Ministry
of Digital Transformation
of Ukraine

UKRAINIAN GLOBAL
INNOVATION STRATEGY

SECTORAL ANALYSIS OF AI AND INITIAL VISION OF AI DEVELOPMENT IN UKRAINE

UKRAINIAN GLOBAL INNOVATION STRATEGY 2030

CONTENTS

ABBREVIATIONS AND DEFINITIONS

KEY DEFINITIONS

STRATEGY	Ukrainian Global Innovation Strategy 2030
SMART-infrastructure	The field that combines digital technologies, sensors, automation and AI to create intelligent infrastructure management systems

ABBREVIATIONS

AGI	Artificial general intelligence
AI	Artificial Intelligence
API	Application Programming Interface
ASI	Artificial superintelligence
CoE	Center of Excellence
CRM	Customer Relationship Management
EU	European Union
EW	Electronic Warfare
EHWIS	Estonian Health and Welfare Information Systems Center
HEI	Higher education institution
IoT	Internet of Things
IP	Intellectual property
LLM	Large Language Model
NGO	Non-governmental organization
R&D	Research and development
SME	Small- and medium-sized companies
UAV	Unmanned aerial vehicle
VFX	Visual effects

ARTIFICIAL INTELLIGENCE IN UKRAINE

GIVEN ITS CURRENT EXPERIENCE AND DEVELOPMENT PLANS, UKRAINE IS WELL-POSITIONED TO PLAY A SIGNIFICANT ROLE IN THE GLOBAL AI SECTOR.

Ukraine holds significant potential in the global AI industry, thanks to its highly skilled professionals, advanced IT infrastructure, strong tech culture, and active international integration and cooperation in the AI sector.

UKRAINE'S FUTURE ROLE IN THE GLOBAL AI SECTOR

REGIONAL HUB FOR AI TESTING

With the development of AI infrastructure, such as the WINWIN AI Center of Excellence and Sandbox, Ukraine is poised to become a regional hub for testing AI solutions. This will provide European companies and governments with a real-world platform for validating and implementing AI technologies.

CENTER FOR AI IMPLEMENTATION IN THE KEY INDUSTRIES

With strong state support for strategic sectors such as DefenseTech, AgroTech, and MedTech, Ukraine has the potential to lead in implementing AI across key economic sectors. The growing number of AI startups and tech solutions is fueling innovation and enhancing Ukraine’s global competitiveness.

GLOBAL EXAMPLE OF AI INTEGRATION IN GOVTECH

The experience of establishing the WINWIN AI Center of Excellence and developing the Government BI system, which will promote the integration of AI solutions in the public administration sector, can make Ukraine a key player in digital governance.

THE BIRTHPLACE OF AI-STARTUPS

Ukrainian AI startups are already expanding internationally and deploying their solutions in multiple countries. Continued investment in AI education, talent development, and support for innovative businesses will help transform Ukraine into a global center for creating and scaling AI solutions.

UKRAINE HAS CERTAIN DEVELOPMENTS AND POTENTIAL IN AI, BUT IT NEEDS COMPREHENSIVE LEGAL REGULATION AND FUNDING FROM THE GOVERNMENT

STRENGTHS

- Open data - the level of open data in Ukraine is 97%, which creates opportunities for them to be used for AI training and development
- Education base - the number of educational institutions offering specialized AI programs has increased in Ukraine, which ensures the training of qualified personnel for the industry
- State support - the government approved the Concept of AI Development in Ukraine and the Action Plan for its implementation, which lay the groundwork for further development of the industry in Ukraine
- Position paper on Ukraine's approach to AI regulation developed and published
- WINWIN AI Center of Excellence is launched

WEAKNESSES

- Personnel outflow - low remuneration in education, limited incentives to attract and retain researchers leads to an increased outflow of specialists and talent through emigration
- Limited financing - state and venture funding remains insufficient to create a competitive AI ecosystem
- Insufficient coordination - lack of effective communication between researchers, business and government

OPPORTUNITIES

- Entering EU markets - creating a Sandbox[1] and testing in a controlled environment
- Financing - attracting state and venture capital funding for AI will strengthen the ecosystem and retain talents in Ukraine
- Joint research – activation of cooperation between HEIs, academic institutions and businesses will expand opportunities for AI solutions and innovations

THREATS

- Legal uncertainties - lack of a clear regulatory framework for AI may lead to conflicts with EU standards, which will complicate the entry of Ukrainian developments to the European market
- Global competition – strong AI development in the global market creates tough competition
- Balance between innovations and human rights – it is crucial to ensure protecting human rights and promoting innovation in a context of legal uncertainty

[1] Sandbox is a mechanism that allows companies to develop high-tech products under the supervision of the government

UPON COMPLETION OF THE TASKS SET, UKRAINE WILL BE ABLE TO ACHIEVE ITS STRATEGIC GOALS IN THE AI SECTOR

REGULATORY TASKS

- Implementation of the bottom-up approach to AI regulation outlined in the White Paper on Regulation
- Hold competitions based on open government data to attract stakeholders to cooperate with the government
- Implement a gradual transition to the standards provided for by EU legislation to harmonize Ukrainian legislation with EU norms

ECONOMIC TASKS

- Facilitate partnerships between HEI, research institutions and businesses to implement joint R&D projects in the field of AI
- To support the project for the development of the Ukrainian language corpus, a structured database of texts used for linguistic, scientific and applied research
- Integrate data into GovTech AI solutions and open data initiatives, and develop and implement AI and algorithms free of gender bias and stereotypes

INFRASTRUCTURE TASKS

- Development and scaling of the WINWIN AI CoE activities. Cooperation with BigTech and development of the local AI infrastructure
- Creating favorable conditions for the development of innovative technologies using AI technologies in priority sectors of the economy
- Launch Sandbox for testing high-tech products for compliance with national legislation and the EU AI Regulation to facilitate their entry into the EU market

1

SECTORAL DIRECTION ANALYSIS: ARTIFICIAL INTELLIGENCE (AI)

