established R&D laboratories might be subject to change*

Nationwide initiatives advance basic AI skills among the broader population for the second consecutive year

One of the key initiatives is AI-Sana targeting all university students across the country

Announced in 2024 and launched in 2025, AI-Sana comprises four stages. The foundational stage focuses on basic AI training for all students nationwide. By October, **over 544,000 (84% of the KPI) completed it**. The next stages will emphasize practical skills, project development, and acceleration of 1,500 projects, with Stage 1 set to start in 2026

AI-Sana: key KPIs and program milestones



Source: Ministry of Science and Higher Education of Kazakhstan, as of October 2025

Partner platforms and participation numbers

HUAWEI
177k+

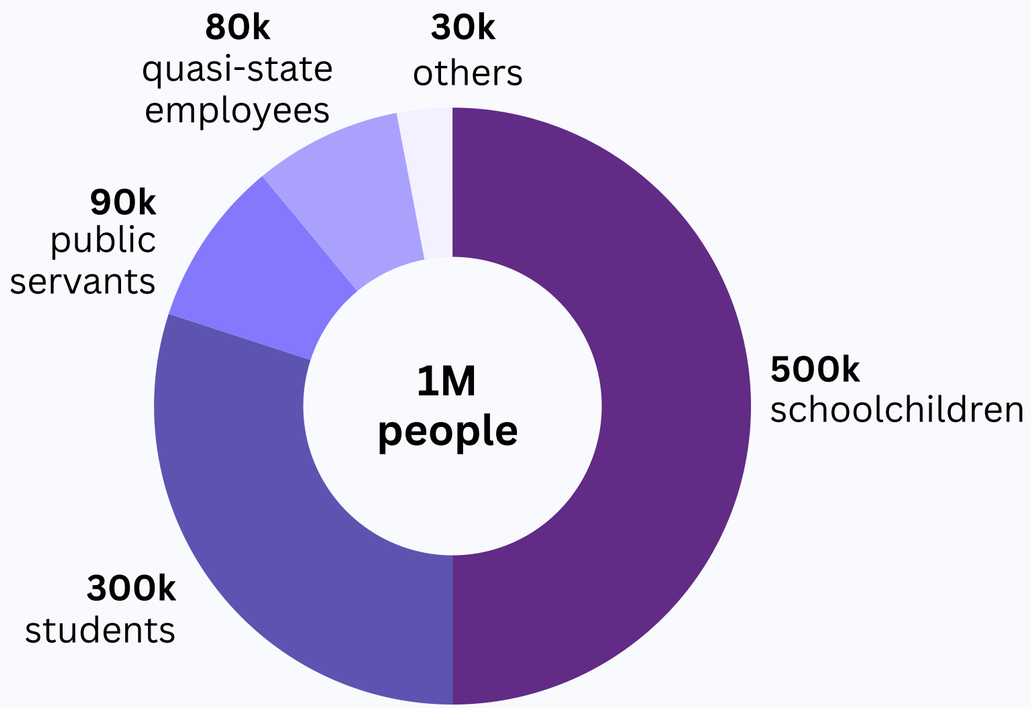
coursera
61k+

Google
5k+

astana hub
153k+

Another key initiative is the AI Movement designed by the Ministry of AI and Astana Hub to upskill one million people by 2029

AI Movement programs' KPIs by 2029



Key remarks

AI Movement aims to build public proficiency in basic AI and GenAI through:

AI Qyzmet - training program for public servants aimed at improving government efficiency through AI tools. Launched in May 2025, the program aims to train up to 30,000 employees annually

AI Corporate - training program on basic AI skills for employees of state-owned enterprises. By year-end, it is set to launch for Samruk-Kazyna, Baiterek, and Atameken

AI People - free online intensives on the fundamentals of AI and GenAI for the general public

AI-preneurs brings together professionals from different spheres to form startups

Sources: Ministry of Artificial Intelligence and Digital Development of Kazakhstan, Astana Hub

Shaping the nation's AI future: the ISSAI and KazLLM case study

Institute of Smart Systems and Artificial Intelligence (ISSAI) serves as country's leading AI research center

Founded by Nazarbayev University in 2019 and made autonomous in 2024, ISSAI leads AI research in Kazakhstan, publishing over 120 articles and developing Central Asia's largest open-source repository. It introduced Kazakhstan's first large language model - KazLLM - in 2024 and later released Generative AI models tailored to Kazakh language, cultural context, and way of thinking

ISSAI's AI model ecosystem and development timeline

Deep learning models: machine translation, TTS, ASR, NER, biometrics, medical imaging, satellite imaging, robotics, neuromorphic sensing

NVIDIA DGX AI servers for model training

Intellectual workforce: undergraduate and graduate students, professors, data scientists, data annotators

Data: largest repository of open-source codes, datasets, and models in Central Asia

KazLLM

- Multi-node training
- Synthetic data
- Web scraping
- Large-scale datasets

Oylan - multimodal language vision model

Oylan2 - language audio vision model

Oylan2.5 - reasoning, Latin Kazakh, web search

Oylan3 + RAG

Beynele - culturally tailored text-to-image generation

Beynele2 - text-to-image generation and image-to-image editing

MangiSoz - speech and text trans-lation engine (KAZ, ENG, RUS, TUR)

MangiSoz2 + Chinese LLM-based

MangiSoz2.1 + optical character recognition

MangiSoz3 + 6 languages and expressive voice generation

TilSync - real-time subtitles (KAZ, RUS, ENG)

TilSync2 - real-time subtitles and dubbing

Mangitas01 - AI Inference Server (1 GPU)

Mangitas02 - AI Inference Server (4 GPUs)

2019 - Classical Deep Learning | Dec 2024 | Generative AI Era | Dec 2025

Sources: Institute of Smart Systems and Artificial Intelligence (ISSAI), RISE Research analysis
Note: TTS - Text-to-Speech | ASR - Automatic Speech Recognition | NER - Named Entity Recognition | DGX - NVIDIA's fully integrated AI supercomputer system | RAG - Retrieval-Augmented Generation

KazLLM, released in late 2024, is available for government use and open for non-commercial research collaboration

Why a national LLM matters

Digital sovereignty: LLM services from big tech can be suspended anytime due to trade or diplomatic tensions

Low performance: global LLMs are optimized for major languages like English and Chinese, performing far worse for Kazakh

Cultural bias: LLMs mirror their creators' values, so nations need models aligned with their own

Technological development: Gen AI is a disruptive technology with major economic impact, and LLM is the gateway to it

Data scarcity - the main barrier

Before developing the LLM, ISSAI first had to **collect sufficient Kazakh-language data,** given the scarcity**.** Thus, ISSAI and partners:

- collected all available data in the Internet at .kz domains and curated them
- extracted textual data from scanned books using optical character recognition
- created question answering datasets about Kazakh culture
- used open-source LLMs to generate synthetic Q&A datasets from collected text
- translated high quality datasets in science and technology from English to Kazakh

To prepare data, ISSAI developed its own translation engine - **MangiSoz** - which outperforms peers in Kazakh translation

Impressive model - modest recources

Built on Meta's Llama 3.1, **8B and 70B KazLLM** models excel in Kazakh and perform competitively with global AI leaders in Russian and English

- The project ran **from March to December 2024**, ending with its release on Hugging Face
- The ISSAI team comprised about **70 specialists**, including data scientists, engineers, linguists, project managers and research assistants
- Over **150B tokens (~1.5M books)** were collected, curated, synthesized, and translated (Kazakh, English, Russian, and Turkish data)
- Model training was conducted on **8 NVIDIA DGX H100** systems in a multi-node cloud configuration

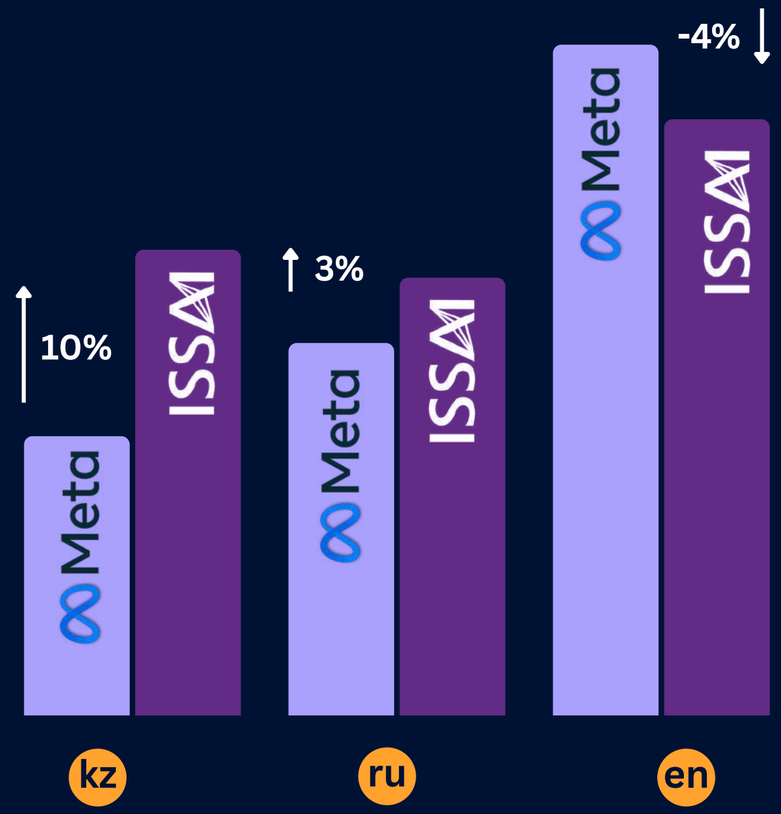
Partners and Contributors:

AI & DIGITAL MINISTRY · astana hub · qazcode · nitec · MIND · TIL-QAZYNA · FARABI UNIVERSITY · SIT Foundation

Sources: Institute of Smart Systems and Artificial Intelligence (ISSAI), RISE Research analysis

KazLLM demonstrated that local researchers and youth can achieve world-class AI R&D with constrained resources

ISSAI KazLLM versus Meta's LLAMA 3.1*



Barriers encountered

- Data scarcity for the Kazakh language
- Lack of standardized evaluation datasets in Kazakh
- Technical challenges in configuring and maintaining multi-node distributed training environments
- Restricted number of training nodes

Key insights gained

- Multi-pronged data collection strategy is crucial for developing models in lower-resource languages
- Open-source development accelerates national innovation
- Need for sustained funding and R&D investment
- Efficient utilization of available computational nodes through optimized distributed training

Sources: Institute of Smart Systems and Artificial Intelligence (ISSAI), RISE Research analysis
**Average Performance comparison of Meta's LLAMA 3.1 70B and ISSAI KAZ-LLM 70B based on 6 benchmarks: MMLU, Winogrande, HellaSwag, ARC, DROP, and GSM8k*

Atakan Varol
ISSAI

“While Kazakhstan ranks among the top 50 economies as an emerging middle power, its research and development (R&D) expenditure as a share of GDP is disproportionately low. Such resource constraints risk impeding the trajectory of the nation’s AI sector. The government should cultivate a competitive ecosystem via targeted subsidies. These should incentivize the private sector to bridge the gap with academia, shifting the perception of research from a mere cost and public-relations ploy to a strategic pillar of technological sovereignty and economic development.”

Bayan Konirbayev
Alem.ai

“Kazakhstan’s greatest asset in AI is its human capital. A young population, a strong mathematical and engineering tradition, and nearly 25 years of systemic digitalisation - from eGov and the Digital Kazakhstan program to the transformation of the public sector and “Samruk-Kazyna” — have created a critical mass of tech leaders across government and business. When we talk about adopting AI, it is important to understand that we are not entering an “empty field”, but a country that has already undergone extensive digital readiness - both in its market and its consumers.”

Valeriya Tyo
Astana Hub

"Kazakhstan is becoming a magnet for international AI players due to a unique combination of tax incentives, developed infrastructure, and systemic startup support. Astana Hub offers a 'safe landing' with tax exemptions and access to a vibrant community that already includes giants like TikTok, Telegram, Playrix, Yandex, Epam, and Indrive. With our flexible regulatory environment and strategic location, we offer unique conditions where bold ideas can be tested locally and scaled to international markets."

Oleksii Sharavar
QazCode

"The market for AI specialists is overheating, with salaries escalating as international IT companies aggressively recruit local talent. Because competing solely on compensation is unsustainable, our strategic imperative is cultivating human capital internally through dedicated schools, bootcamps, and reskilling programs. Simultaneously, we enhance operational efficiency by integrating Generative AI into development workflows. This integration has already reduced hiring volume by ten percent, proving intelligent automation is a vital complement to our talent strategy."

06

Use Cases and Industry Applications

AI in Banking

AI in Telecom

AI in Public Services

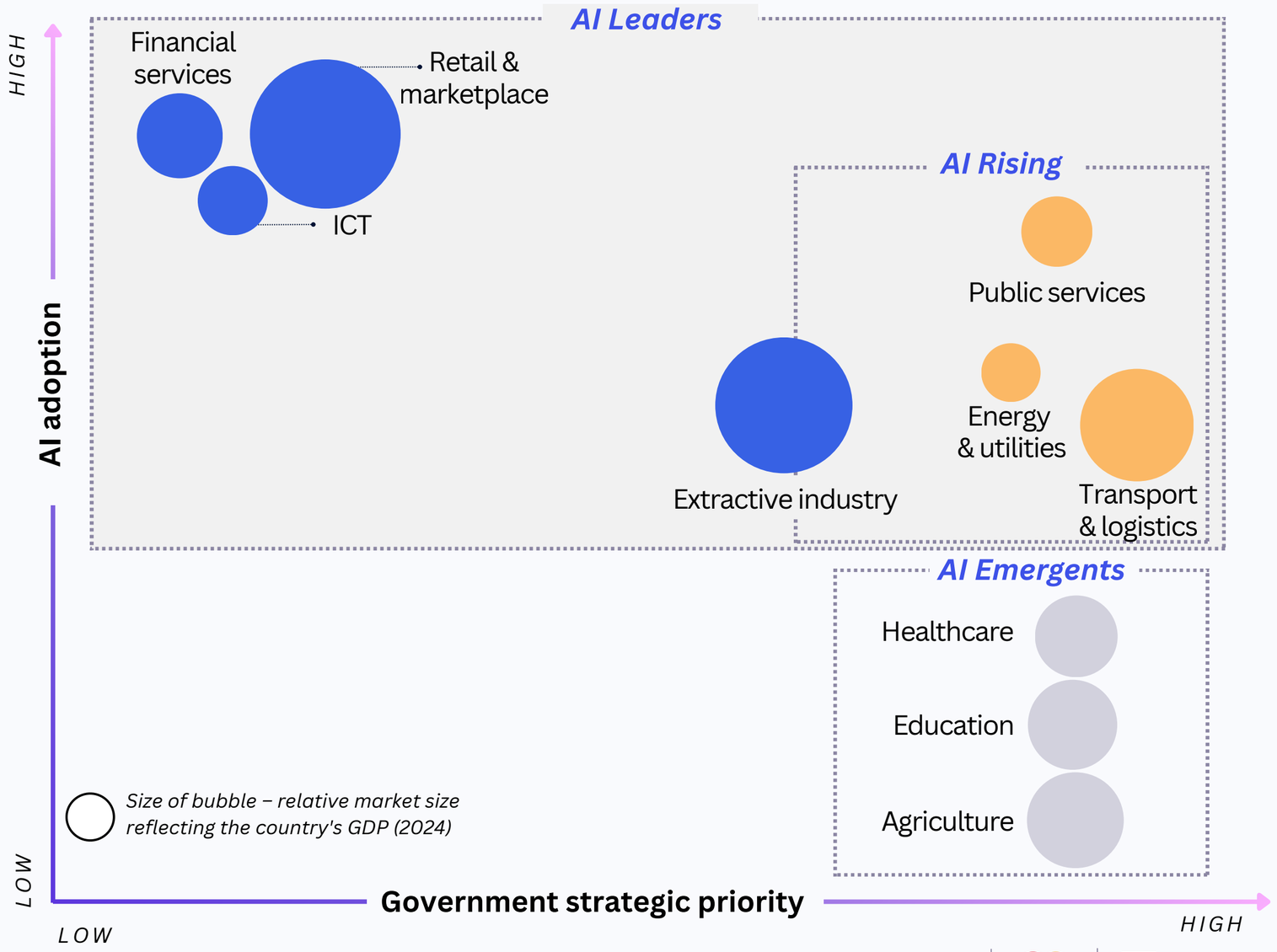
AI adoption is led by digital-native sectors, while government focus accelerates real economy and socially critical domains

GLOBAL TRENDS[1]

Using IDC data on global AI investments as a proxy for AI adoption scale, **data-rich, technology-intensive sectors** (financial sector, software and information services, retail) dominate with a projected combined share of **45% of worldwide AI spending** until 2028.

Business and personal services, transportation and leisure are expected to be the **fastest growing** segments with over 30% CAGR.

Kazakhstan's key industries mapped by relative AI adoption level and government focus[2]



Sources: 1. Worldwide AI and GenAI Spending Guide, IDC | 2. RISE Research qualitative analysis based on 30 online expert interviews with AI practicioners in Kazakhstan during Sept-Nov2025. Note: CAGR - Cumulative annual growth rate

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Kazakhstan’s economic sectors show varying levels of AI readiness and unique value drivers for scaling

Banking

- Large customer base and labeled data
- Highly-digitized sales and marketing channels
- Track record of AI adoption and best AI talent pool

Telecom

- Large customer base and massive labeled data
- Access to compute infrastructure
- High concentration of AI talent

Retail & marketplace

- Large customer and product level data
- Strong adoption of retail AI stack
- High-quality AI talent

Extractive industry

- Major players investing in pilots (KazMunayGaz, ERG and others)
- Sensorized equipment and safety mandates create clear ROI

Public services

- High transaction volumes
- Centralized public data infrastructure and National AI platform
- Mandate to provide personalized, proactive public services

Education

- Sector-wide AI deployment standards at primary, secondary and higher education
- Commitment to integrate AI into the curricula

Transport & logistics

- Growing parcel and fright volumes
- Pressure for on-time performance and costs
- Major modernization programs in rail, postal, and logistics

Healthcare

- Need to ease clinician workload
- Proven local MedTech innovators to partner with
- Good level of digitalization of imaging and workflows

Energy & utilities

- Reliability and efficiency mandates
- Key state-owned players (KEGOC, Samruk-Energy) investing in Smart Grid development, asset monitoring, and energy optimization

Agriculture

- Growing availability of drone and satellite monitoring data
- State focus on precision farming and yield forecasting

Source: RISE Research analysis

Use Cases and Industry Applications

AI in Banking

AI in Telecom

AI in Public Services

Banking emerges as a leading sector in AI adoption, driven by digital scale and data availability

Global trends[1]

52%

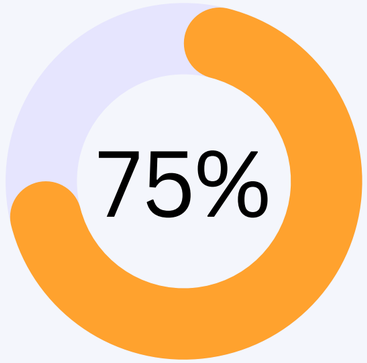
of financial-services firms using generative AI

76%

of financial-services firms (using AI) reporting revenue growth

60%

of financial-services firms (using AI) reporting operational cost reduction



of banks in Kazakhstan already use AI in areas such as credit-scoring, anti-fraud and marketing[2]

Kazakhstani banks are advancing AI adoption, driven by:

- Large and digitally engaged customer base and strong mobile/digital banking penetration
- Diversification into higher-margin digital financial services and ecosystem model
- Market/regulatory pressures to improve efficiency, reduce cost, enhance risk/ compliance controls
- Investment in digital infrastructure that provides the backbone for AI-enabled use-cases

Sources: 1. State of AI in Financial Services: 2025 Trends, NVIDIA | 2. National Bank of Kazakhstan

Mastercard's AI solutions help banks drive revenue uplift, improve recovery rates, and enhance payment security

Mastercard invests deeply in **AI, data analytics, and cybersecurity** to strengthen the intelligence, resilience, and trust in the global payments ecosystem. Its **capabilities** span real-time risk decisioning, identity and fraud protection, intelligent personalisation, and advanced analytics for banks. Looking ahead, Mastercard is building **agentic AI infrastructure** that enables trusted AI agents to execute secure, transparent transactions on behalf of consumers. These investments directly support Mastercard's AI use cases for banks.

Selected use cases

			Client
Next best offer Recommends the most suitable product for each customer at the right time and channel using AI-driven propensity models, with real-time offering capability	**4%** increase in overall retail banking profit	**40%** increase in conversion rate of proactive campaigns across 15+ banking products (validated through test & control)	Tier-1 Bank in CEE region
Collection optimization Optimizes delinquent account recovery through AI-driven segmentation, next-best-action models, and capacity planning	**12%** decrease in NPL cost with same call center capacity	**1.5x** increase in marginal impact of each call (recovery in 2 days)	Tier-1 Bank in Türkiye
Card payment fraud Reduces fraudulent transactions through AI-powered anomaly detection, real-time risk scoring based on merchant & customer profiling	**30%** reduction in uniden-tified fraud cost	**10%** improvement in false positives	Tier-1 Bank in CEE region

Sources: Mastercard data, RISE Research analysis

Freedom Bank is positioning itself as an AI-First bank by launching the market's first multimodal AI interface

Freedom Bank positions itself as an **AI-first bank** by launching the market's first client-facing multimodal AI assistant — a unified intellectual platform for customer interactions.

The bank achieved rapid scale, with client base increasing **7.5x** in the first 11 months of 2025 (reaching 4M users). The strategy drives towards a **SuperApp model** (Freedom AI), connecting Freedom Bank and Freedom ecosystem services into a single AI ecosystem.