1.1

GLOBAL AI SECTOR OVERVIEW

THE POPULARITY OF AI IN THE WORLD IS GROWING EVERY YEAR, IN THE FUTURE IT WILL BECOME INDISPENSABLE IN ALL SECTORS OF THE ECONOMY

AI is a general-purpose technology built on a set of techniques, such as machine learning, deep learning, and neural networks, that aim to replicate or extend human cognitive functions such as reasoning, perception, memory, and learning. The introduction of AI is now evident in almost every sector of the economy. Organizations are implementing AI to reduce costs, increase efficiency, and provide new opportunities. In addition, AI is enabling other new technologies (e.g., autonomous vehicles, robotics)

CURRENT STATE OF THE INDUSTRY

Currently, AI is used in such areas as state and local governance, information security and cybersecurity, SMART infrastructure, business processes and systems, manufacturing, energy, trade, banking, transportation and logistics, telecom, medicine, education, science, culture, and sports

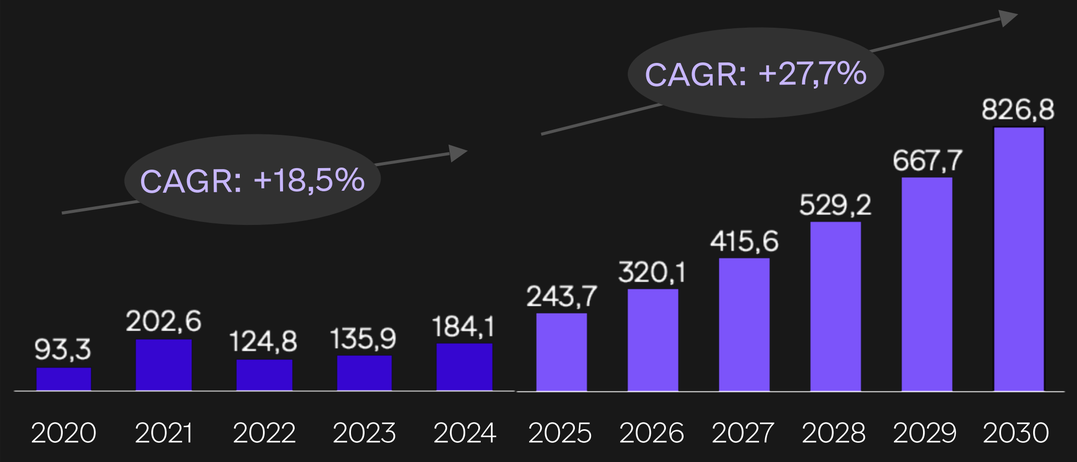
The global AI industry has experienced a significant upswing during the COVID-19 pandemic, as digitization has increased dramatically. Although private investment declined slightly in 2022, there was a revival in 2023 due to generative AI innovations. In 2024, the AI market reached approximately $200 billion

There is a high concentration of the market at several levels, including the development of basic models and even hardware development. Large players are seeking vertical integration (e.g., Nvidia). However, most of the value is expected to be created at the application level

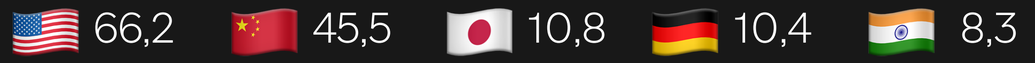
FUTURE DEVELOPMENT OF THE INDUSTRY

The global AI market is projected to grow at a CAGR of 30-35%, reaching $1.8 trillion by 2030. The US is expected to retain the largest market share (27.2% of the global market), followed by China and the EU. Growth is being driven by widespread industrial use, deployment in large enterprises, and an increase in consumer use cases

AI MARKET SIZE, IN USD BLN



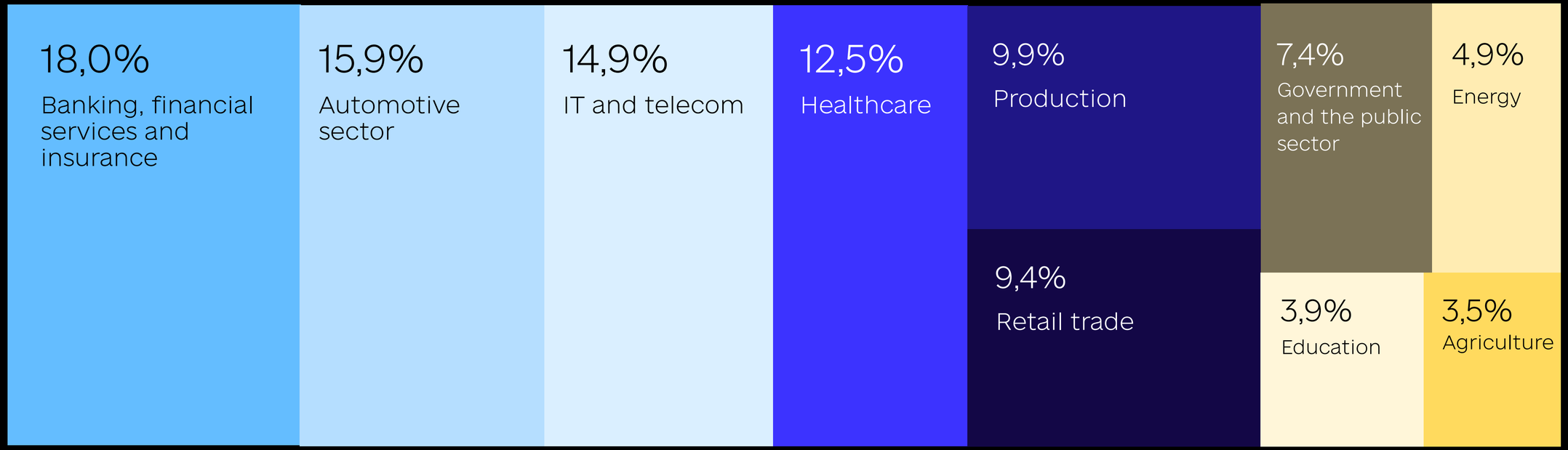
TOP 5 COUNTRIES BY AI MARKET SIZE IN 2025, IN USD BLN



MOST INDUSTRIES IN THE WORLD ARE ALREADY IMPLEMENTING ARTIFICIAL INTELLIGENCE TO IMPROVE THEIR OPERATIONS

AI has become the foundation of digital transformation. It improves operations, facilitates automation, creates new products and services, and helps make real-time decisions. In finance, manufacturing, healthcare, retail, and logistics, AI has become a key tool

SIZE OF THE GLOBAL AI MARKET BY INDUSTRY IN 2022



EVERY YEAR, NEW TRENDS EMERGE IN AI SECTOR DUE TO THE RAPID ADVANCEMENT OF TECHNOLOGY AND THE EVOLVING NEEDS OF HUMANITY

KEY TRENDS IN THE GLOBAL AI MARKET

IMPLEMENTING AI AS A SERVICE AI-AS-A-SERVICE (AIAAS)

AI as a service is rapidly evolving under the leadership of AWS, Microsoft Azure, and Google Cloud, enabling companies to deploy AI capabilities without significant infrastructure investments

ARTIFICIAL INTELLIGENCE AND THE INTERNET OF THINGS (IOT)

The combination of AI and IoT enables devices to process data and make decisions in real time, significantly improving automation and efficiency in industries such as manufacturing, agriculture, and energy

ARTIFICIAL INTELLIGENCE IN HEALTHCARE

AI systems are increasingly used for diagnostics, patient monitoring, drug discovery, and personalized treatment planning. Algorithms are able to process large amounts of data, reducing the time required to make informed medical decisions and improving them

OPEN-SOURCE AI

The AI community is witnessing a growing movement toward open-source AI models. Organizations such as Meta's Llama and contributions from organizations such as Hugging Face are promoting transparency and collaborative innovation in AI development, with many of the most advanced underlying models and tools being offered as open source tools

GROWTH OF THE EDGE AI

Edge AI involves deploying algorithms directly on devices (smartphones, IoT devices) instead of using remote services. This reduces data transmission delays, increases privacy, and makes efficient use of resources

ETHICAL AND RESPONSIBLE AI

As AI technologies develop, the issues of ethical and responsible AI, as well as algorithm transparency, are becoming increasingly important. Key challenges include eliminating bias in AI models, ensuring transparency in decision-making, and protecting personal data

ARTIFICIAL INTELLIGENCE IN CYBERSECURITY

With the growing number of cyber threats, companies are increasingly turning to AI to protect their digital infrastructure. Key functions include detecting anomalies in user behavior, automated monitoring of network traffic, and preventing and responding to attacks in real time

INDUSTRY DEVELOPMENT

The AI research landscape has undergone a significant shift, with industry leading the way in developing large-scale machine learning models. In 2023, the industry created 51 models, while academia created 15. This trend emphasizes the significant resources and computing power that private companies can leverage, surpassing many academic institutions

AI TECHNOLOGIES CAN HELP HUMANS IN VARIOUS PROCESSES AND EVEN PARTIALLY OR COMPLETELY REPLACE THEM

KEY TYPES OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES

MACHINE LEARNING

The field of AI related to the development and study of statistical algorithms that can learn from data and use invisible data (data that was not used by the model for testing, but will be interpreted and used for learning when it appears) and perform tasks without explicit instructions

DEEP LEARNING

A type of machine learning that teaches a computer to perform tasks similar to humans (recognize speech, identify images, make predictions, etc.). Deep learning teaches a computer to learn on its own by recognizing patterns through many levels of processing

GENERATIVE AI

A method that allows computers to transform patterns of input data to generate new output content. Includes unsupervised or semi-supervised ML algorithms, whereby computers use text, audio, and video files to create original items

NATURAL LANGUAGE PROCESSING

An AI component that allows computers to understand voice and written text. It is a component of many modern digital and virtual assistants, chatbots, and spam detection systems. It is used to analyze moods and emotions

AUTONOMOUS AGENTS

AI systems that can plan, make decisions, and act autonomously to perform complex tasks. They are increasingly being used to automate and improve enterprise productivity

COMPUTER VISION

The field of artificial intelligence that teaches computers to interpret and understand the visual world. Using digital images (photos, videos) and deep learning models, machines can identify objects and react to what they see

MULTIMODAL AI

AI systems that process and generate several types of data (e.g., text + image + video). The basis of the next generation of assistants

AI DEVELOPMENT IS GRADUALLY MOVING FROM HIGHLY SPECIALIZED SYSTEMS TO MORE COMPLEX, WITH MOST SOPHISTICATED BEING CURRENTLY IN THE R&D STAGE

KEY TYPES OF ARTIFICIAL INTELLIGENCE TECHNOLOGIES

REACTIVE MACHINES

They mimic the ability of the human mind to respond to different types of stimuli. Such machines do not have memory-based functionality. Examples of applications: Gaming applications, defect recognition in quality control, automatic baggage sorting, trading bots, fire safety systems, etc.

LIMITED MEMORY

Unlike reactive machines, AI systems with limited memory have the ability to learn from historical data, previous queries, and experience. Examples of applications include autopilots, robotic vacuum cleaners, computer assistants, and video platforms for content recommendations, etc.