Strategic focus areas for 2026: transition to a single AI interface to replace fragmented services, reduction of contact center load **by 50%** and growth of conversion into ecosystem products **by 25%.**

Future Outlook: by leveraging AI, the bank targets scaling the user base to **6–8M**, boosting NPS by **10–15 points** via hyper-personalization, expand banking and payment functionalities of the AI assistant, integrating new ecosystem services, and deploying **15 AI Agents** for faster and accurate decision-making.

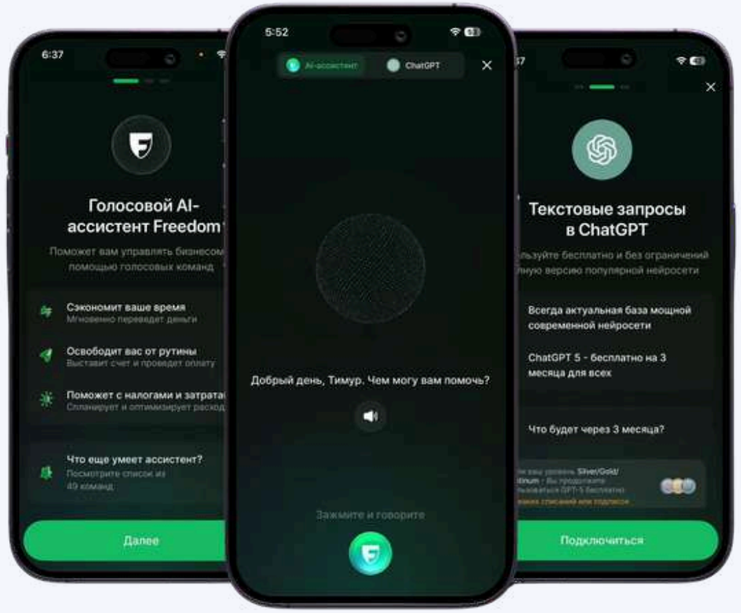
Focus areas of AI adoption

Category	Impact metrics from AI adoption
Customer experience & Ecosystem	• 140+ banking operations executed via voice (STT/TTS) with 99% accuracy and <3 sec response time (Freedom Business) • Unified AI chat for the ecosystem (Bank, Arbuz, Drive) expanding from 165 to 217 features • Automatic language detection for seamless interaction
Operations & Analytics	• Analysis time reduction from 10–60 min to 15–60 sec • 70–90% reduction in workload for analysts • Significant improvement in the quality of deal conclusion preparations
Compliance & Risk Management	• Application review time reduction from 3h to 8 min • Rejection decisions provided in 5 min (previously 3h) • 50% reduction in routine tasks via automated SWIFT checks, document parsing, and fraud detection.
HR & Internal Culture	• 33% reduction in recruiter workload via AI-driven testing and candidate validation • Integration of AI into LMS to foster a data-driven management culture across the organization

Sources: Freedom Bank data, RISE Research analysis
Note: STT - Speech-to-Text | TTS - Text-to-Speech | NPS - Net Promoter Score

Use case 1: Freedom Bank launches an AI-powered voice and text assistant to transform SME banking

Freedom Bank has introduced an **AI-driven business assistant** inside the Freedom Business App, allowing entrepreneurs to manage finances through natural voice and text commands in Kazakh and Russian. The assistant automates routine operations, executes payments and account actions, and provides real-time guidance. Powered by advanced LLMs, it already serves as a **daily co-pilot for SMEs**, improving efficiency, transparency and overall user experience. In total, **over 140** banking operations are executed via voice (STT/TTS) with 99% accuracy and less than 3 sec response time.



The assistant combines natural-language understanding with the ability to perform transfers, invoices and other account tasks, functioning as a unified entry point into the Freedom ecosystem. It also features **text-to-speech using Timur Turlov's voice.** Early adoption is strong, with **daily AI usage growing by 10–13%** and a reduced need for manual navigation or customer support.

Freedom has also embedded LLM capabilities directly into its platform, enabling SMEs to generate commercial offers, contracts, product descriptions and other business content without external tools. AI thus becomes a continuous support layer for content creation, analysis and operational decisions.

In 2026, the bank plans to expand the assistant's voice and text scenarios, introduce personalised financial recommendations, integrate accounting and tax modules, and extend AI features across all channels, including web and call centre, while developing more advanced, personalised voice models.

Sources: Freedom Bank data, RISE Research analysis

Use case 2: Freedom Bank plans to unveil an AI-powered SuperApp assistant to unify all customer journeys

In 2026 Freedom Bank is to present **Freedom AI** — a unified intelligent platform inside Freedom SuperApp that combines specialised assistants, LLMs, voice capabilities, and call-center integration in a **single seamless interface.**

The platform is designed to create **one entry point** for all customer interactions by consolidating financial operations, GPT-based assistance, and human support, addressing challenges like fragmented channels, repetitive call-center workloads, making ecosystem offerings (Mobile, Arbuz, Travel, Drive, Freedom Life, etc.) easier to discover.

Features include a single multilingual chat with integrated contact-center support, seamless access to all assistants and ChatGPT without switching modes, and full STT/TTS functionality for natural voice interaction.

Key advantages:

- Deep **ecosystem integration** enabling complex scenarios (e.g., specialised product orders via Arbuz)
- Truly unified experience that **merges all channels** into one interface
- Contextual service **recommendations** with proactive Calls to Action that boost cross-sell and increase customer awareness of the broader ecosystem.

KPIs

User Engagement Ave. user interaction time with Freedom AI	≥ 60 min/day by Q4 2026
AI Answer Quality NLU Fail Loop rate	≤ 10% by Q2 2026
Support Automation % of requests resolved without an operator	≥ 50% by Q4 2026
Contact Center Cost Reduction Operational cost savings	≥ 40% by Q3 2026
Cross-sell Uplift Increase in AI-driven cross-sell share	+20–30% by Q2 2027
Localization Kazakh STT/TTS speech-understanding accuracy	≥ 85% by Q4 2026

Non-financial impact

- Higher NPS (+10–15 points) through speed and personalization
- Greater inclusivity for Kazakh-language and voice-driven users
- Creation of AI-pluggins marketplace for future partnerships and integrations
- Stronger brand perception

Sources: Freedom Bank data, RISE Research analysis

Use case 3: Freedom Bank deploys an AI-driven compliance assistant to streamline SWIFT transfers

In 2025, Freedom Bank launched an **AI-powered compliance assistant** for private clients' SWIFT money transfers within Freedom SuperApp, becoming one of the first banks in Central Asia to combine conversational UX, LLMs, and compliance workflows in a **fully automated international transfer journey.**

The goal is to **simplify** SWIFT transfers and **reduce compliance workload** by automating data collection, document parsing, intent classification, and preliminary checks, addressing customer difficulties with complex forms and repeated data entry.

The **assistant** extracts all transfer details from the customer's message, confirms or updates them as needed, then collects source-of-funds documents and a purpose explanation, completing the SWIFT flow with full Q&A support and optional human escalation.

Technologies deployed - NLP, LLM-based intent extraction, integration with CRM.

The solution delivers a better SWIFT **user experience** with higher completion rates, accelerates compliance review while reducing manual workload and risk, improves document and purpose-of-payment accuracy, and lays the groundwork for a **fully AI-driven compliance model.**

The development of Freedom Bank's AI-driven compliance capabilities began in April 2025 with the launch of the AI-based SWIFT transfer assistant into production. By November 2025, the bank expanded this foundation through integration with **Mastercard**, enabling automated analysis of outbound transfers and more robust compliance checks.

In 2026, Freedom Bank is progressing toward a **next-generation AI-compliance suite**, focused on deeper automation and intelligence across the full compliance lifecycle. The roadmap includes ML models for fraud-typology detection across the entire client base, statistical and AI/ML models for real-time compliance scoring and automated preliminary checks, and the transition to a multilingual LLM supporting English, Russian and Kazakh.

Additional priorities include AI-generated summaries to accelerate decision-making and the personalisation of chatbot responses to improve user experience.

Sources: Freedom Bank data, RISE Research analysis

Kazakhstan enters a new technological era, with AI as the foundational infrastructure for economic growth

At Freedom Bank, we view AI as a key driver of development not only for the banking sector, but for the economy as a whole, and we deliberately take on the role of one of the architects of this transformation.

Freedom Bank's digital model is built on the systematic use of Big Data and machine learning algorithms. This approach eliminates subjectivity in decision-making and delivers process speeds that are unattainable within traditional models. A clear example is mortgage lending: following the introduction of automated property valuation and related AI processes, the bank processed one million mortgage applications in just seven months. Under a conventional offline approach, a comparable volume would have taken decades.

In 2025, Freedom Bank launched both text-based and voice AI assistants. Today, the voice assistant supports more than 140 banking operations, handling a significant share of routine customer requests. Major changes have also taken place in business lending: thanks to digital models, decision-making time for certain products has been reduced to as little as three hours, with funds credited to clients within 24 hours. For entrepreneurs and regional economies, this is a critically important factor.

The Freedom SuperApp, powered by a personal AI assistant, has evolved from a banking application into a universal AI platform for everyday financial and consumer use cases. For the past six months, the app has consistently ranked among the most downloaded applications in the country.

In 2026, the bank's focus will shift toward deeper AI adoption in compliance, risk management, and client interfaces, including 24/7 AI-driven support for both entrepreneurs and retail customers. We are confident that the combination of capital, technological capabilities, and the government's digitalization agenda will enable Kazakhstan to secure a leading regional position in the adoption of artificial intelligence within the financial sector.

Aidos Zhumagulov
Member of the Board of Directors
Freedom Bank

Kaspi scales AI across its Super App to drive automation, personalisation and frictionless payments

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kaspi

Halyk

forte

bcc.kz

Kaspi.kz operates the country's largest super app, embedding AI across payments, marketplace and consumer finance.

Massive real-time behavioural and transactional data from Kaspi Pay, Marketplace and Fintech continuously improves its models.

In 2025, Kaspi launched **Kaspi AI**, an AI content engine that automates product creation for marketplace sellers using computer vision and LLMs — generating photos, descriptions, attributes and multilingual content to accelerate onboarding and increase sales.

Kaspi also introduced **Kaspi Alaqan**, a palm-recognition payment technology enabling fast, touchless in-store payments through AI-driven biometrics and anti-spoofing models, enhancing both security and user experience.

Selected AI use cases

Category	Key metrics & achievements
Kaspi AI – AI content engine for marketplace sellers	• 500k+ product pages as of Oct'25 enriched with AI-generated content (photos, attributes, descriptions, multilingual text) • Creates a complete product card in ≈3 minutes (≈3× faster vs. manual) • +35% click-through rate uplift in A/B tests • +83% sales uplift for AI-generated product cards • +40% increase in product clicks and +53% increase in sales sustained over 30+ days • Available in Kazakh, Russian, Turkish
Kaspi Alaqan – AI-powered palm-recognition payments	• Launch beginning Dec'25, integrated directly into Kaspi Pay terminals • Uses AI-driven palm-vein recognition, advanced liveness detection and anti-spoofing • Expected to reduce fraud due to biometric pattern uniqueness (industry-standard: <0.0001 false match rate)
Kaspi Virtual Assistant – AI-enhanced customer interaction	• In production for 5–6 years, continuously improved with ML • Handles a large share of routine queries (balances, bills, instalments) • Reduces load on call centres, improves resolution times

Source: RISE Research analysis based on public data and presentations by Kaspi representatives

Halyk Bank scales AI across 10+ functions with multi-X efficiency gains

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Halyk Bank positions itselfs as both a fintech and **AI innovation ecosystem** supported by corporate-level GPU infastructure (NVIDIA H100, B200) and large customer base.