THEORY OF MIND

Theory of mind AI is the next level of AI systems that researchers are currently working on. AI at the level of the theory of mind will be able to better understand the objects it works with by recognizing their needs, emotions, beliefs, and thought processes

SELF-AWARE AI

AI that will resemble the human brain and develop self-awareness. This type of AI will not only be able to understand and evoke emotions in those with whom it interacts, but will also have its own emotions, needs, and beliefs

ARTIFICIAL GENERAL INTELLIGENCE

AGI implies the ability of AI to understand and function fully like a human. These systems will be able to independently develop various competencies and form connections and generalizations in various fields, which will significantly reduce the time for training

ARTIFICIAL SUPERINTELLIGENCE

ASI, in addition to reproducing the multifaceted human intelligence, will have a much larger memory capacity, faster data processing and analysis, and the ability to make decisions

KEY PLAYERS IN THE GLOBAL AI MARKET ARE AMERICAN COMPANIES THAT OFFER A WIDE RANGE OF AI-BASED TECHNOLOGICAL SOLUTIONS

KEY PLAYERS IN THE GLOBAL AI MARKET

🇺🇸 OPENAI

The company that developed GPT-4, ChatGPT, and DALL-E. It dominates in basic AI models and API deployment, with deep integration into the Microsoft ecosystem

🇺🇸 ANTHROPIC

OpenAI's main competitor, with Amazon and Google as investors. Known for its Claude models. Focuses on AI security and enterprise readiness

🇺🇸 MICROSOFT

A strategic investor in OpenAI. Implements AI in Azure, Microsoft 365 (Copilot), and enterprise tools. A key player on the platform

🇺🇸 GOOGLE DEEPMIND / GOOGLE CLOUD

Leads the development of Gemini, Imagen, PaLM, and multimodal models. It is also a key provider of artificial intelligence infrastructure through Google Cloud

🇺🇸 AMAZON (AWS)

A large cloud provider offering AI services and models (Bedrock, Titan), as well as a strategic investor in Anthropic. The company actively provides AI services for enterprises

🇺🇸 META

Leader in open source AI (LLaMA 2, 3, 4), multimodal research, and AI infrastructure. Drives community-based innovation models

GLOBAL TECH COMPANIES ARE ACTIVELY INVESTING IN INTERNAL RESEARCH AND DEVELOPMENT OF NEW OR IMPROVED AI-BASED TECHNOLOGIES

KEY PLAYERS IN THE GLOBAL AI MARKET

🇺🇸 HUGGING FACE

A platform central to the open source AI ecosystem. Provides access to thousands of models, including open LLMs, with active adoption by communities and enterprises

🇨🇳 DEEPSEEK

Known for its high-performance models, especially DeepSeek. Attracts global attention due to its transparency and research quality. A key player in China's struggle for leadership in the LLM industry

🇺🇸 NVIDIA

Dominates AI computing (GPUs) and is becoming increasingly active in AI software, cloud services, and underlying infrastructure

🇫🇷 MISTRAL AI

A European leader in open LLM programs. Dynamic and strategically important company due to its positioning in the EU and open model philosophy

🇨🇳 BYTEDANCE

The parent company of TikTok, but also becoming a leading player in the AI industry in China with strong model development and consumer AI integration

🇨🇳 BAIDU

The most developed Chinese company is a developer of an artificial intelligence platform that manages a complete artificial intelligence ecosystem, including chips, cloud infrastructure, and application delivery. Baidu is the leader of China's state industrial strategy in the field of artificial intelligence

TECH COMPANIES HAVE BEEN INCREASINGLY LAUNCHING NEW PRODUCTS AND INITIATIVES TO MEET THE NEEDS OF PEOPLE AND BUSINESSES IN RECENT YEARS

🌀 CONSTANT UPDATES OF AI MODELS

All leading AI labs continue to release new fundamental models with improved multimodality and chain of reasoning. Deep research capabilities are now inherent in most fundamental models. Technical and cost parameters continue to improve significantly each year

🚀 AGENTS

Autonomous agents are developing rapidly. Google's Project Astra and Gemini-based Mariner now perform multi-step tasks in real time, while OpenAI's Operator automates web interactions. xAI's Grok-3 integrates DeepSearch and image editing for proactive support, and Anthropic's Claude models include interactive “computer use” features

Sector-specific/use case agents: Salesforce's Agentforce for business processes, medical agents (e.g., Oracle Clinical Digital Assistant), procurement agents (e.g., Pactum), and Fujitsu's Kozuchi for decision-making in a legal/profit context

TECH COMPANIES HAVE BEEN INCREASINGLY LAUNCHING NEW PRODUCTS AND INITIATIVES TO MEET THE NEEDS OF PEOPLE AND BUSINESSES IN RECENT YEARS

KEY AI INITIATIVES IN THE WORLD

MICROSOFT COPILOT TA GOOGLE GEMINI

Microsoft and Google have introduced artificial intelligence into their productivity tools by embedding their own models in their respective Office and Workspace programs. These tools use large language models to create content, automate routine tasks, and even act as personal assistants, marking a shift to software that adapts to each user's workflow

ALPHAFOLD3 BREAKTHROUGHS BY DEEPMIND

The latest update in DeepMind's AlphaFold series, AlphaFold3, has further improved protein folding prediction, in particular, by increasing the accuracy of modeling the interaction between proteins and nucleic acids. The leap in performance not only pushed the boundaries of computational biology, but also contributed to revolutionary scientific discoveries, including the Nobel Prize in Chemistry

PRIVACY-PRESERVING AI

Tools such as Microsoft Azure's confidential computing and Google's differentiated privacy in Vertex AI protect sensitive data during AI learning and inference, meeting the needs of enterprises and regulators. Federated learning and secure multi-party computing are becoming increasingly popular

CEREBRAS CS-3 TA WSE-3

Cerebras has introduced CS-3 system, which is powered by the next generation Wafer Scale Engine (WSE-3), containing 900,000 cores optimized for artificial intelligence. This development provides unprecedented performance for training large-scale AI models and was recognized as one of the best inventions of the year by leading publications

BLACKWELL AI CHIPS FROM NVIDIA

Nvidia continues to lead the way on the hardware front with its next-generation Blackwell AI chips. These chips, which are now in mass production, are powering AI data centers and generating record profits. Their breakthrough performance is key to rapidly scaling AI applications around the world

CREATIVE AI

Generative AI for the creative industries is being developed by tools such as OpenAI's Sora (video), ElevenLabs (voice synthesis), and Google's Imagen/Veo, leading to the creation of AI-based entertainment, advertising, and content. Virtual environments (e.g., video games) can also be generated by AI on the fly