The bank's data platforms currently connect **120+ data sources** with **2M+ requests daily.**

Over 15% of all 1000 business processes across **10+ business functions** are already **AI-enhanced**.

Portfolio of AI projects at Halyk Bank went up **from 5 to 45** within the last 3 years, with the target of **100** projects in 2026.

Apart from business operations, AI is used for **macroeconomic data prediction** leveraging Halyk Bank's vast customer base and geographic coverage (**98.2%** accuracy).

Focus areas of AI adoption

Category	Key metrics & achievements
Marketing	• 90% of campaigns are AI-driven • Campaign launch speed up 9X • Conversion uplift by 20%
Customer Experience and Personalization	• 60+ models for personalization • 150 life event triggers to generate offers • Client request processing time down 1500X
Operational efficiency and document processing	• OCR models increased data processing speed by 10-40X • ~93% document recognition accuracy • Freeing up 40% of staff time
Risk management, anti-fraud and compliance	• Analysis of clients' counterparties • Fraudulent scheme detection
IT process automation and Agentic AI	• IT specialists' productivity up by 50% (GitHub Copilot) • 20+ multi-agent systems for complex process automation • 25 LLM-chatbots with RAG databases

Source: RISE Research analysis based on public data and presentations by Halyk representatives

Forte Bank builds an AI-Native model with a growing pipeline of AI projects

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Halyk

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Forte Bank is executing a multi-year strategy to become an **AI-native bank by 2027**, building a centralized **AI Excellence Center** to scale AI across all business lines.

Forte applies AI across core functions — from fraud prevention and OCR-based lending to AI-driven customer service, IT automation and advanced ML/GenAI analytics for behaviour, churn, speech and text.

Its 2025–2027 priorities focus on accelerating AI adoption through the launch of an **AI hub**, strengthened infrastructure and governance, and strategic partnerships with AWS, OpenAI and IBM. Key focus areas include centralizing AI development and MLOps, expanding RAG platforms for internal and customer-facing products, implementing bank-wide AI governance and data quality frameworks, and building AI skills and culture.

Focus areas of AI adoption

Category	Key metrics & achievements
Anti-fraud suite	• Detecting social engineering, anomalous transactions, telco-data-augmented fraud models
AI agents	• Operator assistant delivers ~90% faster answer retrieval • Client chatbot resolves ~45% of requests • Response time drops from ~1,000 sec. to 4 sec.
AI lending pipeline	• Automated analysis of First Credit Bureau reports, collateral, legal and financial documents. • Lending decision time for SME clients reduced 3x
Forte Expert GenAI platform	• Employee assistant integrated with Jira, OCR-based document validation
Speech analytics and AI trainer	• Speech recognition accuracy ~90% • Request classification accuracy 95%
FX Control	• Cognitive automation validates FX operations and interprets payment details • Parameter recognition accuracy ~95% • Contract processing time reduced ~50%
Cash ATM model	• Cash volume saved ~25% • CIT (cash-in-transit) runs reduced ~15%

Sources: Forte data, RISE Research analysis

BCC accelerates its AI journey with multi-fold gains in sales, fraud prevention, and automation

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kaspi

Halyk

forte

bcc.kz

In 2024, BCC Bank approved its AI Strategy with 4 **priorities**: hyper-personalisation and client-centric sales; socially responsible, fraud-resilient operations; intelligent digitalisation to reduce costs and increase STP (straight through processing); and a centralized AI platform as a competitive advantage.

BCC aims to move from pilots to full institutionalisation of AI, expanding its ML platform into a **unified AI infrastructure** and integrating AI into core processes. Since 2020, BCC has moved from basic scoring models to advanced CV, speech and NLP systems, and in 2024 began deploying transformer-based AI agents and LLMs.

More than **20 AI/ML projects** are now in production across 6 functional areas, delivering strong impact: 3–5x sales uplift, 5–8x fraud reduction, OCR-driven sales growth of 30%, fraud down 27%, and NPL90+ at 0.9%.

Focus areas of AI adoption

Category	Key metrics & achievements
Intelligent Assistants & Automation	• Scaling AI across 35+ products • Increasing the level of automation by 50-85% • Processing acceleration 5-10x • Operator load reduction 25-40%
Language & Speech Intelligence	• Text processing speed-up 10–40x (F1 0.87–0.93) • Transcription acceleration 20–50x, WER ~10% • QA automation 20–40% • Accuracy for NER/anonymization/T2SQL 80–97%
Computer Vision & Document Intelligence	• OCR accuracy 92–97% • Process acceleration 10–40x • Error reduction 50–80% • High-volume document processing
AI Platform & Engineering Productivity	• IT productivity +20–40% • Model deployment 5–8x faster • GPU performance +300–500% (H200/B200/L40s) • Faster experimentation and release cycles
Infrastructure Breakthrough (Multi-Cloud AI)	• First industry multi-cloud AI: on-prem GPUs + AWS + Azure • R&D acceleration 5–10x • GPU scaling without CAPEX • High resilience, no vendor lock-in

Sources: BCC data, RISE Research analysis
Note: CV - Computer Vision | NLP - Natural Language Processing | WER - Word Error Rate | T2SQL - Text-to-SQL | F1-score – a balanced metric of model accuracy. A value of 1.0 indicates perfect performance.

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Use Cases and Industry Applications

AI in Banking

AI in Telecom

AI in Public Services

AI adoption accelerates in telecom, driven by data scale, competitive pressures, and diversification strategies

Global trends[1]

97%

of telcos globally are engaged with AI (adopt or assess AI in their operations)[1]

77%

of telcos see AI as the source of competitive advantage[2]

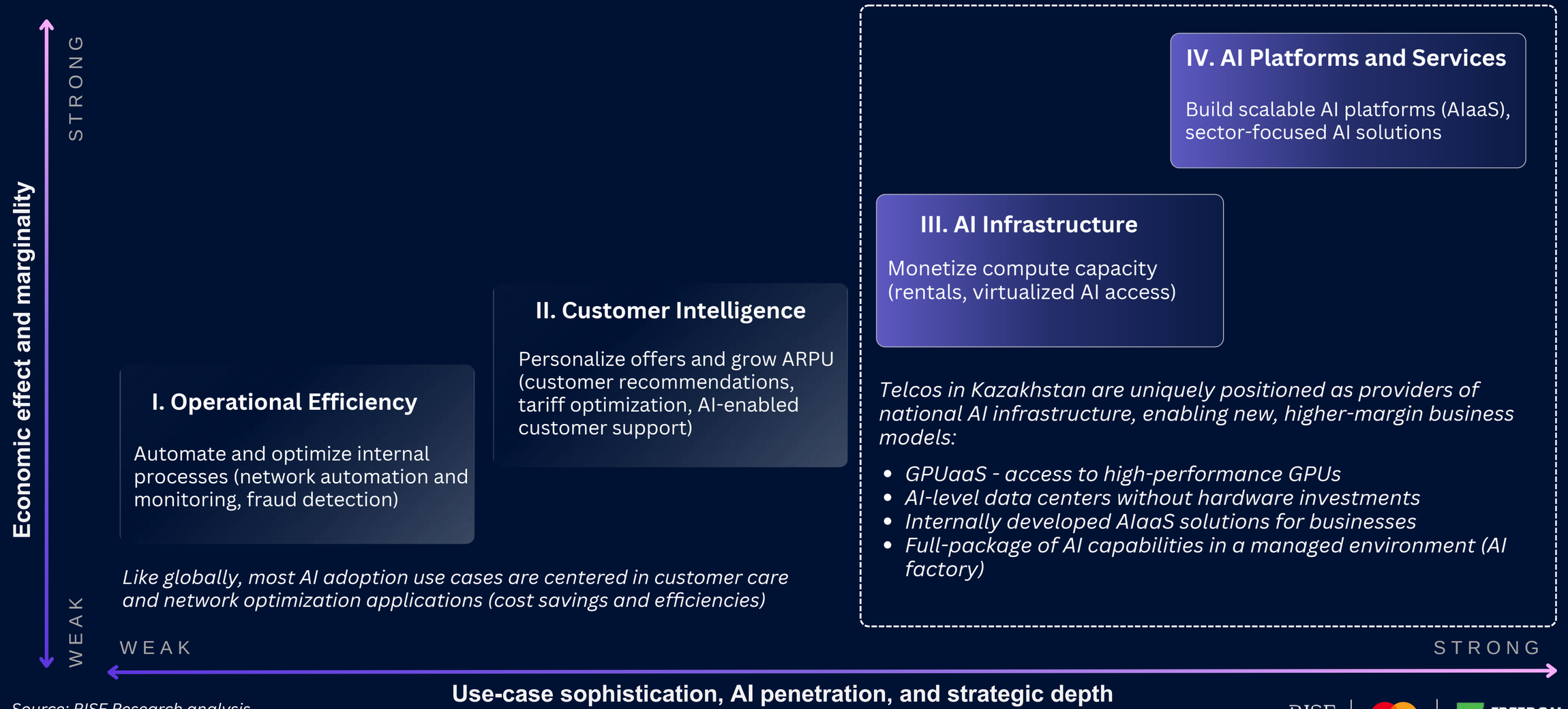
Kazakhstani telcos are also advanced AI adopters due to:

- **Large customer base** (20M+ total users)
- **Diversification** from connectivity to higher-margin revenue models (banking, entertainment, gaming etc.)
- **Market and competitive pressures** to improve efficiencies:
  - declining ARPUs (average revenue per user)
  - big infrastructure investments: over ₸1 trillion invested in 2022–2025 into network and data upgrades, including 5G[3]
  - competition from digital-native players (OTT platforms, fintechs etc.)

Professionalizing AI governance: major local telco operators have set up formal data governance units, and several have appointed Chief Data/AI Officers for executive-level buy-in (e.g., Kazakhtelecom, Beeline, Tele2)

Sources: 1. State of AI in Telecommunications: 2025 Trends, NVIDIA | 2. Ministry of AI and Digital Development of Kazakhstan | RISE Research analysis

Telcos evolve beyond core automation to higher-margin AI business models



Source: RISE Research analysis

Kazakhtelecom operationalizes AI across the full telecom value chain

The largest telecommunications operator in Kazakhstan (serving over **10M** mobile and broadband users through its subsidiary), has been implementing AI systems since **2021**

Kazakhtelecom's AI use cases

Network optimization	AI systems monitor network and client equipment, e.g. routers automatically adjusting usage parameters (like Wi-Fi frequency) to ensure stable quality for home users
Predictive maintenance	Algorithms monitor state of equipment, estimate failure risks and automatically call for replacement or servicing
Capacity forecasting	AI models predict network load and guide upgrades before issues arise
Tariff optimization	Reviewing tariffs and eliminating low-demand services
Customer behavior modeling	Next Best Offer system builds user profiles and recommends optimal products, improving conversion rate
Fraud detection	Algorithms detect business accounts disguising as individuals to use consumer tariffs
Voice assistants	Customer support bots handle routine queries
Operator assistants	AI copilots listen to client requests and provide on-screen answer suggestions to live agents

Source: RISE Research analysis based on public data and presentations by Kazakhtelecom representatives

AI Factory enables Kazakhtelecom to transform its computing infrastructure into a full-cycle commercial AI platform

As an official NVIDIA partner, Kazakhtelecom built **Central Asia's first commercial AI Factory (AI-Farabium)**, combining sovereign compute, national data-center capacity, and the NVIDIA software stack to support the **full AI lifecycle** - training, inference, continuous improvement.

The AI Factory targets cross-sector use cases of the **Samruk-Kazyna group** for industrial applications and wider corporate sector. Testing by some banks started in early autumn 2025.

AI-Farabium (103rd in the TOP500) provides on-demand NVIDIA H200 compute, secure connectivity, custom virtual data centers, local data processing, hybrid/multi-cloud support, and seamless integration with existing services.

Source: RISE Research analysis
Note: Samruk-Kazyna - Kazakhstan's state-owned sovereign holding managing major national assets (energy, transport, mining, telco, and infrastructure)

Application example

SKAI: AI agent ecosystem of Samruk-Kazyna

Kazakhtelecom is implementing the SKAI project—an initiative of the Samruk-Kazyna Fund. Within its framework, 25 AI agents are being deployed to automate key functions: from finance and HR to legal and strategy. A portion of these agents is already accelerating analytics and reporting, thereby reducing the workload on personnel. The remaining agents are being tested for use in scenario modeling and risk analysis.

Kazakhtelecom serves as the entity responsible for the project's implementation and as a platform for scaling corporate AI solutions across the Samruk-Kazyna Fund.

Beeline and QazCode drive AI innovation through in-house R&D and local LLM

In 2023, Beeline Kazakhstan established its dedicated IT and AI company - QazCode - which now serves as the group's digital and AI development hub.

QazCode is rapidly scaling AI across its products and operations, with three core focus areas:

- **Localized large language models (LLMs)** adapted to Kazakh linguistic and cultural context
- **AI-driven personalization** for entertainment and communication services
- **RAG platforms and AI agents** that automate customer service, financial workflows, and legal processes.

AI development at Beeline is led by **QazCode**, its in-house **R&D** hub with 750 specialists and a portfolio of 60+ digital and AI products.

QazCode's **three-year vision** focuses on advancing localized LLMs which consistently outperform generic Western LLMs on Kazakh-specific and region-specific tasks, scaling and developing the Agentic AI platform, building sector-specific AI agents and assistants, and expanding AI adoption in high-impact sectors such as education and healthcare.

AI solutions

B2C AI solutions

- **AI Tutor** – intelligent Kazakh-language learning assistant (MAU - 15K) in Beeline's Janymda super-app (MAU - 4.7M)
- **AIDA** – AI healthcare assistant for symptom checking and patient triage (pilot in 2025)

B2B and internal AI solutions

- **Aventa Platform** – corporate RAG platform for building private AI agents (first corporate GenAI platform in Central Asia with 6k users, 300+ personal AI agents created in 3.5 months)
- **Mentra** – AI learning assistant in Beeline Academy for personalized employee training
- **KurultAI** – agentic AI system for automating workflows related to Board of Directors meeting protocols

Source: QazCode data as of Dec 2025, RISE Research analysis

Beeline and QazCode case of KazLLM development

In 2024, Beeline Kazakhstan and its in-house R&D center QazCode participated in developing KazLLM, the **first Kazakh large language model.**

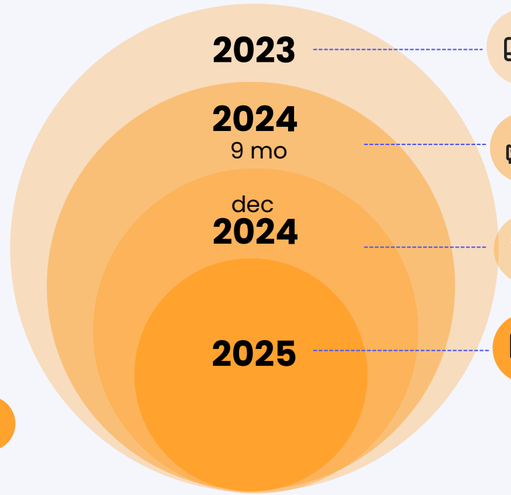
Partners - Ministry of AI and Digital Development, ISSAI NU (Nazarbayev University), Astana Hub, NITEC, as well as GSMA and the AINA Alliance (leveraging experience in building the Catalan LLM).

KazLLM was trained on **150B tokens** in four languages (Kazakh, Russian, English, Turkish). KazLLM was built using PyTorch, Torchtune, and the team's experience adapting open-source LLMs for underrepresented languages. Training took 50 days of uninterrupted compute.

QazCode Support

- Provided **core compute infrastructure**, including 8 NVIDIA DGX H100 servers, accelerating LLM training
- Provided access to the **expertise of the largest AI engineering team** in Kazakhstan (150 Big Data & AI specialists, incl. 50 ML/DL engineers)
- Delivered the **dataset foundation**, evolving from 2B tokens to the final 150B-token multilingual corpus
- Ensured **secure, sovereign data processing**, with all training and inference kept inside Kazakhstan.

Roadmap



- **2023** — R&D — creation of 2B-token dataset and first prototype
- **2024** (9 mo) — Model development and training
- **dec 2024** — National launch and presentation to Head of State
- **2025** — Integration into digital and enterprise platforms

Results and impact

- KazLLM is successfully deployed in Beeline's AI solutions (AI Tutor, Aventa, Mentra and other)
- The project improves Kazakh-language accessibility, and supports national localization efforts

Source: QazCode data as of Dec 2025, RISE Research analysis
Note: Open-Source model is available on Hugging Face | ML - Machine Learning | DL - Deep Learning

Transtelecom's AI journey: from infrastructure provider to AI applications developer

Transtelecom (TTC) develops technology solutions that support Kazakhstan's digital economy, with AI as one of its core **strategic pillars**.

In its AI strategy, Transtelecom positions itself as an **AI infrastructure provider** (data centers, cloud, GPU-as-a-Service), a **developer of B2B/B2G AI solutions** (Aspan.PRO ecosystem), and an active internal user of AI to improve HR, logistics, customer service, network forecasting, and churn prevention.

In October 2025 Transtelecom R&D team presented its innovative **Aspan.PRO ecosystem** – a suite of modular AI services for businesses designed to accelerate workflows and eliminate routine tasks.

The company's **3-Year AI Vision (2025–2028):**

- **2025–2026:** Complete pilots (CVscanAI, OmniAI), strengthen cloud infrastructure, and launch MVPs for corporate clients
- **2026–2027:** Commercialize Aspan.PRO solutions and develop specialized TTC LLMs for industry use cases
- **2027–2028:** Expand GPU clusters and support startups and researchers through access to TTC's national infrastructure

Transtelecom's AI use cases and focus areas

AI infrastructure	Data centers and national backbone network powering cloud services for internal and external AI projects
Applied AI Solutions Platform (Aspan.PRO) – ecosystem of SaaS products	OmniAI – omnichannel sales assistant CVscanAI – intelligent CV screening FinDesk – financial analytics and forecasting Copilot Meeting – automated meeting minutes
AI in operations	Machine learning for network load prediction, performance analytics, and logistics optimization.
Talent development	In-house data science teams and partnerships with Astana Hub, Track Academy, and universities

Source: Transtelecom data, RISE Research analysis
Note: MVP - Minimum Viable Product

Transtelecom case of CVscanAI development

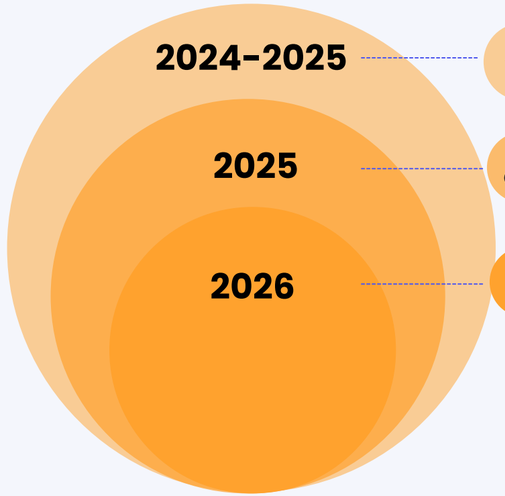
in 2024-2025 Transtelecom developed the CVScanAI, an intelligent AI recruitment tool that help businesses **automatically analyze resumes** and select best candidates.

Goal is to reduce manual workload in early-stage screening, improve candidate–job match quality, and accelerate the hiring cycle.

CVscanAI uses an **NLP-based model** that analyzes resumes in Kazakh and Russian, extracts key skills, compares them with job descriptions, and generates a **scoring-based ranking**. The system integrates with TTC's internal HR platforms and supports bilingual processing.

Despite challenges such as data-processing requirements, inconsistent resume formats, and accuracy tuning, the pilot progressed due to available technical resources, bilingual data preparation, and coordinated work between HR and data teams.

Roadmap



- **2024–2025** — Pilot inside Transtelecom
- **2025** — Optimisation and accuracy refinement
- **2026** — Commercial launch via Aspan.PRO platform

Results and impact

- Screening time reduced by **50–70%**
- Match accuracy improved to **80–90%**
- Expected payback within **9–12 months**

Source: Transtelecom data, RISE Research analysis

Use Cases and Industry Applications

AI in Banking

AI in Telecom

AI in Public Services

Public sector becomes an active AI adopter, supported by high digitalization and specialized AI development platforms

GLOBAL TRENDS[1]

64%

of public organizations believe that AI has the potential to improve their organization's services

26%

deployed AI partially or fully

Globally, government AI adoption lags corporate sector due to stricter data privacy limits, unclear returns and AI talent deficit that slow experimentation

With **over 90%** of public services provided online through eGov portal and private sector apps, Kazakhstan now has **rich, structured, high-quality data** for AI analytics, prediction, personalization, and automation

Kazakhstan government agencies are **active AI adopters** due to:

- overall **high level of digitization** of public services
- access to standardized public **data lakes**, scalable **computing power, domestic LLMs** and specialized **AI development tools** provided via National AI Platform
- trusted data exchange with certified **private platforms**
- extensive **upskilling programs** for civil servants on AI solutions use and development

This **platform-centric** model empowers individual agencies to independently build and scale AI solutions by leveraging a unified infrastructure of shared data and tools

Sources: 1. "How can the transformative power of data and AI drive greater public value?", EY | RISE Research analysis

National AI Platform and cross-sector partnerships accelerate AI deployment in public services

Kazakhstan is adopting AI across the public sector through a hybrid model - **in-house** development by ministries plus **partnerships** with local AI startups, IT companies, and global tech providers. **15 AI agents** already piloted across key government workflows — with a national **target** to scale to **50+ AI agents** in the coming years