DEEPSEEK'S DEEPSEEK-R1

DeepSeek made waves with the release of DeepSeek-R1, a high-performance reasoning model that achieved amazing results at a fraction of the usual training cost. Its launch even caused shock waves in the market, contributing to a dramatic change in investor sentiment

ENERGY-EFFICIENT HARDWARE/TRAINING

Nvidia's Blackwell and Cerebras' WSE-3 increase performance per watt, while AMD's Instinct MI300 series and algorithmic innovations (e.g., DeepSeek efficiency) reduce AI power consumption amid increasingly demanding data center requirements

SOVEREIGN AI (INCLUDING NATIONAL MODELS)

Countries are investing in national AI infrastructure and models, while many AI vendors are offering “sovereign” deployments (with increased local impact) or supporting the development of national AI models (e.g., through LLaMa)

TECH COMPANIES HAVE BEEN INCREASINGLY LAUNCHING NEW PRODUCTS AND INITIATIVES TO MEET THE NEEDS OF PEOPLE AND BUSINESSES IN RECENT YEARS

KEY AI INITIATIVES IN THE WORLD

BAIDU, INC.

Introduced its own AI chatbot called Ernie bot in English and Wenxin Yiyan in Chinese

OPENAI

Introduced GPT-4 as an API (with a waiting list) and as a ChatGPT Plus feature

BAIDU

Publicly unveiled its Ernie Bot language model, equivalent to ChatGPT

SALESFORCE

Has introduced a conversational assistant based on the Einstein AI platform, “Einstein Copilot Health Actions”, that helps to schedule appointments, issue referrals, and collect patient data

ORACLE CORPORATION

Has added advanced AI capabilities to its Oracle Fusion cloud suite to help customers simplify complex tasks, optimize processes, and increase productivity

AMAZON INDIA

Has introduced Rufus, a smart assistant based on generative AI. Rufus enables natural language interaction in the Amazon app, simplifying the process of asking questions about products, getting recommendations, and comparing products

GOVERNMENTS ARE INTRODUCING AI-BASED TECHNOLOGIES IN THE AREAS OF FINANCE, GOVERNANCE, HEALTHCARE, AGRICULTURE, AND OTHER SECTORS

EXAMPLES OF ARTIFICIAL INTELLIGENCE IMPLEMENTATIONS GLOBALLY

🇬🇧 UNITED KINGDOM

The Gov.UK chatbot is being tested with 15,000 participants, providing personalized answers to a range of business and tax-related questions.

🇸🇬 SINGAPORE

The Government Technology Agency of Singapore (GovTech) conducted a study of GitHub Copilot, which revealed a significant increase in productivity among developers. The findings demonstrate the significant potential of AI assistants to improve software development processes in the public sector

🇮🇳 INDIA

The Bharat GPT initiative is a collaboration between the public and private sectors, including IIT Bombay and Jio platforms, to develop multilingual AI models adapted to the many languages spoken in India. This project aims to support applications in the areas of government, healthcare, and education, potentially providing AI assistants to government officials to improve service delivery

🇺🇸 USA

A quarter of US government employees report using generative AI for work tasks. All major AI labs offer secure AI deployment for the public sector in the US market

🇮🇹 ITALY

The Italian National Institute for Social Security uses generative AI to simplify the language of letters sent to individuals and make information about the public sector more understandable

🇪🇪 ESTONIA

Estonia is implementing generative artificial intelligence in a wide range of applications, including procurement and the legislative process. The Estonian eHealth system uses AI for diagnostics, warnings about interaction risks, and personalized reminders for diabetes treatment

🇹🇼 TAIWAN

Taipei's adaptive traffic systems adjust signals in real time, and citywide artificial intelligence through video surveillance improves monitoring and safety.

🇦🇺 AUSTRALIA

The Smarter Initiative uses AI to monitor and clean up pollution in Sydney Harbor, and real-time AI surveillance is used at transport stations to ensure security

🇯🇵 JAPAN

Real-time seismic AI improves forecasting accuracy by more than 70% using sensor data and deep learning, saving lives in a seismically dangerous country

1.2

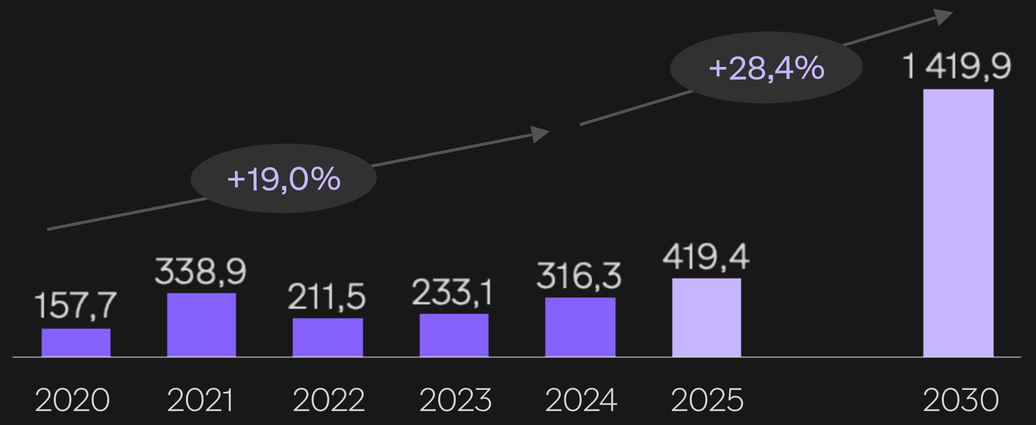
AI SECTOR DEVELOPMENT IN UKRAINE

UKRAINE IS RANKED 2ND AMONG EASTERN EUROPEAN COUNTRIES BY THE NUMBER OF AI COMPANIES, YET HAS A LOWER LEVEL OF FUNDING

AI is being integrated not only into business but also into public services, medicine, weapons and defense, educational products, etc. Since the beginning of the full-scale war, the number of startups implementing AI solutions in defense technologies has increased significantly

- In 2020-2024, 34 new AI companies were founded in Ukraine. By the total number of such companies, Ukraine ranks second among Eastern European countries. This is a high indicator that shows that the country is actively developing AI technologies
- In 2023, funding for Ukrainian AI startups increased by 35% compared to 2022
- Venture capital funds have been and remain the main source of investment in the AI industry. However, Ukraine ranks last among Central and Eastern European countries in terms of the number of investments attracted over the past three years, due to the full-scale invasion and registration of Ukrainian companies in the US and Europe

AI MARKET SIZE IN UKRAINE, IN USD MLN



EASTERN EUROPE LEADERS BY NUMBER OF AI COMPANIES IN 2024

301	243	154	121	109
Poland	Ukraine	Estonia	Czech Republic	Romania

UKRAINIAN COMPANIES ARE ACTIVELY CREATING AND USING AI SOLUTIONS AS WELL AS COOPERATING WITH GLOBAL COMPANIES IN THIS AREA

UKRAINIAN PLAYERS IN THE AI MARKET

ESTABLISHED COMPANIES

GRAMMARLY

Developer of AI-powered text writing assistance and grammar and spelling analysis software

YOUSCAN

Developer of an AI platform for detecting negative mentions of a brand on social media

PREPLY

Developer of a language learning platform that provides personalized recommendations for choosing a teacher using AI algorithms

RESPEECHER

Specializes on AI-based voice cloning. This technology is used by Disney, Sony, Universal, Netflix, and other movie industry players

MONOBANK

Ukrainian neobank using AI algorithms to analyse and make decisions on issuing loans to its customers

KRAY TECHNOLOGIES

Agricultural drone manufacturer integrating AI for autonomous operation

LUN

Developer of a real estate trading platform that launched its own AI-focused R&D lab, Flair Research, in 2024

3DLOOK

Developer of an AI application for scanning and visualizing the human body and then using the model in various industries

APPLICATION

- Education and training
- Trade and marketing
- Financial services
- IT and Telecom
- Healthcare
- Agriculture
- Defense sector

THE UKRAINIAN MARKET IS SATURATED WITH A LOT OF AI STARTUPS CREATING NEW SOLUTIONS AND PLATFORMS FOR VARIOUS INDUSTRIES

UKRAINIAN PLAYERS IN THE AI MARKET

STARTUPS

EVE.CALLS

Developer of AI-powered voice robots that can simulate live dialog in real time

ZIBRA.AI

Ukrainian tech company building AI-based solutions for 3D graphics, visual effects which are utilized in creative industries

ESPER BIONICS

Ukrainian developer of smart prosthetics that adapt to users' behavioral patterns through AI-powered mechanisms

SWARMER

Developer of autonomous AI solutions for swarm UAV control and operation

BAVOVNA.AI

Developer of AI navigation for dual-use UAVs operating without GPS and under electronic warfare conditions

AI.EDGE LABS

Automated AI platform for early detection and response to cyber threats

TAYRA.AI

AI platform for automated filling of medical reports during patient visits

FORECASTIO

AI-based platform for sales planning and performance analysis

APPLICATION

- Education and training
- Trade and marketing
- Financial services
- IT and Telecom
- Healthcare
- Agriculture
- Defense sector

UKRAINE IS ACTIVELY IMPLEMENTING AI TECHNOLOGIES IN VARIOUS SECTORS

EXAMPLES OF AI-BASED TECHNOLOGIES IN UKRAINE

WINCOURT

A court document analyzer that allows you to upload a lawsuit, appeal, and court decision and receive a document with detailed information and statistics on similar court decisions. You can also get a forecast of the outcome of the court decision, the applicable law, and a list of lawyers in similar cases

DOZORRO

A project of the NGO Transparency International Ukraine. The platform is equipped with AI and ML to detect risky public procurement in Prozorro. AI allows the Dozorro team to detect procurement violations much faster and to contact controllers and law enforcement agencies

DEEPGREEN UKRAINE

A forest monitoring service that uses open satellite images and data from the State Forestry Agency to detect illegal logging. AI analyzes satellite imagery to detect a decrease in forest cover and identifies the availability of logging permits in open government databases

UAVS WITH AI

Ukrainian company ZIR System has developed an AI-powered UAV system that helps the military automatically detect and target enemy positions. The use of AI makes the UAV resistant to enemy electronic warfare and enables more accurate and autonomous target identification on the battlefield.

1.3

STRENGTHS AND WEAKNESSES OF UKRAINE'S AI SECTOR

UKRAINE HAS A GROWING POOL OF AI PROFESSIONALS AND A CONSIDERABLE POPULARIZATION OF TRAINING AND GOVERNMENT SUPPORT FOR THE AI INDUSTRY

STRENGTHS OF UKRAINE IN THE DEVELOPMENT OF AI

THE GROWING NUMBER OF AI SPECIALISTS

The number of specialists in Ukraine capable of developing and implementing AI-based technologies has increased 5 times over the past decade, reaching 5,200 professionals as of January 2024

AVAILABILITY OF OPEN DATA

Ukraine has an open data availability rate of 97%, enabling its use for AI training and development in Ukraine

DEVELOPED ECOSYSTEM OF AI RESEARCH

As of January 2024, there are 31 artificial intelligence laboratories in Ukraine, including 6 from universities, which indicates a high level of interest in innovations in this area

STATE SUPPORT FOR AI

The Ministry of Digital Transformation has developed Ukraine's approach to regulation, initiated self-regulation of companies, held a number of educational events in cooperation with partners, and launched the WINWIN AI Center of Excellence

AI EDUCATION IN UKRAINE

As of 2023, 42 Ukrainian universities offer 106 specialized AI programs. Over the past five years, the number of AI programs has increased more than 2-fold

DEVELOPMENT OF AI IN DEFENSE SECTOR

Ukraine is one of the leaders in the development of new technological solutions in armaments. AI is already being implemented in unmanned systems that have been tested and used on the battlefield