Focus areas of AI adoption in public services

AI virtual assistants and chatbots

Smart eligibility and benefits targeting

Document processing and process automation

AI-driven policy and planning

Sources: Ministry of AI and Digital Development of the Republic of Kazakhstan, NITEC, RISE Research analysis

Sample AI projects and pilots in Kazakhstan's public sector *(including PPP projects)*

- **eOtinish AI**
  automated citizen complaint processing
- **eGov AI**
  citizen service navigation assistant
- **Qazaq Law**
  legal document explanation assistant
- **Tax Helper**
  taxpayer support and form guidance
- **Exam assistant bot**
  helping applicants prepare for exams at top universities
- **AI Therapist**
  doctor visit transcription and preliminary diagnostics
- **Sergek AI Smart City Platform**
  one of the largest smart city systems in Central Asia, video analytics for traffic safety and law enforcement
- **Investigative Assistant**
  investigator of criminal cases by cross-referencing them with search, court, and other databases

RISE research | FREEDOM BANK

Public sector scales proven AI pilots into nationwide deployment

	Digital Family Card	eGov AI Virtual Assistant
Purpose	Establish a proactive mechanism for fair and targeted social support to vulnerable households	Simplify citizen interaction and cut call-center workload in eGov Mobile
Solution	Big-data system integrating cross-government datasets (Smart Data Ukimet) to identify vulnerable households from 100+ socio-economic indicators per family	AI chatbot using NLP and state databases to guide users through public-service processes
Impact	4.5+ million proactive services delivered without applications, 52,000 citizens improved well-being, 90,000 ineligible entries	Since launch, 297,000 users and 850,000 requests registered, faster response times, lower service load, and improved user experience
Partners	Ministry of Labor and Social Protection, UNDP, NITEC. Launched in 2022	Developed by NITEC (pilot since late 2024)

Sources: Ministry of AI and Digital Development of the Republic of Kazakhstan, NITEC, RISE Research analysis

07

Governance and Regulation

Kazakhstan is building its own innovation-enabling model of AI regulation

Regulatory Approaches to AI Governance (World Bank classification)

Approach	Essence	Pros	Cons	Examples
Industry Self-Governance	Voluntary codes and pledges by tech firms	Fast, flexible, encourages innovation	No enforcement, uneven adoption	US tech giants' voluntary AI safety commitments
Regulatory Sandboxes	Test zones under regulator supervision	Encourages innovation, shared learning	Limited scope, resource heavy	UK ICO sandbox, UAE RegLab, Singapore AI-sandbox
Soft Law	Non-binding principles, standards, guidance	Agile, low burden, cross-border friendly	Weak oversight, uncertain impact	Singapore, UK principles-based governance models
Hard Law	Binding AI-specific legislation	Legal clarity, accountability	Slower, risk of over-regulation	EU AI Act, China Interim Measures for GenAI

Kazakhstan follows a **blend of hard and soft law approaches in AI governance considering:**

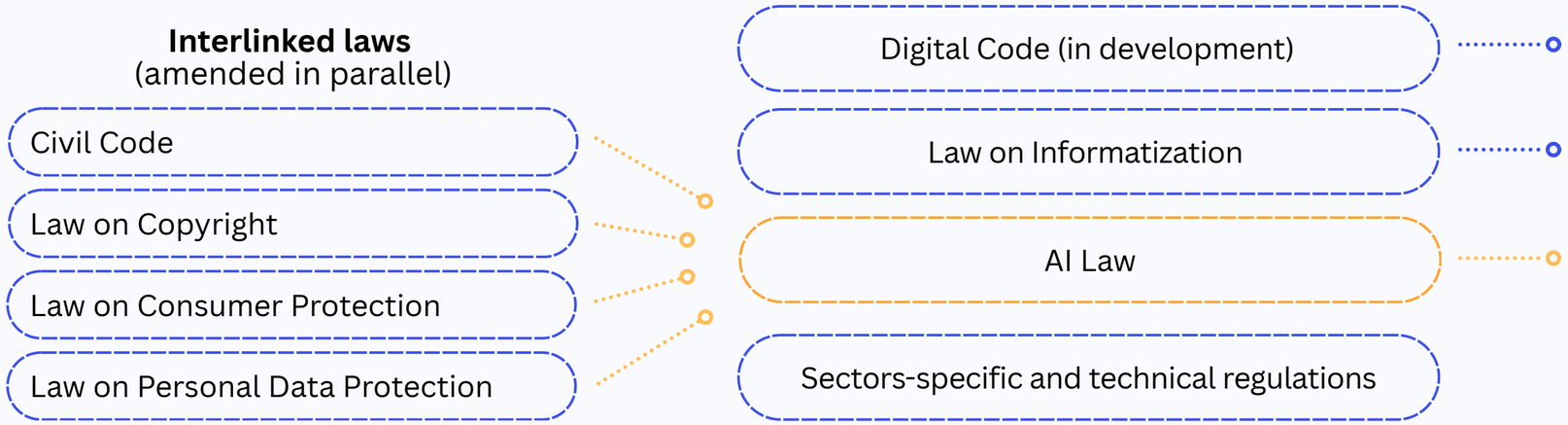
- international ethical guidelines (UNESCO, OECD)
- global best practices (EU AI Act, California AI Law, US AI Action Plan etc.)
- current level of AI maturity in Kazakhstan

Focus – to create a clear, predictable and **stimulating legal environment**, not to overregulate the nascent technology adoption

Source: Global Trends in AI Governance, World Bank | RISE Research analysis

AI regulation is integrated into the broader legal framework and reinforced by emerging sector-level self-regulation standards

Kazakhstan's AI Governance architecture



Finance | Healthcare | Education | Manufacturing | Transportation | Media | Smart cities | Retail etc.

Examples of sectoral frameworks and standards

- Interuniversity Standard on AI adoption (Ministry of Science and Higher Education)
- Reference Standard for Smart Cities (Ministry of AI and Digital Development)
- AI Education Concept for Secondary and Vocational Level (Ministry of Education)*

Examples of ethical and self-regulation guidelines

- Guidelines on AI in Academic Activities (Academic Integrity League of Kazakhstan)
- Guidance on Data Protection and AI in Astana International Financial Center

Source: RISE Research analysis
**The joint order of Ministry of Education and Ministry of AI and Digital Development of the Republic of Kazakhstan*

The country sets the regional precedent with AI Law defining clear ethical boundaries

Legality
AI activities must comply with the Constitution and national laws

Fairness & Equality
AI systems must uphold human dignity and avoid discrimination

Transparency & Explainability
Users must be informed about how AI systems work, their limitations, and the impact of automated decisions

Accountability & Oversight
Developers and owners must maintain human control throughout the AI lifecycle

Human-centric approach
Human life, rights, and free will remain the highest value in AI design and use

Data Protection and Privacy
AI must ensure secure and lawful use of personal data

Safety and Security
AI must be reliable, risk-managed, and prevent harm or misuse, including environmental impact considerations

Prohibited systems according to AI Law

- **Behavioral Manipulation**: harmful subliminal or manipulative techniques that impair decision-making
- **Vulnerability Exploitation**: misusing age, disability, social status, or other characteristics to cause harm
- **Social Scoring**: classifying individuals based on behavior or traits*
- **Privacy Violations**: illegal collection or processing of personal data
- **Biometric Profiling**: categorization by race, religion, or beliefs for discriminatory purposes
- **Emotion Recognition**: identifying an individual's emotional state without explicit consent*
- **Illegal Content**: generating or distributing AI outputs prohibited by the laws

Source: The Law of the Republic of Kazakhstan on Artificial Intelligence, adopted 17 Nov 2025
**unless otherwise provided for by the laws of the Republic of Kazakhstan*

AI Law introduces a three-stage AI classification system for proportionate regulation

AI system classification and regulation

By risk level

- Minimal risk
- Average risk

By level of human authority

- Low level of autonomy
- Average level of autonomy

Market self-regulation

By usage model

- Open
- Closed

- High risk

Potential for large-scale emergencies and critical damage to national security, infrastructure, and public safety

High-risk AI systems used for public data generation or within critical ICT infrastructure is regulated as state information systems for data security purposes

- Highly autonomous

Human intervention to modify or override AI decisions is either entirely precluded or technically unfeasible

Specific requirements for the development and operation of highly autonomous AI systems are established by the laws of the Republic of Kazakhstan

Regulation applies only to higher-risk systems

- Local

AI systems run entirely on the owner's infrastructure and isolated from public telecom networks.

Required for processing legally restricted or sensitive data

A Registry of Trusted High-Risk AI Systems is to be established. Inclusion is subject to a two-tier audit of data quality and the absence of prohibited functionality

Source: The Law of the Republic of Kazakhstan on Artificial Intelligence, RISE Research analysis

Key institutions in AI policy and ecosystem development

Ministry of Science and Higher Education

Sets AI-related innovation and R&D policy, oversees commercialization of AI through industry partnerships

Ministry of Artificial Intelligence and Digital Development

Leads national AI policy, regulation, and infrastructure programs (data platforms, AI clusters, public datasets)

Sectoral ministries and agencies

Define AI use cases, standards, and adoption roadmaps within their domains

Council for AI Development under the President of Kazakhstan

Provides strategic direction and ensures inter-agency coordination on national AI policy

NITEC (National Information Technologies)

National operator for eGov and public data infrastructure, operator of National AI Platform

Astana Hub

National innovation hub supporting AI startups through incubation, acceleration, R&D programs, and international scaling

Alem.ai International Center for Artificial Intelligence

AI talent development, AI startups acceleration, ecosystem collaboration, R&D support

Center for Digital Government Development

Digital transformation of the public sector, piloting AI services, methodological support for ministries

Source: RISE Research analysis

Comprised of leading international experts, Presidential Council on AI provides strategic direction for national AI policy, regulation, research and implementation

Kai-Fu Lee
CEO of Sinovation Ventures, 01.ai
AI visionary

Joi Ito
President of Chiba Institute of Technology
Crypto industry, AI, cybersecurity

Ya-Qin Zhang
Founder of the Institute of AI Industry Research at Tsinghua University
Crypto industry, AI, cybersecurity

Pradeep Khosla
Chancellor of the University of California, San Diego
AI in industry, electrical engineering

Alexander Khanin
Founder of Polynomial Group
Computer vision, AI startups

Nicolas Sadirac
CCo-founder of 01Edu and 01Talent
AI in education

John Hopcroft
Scientist in the theory of computing systems, Turing Award laureate
AI researcher

Richard Stirling
Co-founder and CEO of Oxford Insights
AI policy

Cynthia Breazeal
Director of the Personal Robots Group, at the MIT Media Lab
AI in education, robotics

Paul Kim
Former CTO and Associate Dean at Stanford Graduate School of Education
AI in education

Laura Tyson
Honorary Professor at the Graduate School, Haas School of Business, University of California, Berkeley
AI in economics

Merouane Debbah
Professor at Khalifa University of Science and Technology, Abu Dhabi
NLP, LLMs

Ebtisam Al Mazrouei
Chair of the Executive Board of the UN “AI for Good” initiative
Sustainable AI development, ethics

Peter Norvig
Research Director at Google, Research Fellow at Stanford University
AI researcher

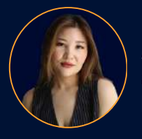
Omar Al Olama
UAE Minister of State for AI, Digital Economy, and Remote Work Applications
AI in government

Olaf J. Groth
Founder & CEO of Cambrian Futures, professor at UC Berkeley Haas School of Business
AI futurist

“The first meeting of the Presidential Council on AI was held in Astana within the Digital Bridge 2025 forum. The discussion focused on AI in education and human capital development.