INSUFFICIENT REGULATION, FUNDING, AND COLLABORATION IN THE AI SECTOR HINDER THE DEVELOPMENT AND ACTIVE IMPLEMENTATION OF AI SOLUTIONS IN UKRAINE

WEAKNESSES OF UKRAINE IN THE DEVELOPMENT OF AI

DEFICIT OF HIGH-QUALITY DATA

Large volumes of high-quality data are critical for AI development, but there is a shortage of data and difficulties in collecting it in the agricultural, medical, and military sectors, which slows down progress in these areas

CHANGING PRIORITIES OF STATE FUNDING

The full-scale invasion has led to the need for increased attention to defense and healthcare technologies, while the development of AI solutions in other sectors of the economy is less focused

INSUFFICIENT VENTURE CAPITAL FUNDING

Ukrainian startups are experiencing a lack of venture capital investment, which is the lowest in Ukraine among European countries, due to a weak regulatory environment to protect venture capitalists and economic instability

LACK OF AI INFRASTRUCTURE

Insufficient number of powerful servers and data centers for processing large data sets, as well as infrastructure for testing AI products and cooperation between market players

LOW LEVEL OF COOPERATION

The lack of cooperation between universities, businesses, and government agencies, as well as between AI solution developers and players in other sectors of the economy, hinders the development and implementation of AI in Ukraine

INSUFFICIENT LEGAL REGULATION AI

The absence of a clear AI regulatory framework that would define the certification of solutions, standards of ethical use, and the creation of non-discriminatory algorithms may complicate the entry of Ukrainian developments into the European market

1.4

BARRIERS AND OPPORTUNITIES TO BOOST AI TECHNOLOGIES DEVELOPMENT IN UKRAINE

THE WAR AND THE RISING NUMBER OF CYBERATTACKS, THE OUTFLOW OF QUALIFIED SPECIALISTS ARE HINDERING THE DEVELOPMENT OF THE AI SECTOR IN UKRAINE

BARRIERS TO THE DEVELOPMENT OF THE TECHNOLOGY SECTOR IN UKRAINE

COMPETITION IN THE GLOBAL AI MARKET

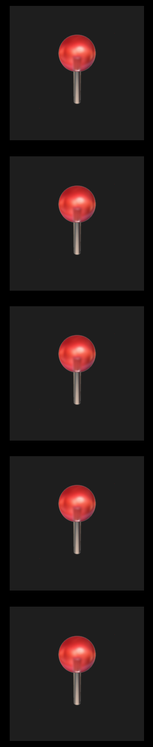
High competition in the AI market from American and Chinese companies makes it difficult to secure key positions. Only 3 Ukrainian companies are globally known and have an estimated value of more than $1 billion each

WAR AND CYBERSECURITY

War causes an unstable environment for long-term investments. Cyberattacks affect the performance of all sectors, especially in the field of digital technologies and AI. The main risks are the loss of data, which, among other things, is the basis for AI algorithms.

LOW AWARENESS AND FEAR OF AI

A significant number of businesses and organizations in Ukraine do not understand the prospects of AI or are apprehensive about implementing it due to potential risks. In addition, more educational campaigns should be implemented to raise awareness of AI among the public



OUTFLOW OF SPECIALISTS AND TALENTS

Significant emigration of skilled professionals and insufficient incentives to attract and retain bright scientists jeopardize further development and innovation.

OUTDATED EDUCATIONAL PROGRAMS

Poor quality training of graduates, which should be aimed not only at developing technical skills, but also at fostering critical thinking as well as communication and creative capacities, which are important for the modern AI labor market.

EDUCATIONAL PROGRAMS FOR TRAINING SPECIALISTS IN AI, AS WELL AS THE DEVELOPMENT OF INFRASTRUCTURE WILL BOOST AI TECHNOLOGIES IN UKRAINE

KEY OPPORTUNITIES TO ACCELERATE SECTOR DEVELOPMENT

01

EDUCATION DEVELOPMENT AND TALENT TRAINING

- Expansion of university and technical colleges' programs to ensure high-quality graduate training focused on critical thinking, communication, and creativity — key skills for the AI sector
- Development of educational programs initiated by businesses (IT companies) and research centers in the field of AI. Organizing courses and trainings on ML, data processing and other AI technologies to improve the skills of specialists
- Collaboration with international universities and R&D centers for knowledge exchange and joint educational programs

INCREASE IN STATE SUPPORT, REGULATION AND FUNDING

DEVELOPMENT OF INTERNATIONAL COOPERATION

02

INFRASTRUCTURE DEVELOPMENT

- Creation of innovation hubs, Sandboxes, technoparks, and incubators for startups to implement AI in healthcare, defense, agriculture, and other sectors
- Providing developers and research centers with computing resources and access to public and private data to develop and train AI algorithms
- Creating national platforms for analyzing large volumes of data using AI technologies and stimulating the Big Data development

ENHANCED INTERNATIONAL COOPERATION, GOVERNMENT SUPPORT AND FUNDING WILL CONTRIBUTE TO THE DEVELOPMENT OF THE AI SECTOR IN UKRAINE

KEY OPPORTUNITIES TO ACCELERATE SECTOR DEVELOPMENT

EDUCATION DEVELOPMENT AND TALENT TRAINING

- Implementation of a national strategy and action plan for the development of AI technologies in Ukraine. Backing startups, providing grants, tax and credit benefits for AI companies
- Development of transparent and enforceable legislation that will facilitate AI innovations and comply with EU standards. Development of state programs to introduce AI into the public sector

INFRASTRUCTURE DEVELOPMENT

- Enhancing international cooperation and participation in global initiatives, membership in international organizations involved in AI development
- Partnership with international tech companies and research centers to share experience. Integration of Ukrainian AI solutions into EU markets by creating a regulatory Sandbox in Ukraine and testing in a controlled environment

INCREASE IN STATE SUPPORT, REGULATION AND FUNDING

- Improving interaction with venture capital funds, international investors and donors to attract investment