President Tokayev emphasized the importance of talent development and highlighted the priority of establishing Kazakhstan’s first specialized AI research university as a center for science, innovation, and training highly qualified professionals for the digital economy.

The Council will convene on an annual basis, with the next meeting scheduled for the Spring 2026 to focus on AI as a driver of digital economic growth”.



Bakytzhamal Gabdrakhimova
Advisor to Chairman, Digital Assets and Breakthrough Tech Committee
MAIDD of Kazakhstan

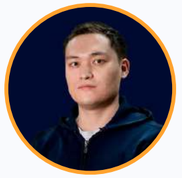
Source: Ministry of AI and Digital Development of Kazakhstan

08

AI Innovators to Watch

Higgsfield
GenAI video platform

> *Our entire product is built from our office in Kazakhstan. This is our core. We have the high bar, the elite performers, and the growing competence to show the world the caliber of talent here. We are not just building a company, we are building a global giant from Kazakhstan — **Erzat Dulat***



Founded year	**2023**
Stage	**Series A**
Total raised	**$69.6M**
Headcount	**70+**
Founders	**Alex Mashrabov, Erzat Dulat**

Traction & Key metrics:

- **12.7M** users (grown from 0 in 6 months)
- **$100M** annual recurring revenue
- **160M+** generations
- **700+** years of user creation time
- **1.6B+** total reach

Achievements, awards:

Recognized as **the first unicorn from Kazakhstan** and **fastest AI startup globally** to reach **$100M ARR** (annual recurring revenue)

Problem & solution: creative professionals are unable to easily generate high-quality, stylized content with specific, intentional camera work like crash zooms or dolly moves. Therefore, Higgsfield AI is built specifically for creative professionals, granting them unprecedented control over camera motion and enabling the production of high-quality, cinematic content in minutes, with full creative intent

Product & technology: GenAI video platform for generating stylized video content allows users to command advanced cinematic techniques that were previously impossible or very difficult in other AI video tools. It is fast, efficient, and built for professional creative workflows

Market & opportunity: Higgsfield believes the entire content landscape will be AI-generated and the product is targeted to creative professionals including music video directors, commercial filmmakers, AI creators, and social media storytellers

Development plans: scale to 10M paying users and 500 employees, expand internationally

Source: RISE Research analysis based on public data and presentations by Higgsfield representatives

Cerebra AI
All-in-one AI for non-contrast CT

> *I'm a strong believer in Kazakhstan's human capital. Our only real problem is that we often mistake the local "playground" for a real market. In reality, our domestic market is too small to matter globally. That's why any startup from Kazakhstan should be export-oriented from day one* — **Doszhan Zhussupov**

Founded year
2018

Stage
Seed

Total raised
$7M

Headcount
31 (R&D team - 21)

Founder
Doszhan Zhussupov

Traction & Key metrics:

- **55 clinical pilots** across 3 countries
- **6 hospitals** onboarded on a commercial basis
- R&D partnership with Ivy League Institution
- US clinical study underway
- **2 provisional patents** filed
- **3 medical device approvals** in Kazakhstan

Achievements & awards:

- The Best Digital Health at Health Unity (Stanford University, 2023)
- 1st place in Innov8 Startup Competition by Global Health Exhibition (2024)
- Artificial Intelligence Award, LEAP (2024)
- KAUST ScaleX Acceleration program in KSA (2025)
- Google for Startups Accelerator: AI First
- Mayo Clinic Platform_Accelerate program

Problem & solution: globally - and in the US - more than 90% of hospital emergency rooms are equipped with CT machines, while just around 13-15% have access to both CT and MRI. However, CT lacks the sensitivity and accuracy needed to detect many soft-tissue abnormalities. As a result, early treatment opportunities are often missed, leading to worse patient outcomes, increased strain on healthcare systems, and rising costs for payers, employers, and society as a whole. As the solution, CerebraAI is building software that makes CT machines as powerful as MRIs with special focus on emergency medicine

Product & technology: CerebraAI is building physics informed neural networks to analyze processes happening in the human body from single input - non-contrast CT scan. The first application of Cerebra's technology is detecting ischemic stroke

Market & opportunity: each year, over 90M CT scans are performed in the US. CerebraAI is building the AI software infrastructure layer for CT machines used in emergency settings. It empowers community hospitals to deliver safer and more effective therapies by enhancing the diagnostic precision of their existing CT hardware

Development plans: stroke suite, emergency package, oncology package

Source: Cerebra AI data, RISE Research analysis

Perceptis AI
AI-first Consulting OS

> *Kazakhstan's biggest potential lies in applied, domain-specific AI where strong technical talent meets industry expertise. The country can lead in vertical solutions across energy, logistics, banking, professional services, and other verticals where we have strong legacy. Leveraging our strengths allows us to create intelligent products that solve real business problems and compete globally — **Alibek Dostiyarov***

Founded year
2023

Stage
Seed

Total raised
$3.6M

Headcount
15

Founders
Alibek Dostiyarov, Yersultan Sapar

Traction & Key metrics:

- Clients report **70%** faster document creation
- **2-3x** more proposals sent
- up to **30x** ROI

Achievements, awards:

Featured in Business Insider, Forbes, The FutureList, Consulting.us, The Street, Yahoo Finance, Digital Business, TheTech Media KZ

Problem & solution: a 100-year old consulting industry relies heavily on manual processes. Perceptis solves the biggest inefficiencies in consulting — slow proposals, lost knowledge, and manual document work. Its AI-powered Consulting OS automates the entire workflow, from finding new opportunities to delivering client results

Product & technology: Perceptis is a purpose-built AI-first Consulting OS. Unlike generic GenAI tools, Perceptis provides much higher-level workflow automation, serves tailored models, knows how to use its customers' unstructured data, and minimizes content hallucinations

Market & opportunity: the global consulting market is projected to reach $1.6 trillion by 2035. Boutique mid-tier consultancies represent the fastest-growing segment. Perceptis empowers these firms with AI infrastructure to level the field, and allow smaller firms deliver results at a fraction of the cost and time

Development plans: in 2026 Perceptis will release its biggest product update: a self-serve solution that allows producing elite consulting-grade corporate documents

Source: Perceptis AI data, RISE Research analysis

Surfaice

AI operating system for retail construction and store development

> *Kazakhstan has a huge opportunity to leapfrog traditional digitalization. Many think AI works only with perfectly structured data — but in reality, AI agents can structure it themselves, helping industries modernize much faster. Our message is simple: don't be afraid to trust and pilot with AI. The faster we adopt these technologies, the sooner Kazakhstan can unlock its AI potential and lead innovation — **Alim Uderbekov***

Founded year	**2024**
Stage	**Seed**
Total raised	**$3M**
Headcount	**15**
Founders	**Alim Uderbekov, Genevieve Davis**

Traction & Key metrics:

We serve major US retail brands and contractors, as well as multibillion-dollar companies

Achievements, awards:

- Qualified to TechCrunch Startup Battlefield 200 through Road to Battlefield Eurasia
- Pilot agreement with the Government of Kazakhstan on building schools with AI (pitched directly to President Tokayev)
- Plug and Play Silicon Valley Summit (2025)
- Hosted AI Construction Event San Francisco TechWeek 2025
- Finalist Trimble SketchUp Challenge 2024

Problem & solution: retail expansion requires managing hundreds of store projects across disconnected tools, causing delays, cost overruns, and inconsistent quality. Our AI operating system automates store development - integrating data, executing cross-tool workflows, and proactively managing schedules, risks, and compliance

Product & technology: product is a digital employee for construction and store development teams. Surfaice is like ChatGPT trained to manage construction projects — built specifically to automate typical, structured retail build-outs end to end. Powered by the OLZAR multi-agent infrastructure, Surfaice goes beyond single-function SaaS. It operates as a digital employee, performing the duties of a construction PM to accelerate standardized projects

Market & opportunity: retail store development (~$309B), a mature, standardized segment ideal for scale. Broader focus - automating any repeatable construction projects (retail, schools, hospitals, data centers, warehouses, billboards)

Development plans: focus on signing more enterprise clients and scaling the platform. Make the AI agent more intelligent and capable of handling multiple tasks simultaneously across the construction lifecycle

Source: Surfaice data, RISE Research analysis

shai.pro

SHAI.PRO

Corporate no-code AI platform for business process automation

> *Kazakhstan has the talent and ambition to build globally competitive AI products. The biggest potential lies in solving regional challenges—multilingual, data-driven automation that scales from Central Asia to the world — **Alibek Polatov***

Founded year
2024

Stage
Series A

Total raised
$6M

Headcount
50+

Founders
Alibek Polatov, Dilshat Uteshev, Zhan Dushayev, Magzhan Ikram, Yerdaulet Absattar

Traction & Key metrics:

- **5+** major clients, including Galvani, Samruk-Kazyna, AVI Capital, and Elidi Securities
- Early-stage revenue with **3x** YoY growth (2024–2025) driven by B2B SaaS and custom enterprise solutions
- **1,000+** active users across client organizations
- Clients report up to **70%** faster task completion and **40%** productivity increase
- Our team include **50+** AI specialists from **6+** countries, operating as an AI lab

Achievements, awards:

- Rising Star in Shanghai Khan Tengri Hub 2025
- Rising Star SMM at Digital Bridge 2025

Problem & solution: organizations today lose time, knowledge, and money due to fragmented data access, inefficient communication, and loss of expertise. SHAI.PRO solves these problems by centralizing corporate knowledge, automating workflows, and ensuring process continuity through intelligent AI agents, allowing companies to increase productivity by 40%

Product & technology: departments can create and deploy AI agents without technical expertise. Selected features: integration of CRM, ERP, and BI systems; multilingual context understanding; enterprise-grade security with on-prem private cloud options

Market & opportunity: SHAI.PRO targets emerging regions of Central Asia, MENA, and Eastern Europe — where demand for AI-driven efficiency is accelerating

Development plans: 2026 - scale the multilingual platform and AI agent library, expand Europe & MENA partnerships. 2027 - introduce predictive analytics and enterprise features, secure Series B for global expansion. Vision - become the premier AI automation ecosystem for emerging markets

Source: SHAI.PRO data, RISE Research analysis

Altbridge
Your Bridge for Investment Excellence

> *AI is a massive disruption across all industries—huge opportunity for emerging markets. Kazakhstan founders aren't constrained by legacy processes. We build from scratch with AI-first thinking — **Nazym Azimbayev***

Founded year
2024

Stage
Pre-seed

Total raised
$800K

Headcount
7

Founders
Nazym Azimbayev, Andrey Kim

Traction & Key metrics:

$250K annual recurring revenue (ARR)

Achievements, awards:

Top Article: Ang, Azimbayev, Kim, Ospanov (2025). Lessons from Autonomous Driving for Investment Firms. SSRN

Problem & solution: traditional investment research is too slow for AI-driven markets. Deep research on one company takes days - you need coverage on hundreds. Apex is an AI research copilot that analyzes any stock in seconds, pulls 10-year financials automatically, verifies management claims, and generates publication-ready charts

Product & technology: three-tier autonomous investing platform, which includes research copilot, strategic autopilot, and full investment autonomy. Apex learns individual research styles and adapts automatically. Self-learning agents continuously improve from market outcomes. The product combines institutional-grade analysis with personal customization

Market & opportunity: solo analysts and small investment teams, hedge funds seeking research capacity expansion, asset managers needing broader coverage without headcount growth

Development plans: 2025 - beta launch L4 strategic autopilot, expand coverage to all US and China public companies (8,000+ stocks). 2026 - full L4 commercial launch and research L5 full autonomy capabilities

Source: Altbridge data, RISE Research analysis

Nozomio
Build context superintelligence

> *Kazakhstan's greatest opportunity lies in applying AI to automate traditional, manual industries and reimagine processes built 10–20 years ago, a transformation that could generate 10X enterprise value. To accelerate this shift, much stronger support mechanisms for young tech entrepreneurs are needed. Learning from US VC funding model can further strengthen the ecosystem* — **Arlan Rakhmetzhanov**

Founded year	**2025**
Stage	**Seed**
Total raised	**$6.2M**
Headcount	**1**
Founder	**Arlan Rakhmetzhanov**

Traction & Key metrics:

- Used by **27%** of the Y Combinator S25 batch, **7%** of the X25 batch, **5%** of the **W25** batch
- More than **15M** documents pre-indexed, **>40 TB** of data queried, **1M** webpages indexed for personal use
- Improved coding agents by **30%**

Achievements, awards:

- YC-backed, youngest solo founder from the CIS region (one of the youngest in the history of YC), first solo founder from the CIS region
- First and the youngest Asian founder featured in the Wall Street Journal
- One of the hottest companies in the YC S25 batch

Problem & solution: the main bottleneck in AI-assisted coding is that AI often lacks a full understanding of the developer's entire project environment and context. Nia by Nozomio acts as a "long-term memory" and "expert research assistant" for existing AI coding agents. It provides AI tools with the deep understanding they need to generate accurate code without constant manual input about details

Product & technology: Nia is an MCP (Model Context Protocol) server that integrates with popular IDEs (VS Code, JetBrains) and AI agents (Cursor, Claude Code). It is a complementary infrastructure layer that makes all your existing AI tools smarter by solving the problem of lack of persistent and project-wide context

Market & opportunity: Gartner mentions that the market for AI developer tools is exploding, with predictions that 90% of enterprise engineers will use AI assistants by 2028. Nia provides essential context layer as the critical infrastructure for the future of AI-powered software development

Source: Nozomio data, RISE Research analysis
Note: IDE - Integrated Development Environment

GITEX AI Central Asia & Caucasus – the world's largest Tech & AI event expands to Central Asia

For over 45 years, GITEX has been the world's largest and most influential platform for technology and AI, connecting governments, enterprises, investors, and innovators at global scale. GITEX 2025 brought together 587,500+ visitors, 17,800+ exhibitors and participants from over 189 countries, generating more than $1B in innovation investments and reinforcing its role as a trusted catalyst for global digital transformation. Today, this global momentum expands into a new high-growth region.

Central Asia and the Caucasus are stepping into a new digital era. AI-driven transformation is accelerating across the region, led by Kazakhstan's investment in advanced digital infrastructure, including the national supercomputer at the Alem.Cloud National Supercomputing Centre. This landmark development strengthens sovereign AI capabilities and fuels large-scale innovation, as regional ICT spending is projected to surpass $2.28B by 2030.

Building on this momentum, **GITEX AI Central Asia & Caucasus** 2026 brings the power of the global GITEX network onto one unified regional platform. In 2026 the event will bring together 10,000+ technology leaders, 4,500 C-level executives and VPs, 600+ exhibitors, 300+ startups, and participants from 60+ countries. Powered by the Ministry of Artificial Intelligence and Digital Development of the Republic of Kazakhstan, the event acts as a regional accelerator, connecting governments, enterprises, investors, and startups with global technology leaders across AI, Cloud, Cybersecurity, Fintech, and Digital Government.

Rupert Adam
Commercial Director
GITEX AI Central Asia & Caucasus
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09

Key Takeaways

AI Foundations and Government Strategy

Kazakhstan has built strong foundations for AI scale-up. Two decades of national **digitalisation programs** (90% of public services online, 89% share of digital payments), near universal **mobile** and **broadband penetration**, and a young, **tech-savvy population** (median age 32) position the country for rapid adoption.

AI is seen a **strategic driver** of national growth and competitiveness targeting **0.5–2%** annual GDP uplift over the next decade. **“Generative Nation”** vision positions Kazakhstan not only as a user, but as a creator and exporter of AI technologies.

Government committed **$1B** of investments for ICT and AI development (infrastructure support, PPP projects, regulatory incentives, and human-capital development programs).

Growth opportunity: Kazakhstan is shifting **from digitalisation to an AI-focused agenda** with strong political support and solid digital foundations. The next step is to ensure that rising AI investments convert into **scaled adoption** and measurable **economic impact.**

Data and Infrastructure

Strong telecom infrastructure is a key enabler for national AI adoption. Kazakhstan targets **100% high-speed internet coverage by 2027**, with a specific focus on ensuring connectivity in rural and remote settlements.

To meet computational demands, the country plans to increase data center capacity fivefold. The launch of two major AI clusters - **Alem.Cloud** and **Al-Farabium** - has significantly boosted domestic GPU resources, creating a solid base for AI development.

The government has established the comprehensive foundational layers required to integrate **AI into public services**. To further supply this ecosystem with high-quality data, a **National Data Exchange** is being created to standardize data trading.

Growth opportunity: despite a relatively **mature data and infrastructure landscape**, future expansion—particularly domestic data-center and GPU capacity—will largely depend on the **modernization of the national energy sector**.

Human Capital and R&D

The country is rapidly scaling its AI talent pipeline through **38 dedicated AI programs across 30 universities**. These academic efforts are complemented by the launch of **Alem.ai** as an international AI center, positioning the country as a regional talent hub.

National literacy and training initiatives, such as **AI-Sana** and **AI Movement**, have reached mass audiences. These programs ensure a broad base of digital fluency alongside specialized professional training.

On the R&D front, the release of 3 Kazakh large language models — **KazLLM**, **Alem LLM**, and **SHERKALA**—secures digital independence and proves the competitiveness of local research.

Growth opportunity: AI-focused programs are emerging across many universities, yet **education quality remains uneven**. Only a **limited number of institutions** currently produce a consistent pipeline of high-caliber specialists.

Startup Ecosystem and VC Investments

Kazakhstan's AI startup ecosystem includes over **100 active projects** spanning sectors such as FinTech, MedTech, EdTech, Industry 4.0, among others. VC funding for AI startups surged more than **fivefold from 2023 to 2025**, exceeding $73M. In 2025, the ecosystem marked a key milestone with the emergence of its first AI unicorn - **Higgsfield**.

The country's VC infrastructure is advancing rapidly, with new local venture firms (GPs), nationwide accelerators, and a $1 billion fund-of-funds. As a result, total VC deal volume surpassed **$100M in 2025**.

Astana Hub plays a central role in supporting startup growth and international expansion. It's initiatives support the government's strategic goal of reaching **$5B in IT exports by 2029**.

Growth opportunities: while the conditions for **pre-seed** and **seed financing are well-established**, domestic capital for **later stages** (Series A and beyond) **remains scarce**, aside from isolated anecdotal cases.

Industry Adoption and Use Cases

Both private and public sector companies are moving from pilots to scaled AI deployment, led by **digital-native and data-rich industries** like banking, telecom, retail, and IT. Most use cases focus on customer service automation, personalization, marketing, risk analytics, and predictive analytics.

At the same time, the government prioritizes AI adoption in **strategic real-economy sectors** — mining and manufacturing, energy, agriculture, logistics — and in **socially important areas**, especially healthcare and education.

Kazakhstan's public sector is rapidly scaling AI via the **National AI Platform**, which currently hosts over **15 agents** across ministries, with plans to deploy 50+ production-grade agents in the coming years.

Growth opportunity: While adoption leaders are demonstrating initial returns, **broader corporate R&D remains in the early stages**. Widespread scaling is currently hindered by talent shortages, data quality issues, compute constraints and unclear ROI.

Governance and Regulation

A modern, **innovation-friendly** and **internationally aligned** AI governance framework is taking shape, drawing on OECD and UNESCO principles.

The specialised **AI Law** (Nov 2025) defines ethical principles, a risk-based classification of AI systems, prohibited practices, and risk-management obligations for AI owners. It will be supplemented by **sector-specific regulations**, emerging voluntary standards and ethical guidelines across key industries.

Governance is reinforced by new institutions. The **Ministry of AI and Digital Development**, led by a Deputy Prime Minister, centralises national AI oversight, while the **Presidential AI Council** — composed of international experts — guides the country's strategic direction in AI.

Growth opportunity: foundational, stimulating regulatory framework is in place, the next step is to further develop and formalize **enforcement and sandbox procedures**, ensuring an effective balance between innovation and oversight.

Kazakhstan's AI development: core strengths and critical challenges

Foundations

1. **Powerful government backing** through a dedicated AI Ministry, presidential-level coordination, and major investments in sovereign compute and AI skills
2. **Robust digital and data infrastructure**, including advanced eGov systems and a public commitment to open data
3. **High digital adoption**, with near-universal connectivity and digital payments penetration
4. **Young population** with strong math foundations and rising interest in engineering and ICT careers (21% of university graduates in 2025)
5. **Growing startup and IT ecosystem**, with total VC investments surpassing $100M in 2025, producing the first AI unicorn
6. **Relatively low-cost energy** supporting scaling of compute and data centers
7. **Supportive regulatory environment**, including the new AI Law, upcoming Digital Code, and AIFC's English-law jurisdiction
8. **Strategic geographic position,** enabling partnerships and talent flow from both Western and Eastern markets

Risks and challenges

1. Limited availability of **high-quality, labelled, sector-specific datasets** in Kazakh
2. Strict **data-localization rules** constraining businesses' ability to scale AI solutions
3. **Regional disparities** in connectivity, compute access, digital skills and education levels
4. **Constrained supply of experienced AI specialists** (ML engineers, data scientists, researchers), often necessitating the engagement of international expertise for advanced AI and deep-tech use cases
5. **Low R&D intensity** (<1% of GDP) and limited corporate R&D investment
6. Limited number of research centres operating at an international level and **modest academia-industry collaboration**
7. **Limited VC funding** available for the development of **late-stage startups** (Series A and beyond)
8. Growing **global competition** for talent, compute, and AI investment

Legal Disclaimer

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