DEVELOPMENT OF INTERNATIONAL COOPERATION

- Entering global markets for Ukrainian tech companies and promoting Ukrainian AI products and services on international markets, in particular, given the experience of using AI in military technologies

2

KEY PROJECTS: ARTIFICIAL INTELLIGENCE

ANALYTICS IN THE FIELD OF ARTIFICIAL INTELLIGENCE ENVISAGES 8 PRIORITY AREAS AND DEFINES 3 TOP PRIORITY PROJECTS FOR IMPLEMENTATION IN UKRAINE

PRIORITY AREAS

- APPLICATION OF AI IN THE DEFENSE SECTOR
- CYBERSECURITY
- INTEGRATING AI WITH MEDICAL TECHNOLOGIES
- AI FOR AGRICULTURE
- AI FOR ENVIRONMENTAL ANALYSIS AND PROTECTION
- EDUCATING AND TRAINING AI SPECIALISTS
- DEVELOPMENT OF THE UKRAINIAN LLM
- DEVELOPMENT OF GENERATIVE AI

TOP PROJECTS

WINWIN AI CENTER OF EXCELLENCE

GOVERNMENT BI

SANDBOX

2.1

TECHNOLOGY DEVELOPMENT PRIORITIES: ARTIFICIAL INTELLIGENCE

THE USE OF AI IN DEFENSE SYSTEMS AND CYBERSECURITY TOOLS WILL CONTRIBUTE TO THE IMPROVEMENT OF UKRAINE'S SECURITY SITUATION

TECHNOLOGY DEVELOPMENT PRIORITIES

01 APPLICATION OF AI IN THE DEFENSE SECTOR

DEVELOPMENT OF HIGH-TECH ARMS SYSTEMS, RECONNAISSANCE PLATFORMS, ROBOTS AND AI-ENABLED UAVS TO IMPROVE THE EFFICIENCY AND SECURITY OF MILITARY OPERATIONS

ADVANTAGES:

- The use of robots and UAVs reduces the need for physical presence in dangerous areas
- AI algorithms ensure enhanced data analysis, threat recognition and prediction
- AI can analyze large volumes of data in real time, ensuring accuracy and faster decision-making

KEY MEASURES

- Invest in research and development of a military AI system
- Develop infrastructure and establish data/data processing centers
- Train military specialists, develop training programs and international cooperation

02 CYBERSECURITY

LEVERAGING AI TO PREDICT, DETECT, AND FIGHT CYBER THREATS, ENSURING RELIABLE PROTECTION OF DATA, SYSTEMS, AND NETWORKS

ADVANTAGES:

- AI analyzes behavioral patterns and identifies potential risks before they materialize
- AI algorithms can detect and respond to cyber threats in real time without human intervention
- Machine learning allows systems to adapt to new threats based on the analysis of past attacks

KEY MEASURES

- Develop advanced AI algorithms focused on detecting and countering cyber threats
- Implement machine learning technologies capable of adapting to new types of attacks
- Strengthening of international coordination for sharing data on cyber threats across organizations and states

INTEGRATING AI INTO HEALTHCARE AND AGRICULTURE WILL BOOST THE EFFICIENCY OF KEY ECONOMIC SECTORS

TECHNOLOGY DEVELOPMENT PRIORITIES

03 INTEGRATING AI WITH MEDICAL TECHNOLOGIES

IMPLEMENTATION OF AI IN SYSTEMS AND PLATFORMS FOR MEDICAL DATA DIAGNOSTICS AND ANALYSIS, AS WELL AS IN MEDICAL DEVICES, SUCH AS SMART PROSTHESES WITH INTEGRATION INTO THE NERVOUS SYSTEM

ADVANTAGES

- AI can speed up diagnosis by analyzing medical images, laboratory tests, and other data with pinpoint accuracy
- Automation of routine tasks will increase the efficiency of the healthcare system
- Intelligent prostheses powered by AI can better imitate natural movements by responding to signals from the nervous system

KEY MEASURES:

- Identify priority areas of medicine and develop a legislative framework for the use of AI
- Set up R&D centers and provide financial support for medical systems and devices manufacturers
- Introduce AI technologies into medical practice and educate healthcare professionals

04 AI FOR AGRICULTURE

APPLICATION OF AI TO AUTOMATE, MONITOR, AND OPTIMIZE ALL STAGES OF AGRICULTURAL PRODUCTION, FROM SOWING TO HARVESTING, TO INCREASE PRODUCTIVITY AND ENSURE SUSTAINABLE DEVELOPMENT OF AGRICULTURE

ADVANTAGES

- Optimisation of the consumption of resources such as water, fertilisers, and energy due to accurate data analysis
- Increasing yields with monitoring, predicting and proactively informing interested parties the necessary agrotechnical measures
- Adapting to climate change by predicting weather conditions and the needs of agricultural plants

KEY MEASURES

- Create a strategy and programs to integrate AI into agriculture
- Finance research projects and support cooperation between agricultural universities, research centers and technology companies
- Prepare educational programs to improve the skills of applying and implementing AI in the agricultural sector

AI FOR ENVIRONMENTAL PROTECTION WILL IMPROVE THE COUNTRY'S SUSTAINABILITY, WHILE TRAINING OF AI SPECIALISTS WILL ENHANCE INNOVATIVE DEVELOPMENT

TECHNOLOGY DEVELOPMENT PRIORITIES

05 AI FOR ENVIRONMENTAL ANALYSIS AND PROTECTION

CREATION OF INTELLIGENT SYSTEMS FOR MONITORING, ANALYZING AND IMPROVING THE CONDITION OF THE ENVIRONMENT IN ORDER TO PRESERVE ECOSYSTEMS AND FOSTER SUSTAINABLE DEVELOPMENT

ADVANTAGES

- AI technologies help reduce environmental pollution by optimizing the use of resources
- AI drones monitor the state of forests and aquatic ecosystems which allows timely implementation of biodiversity protection measures
- AI algorithms can simulate future environmental scenarios, helping to avoid disasters

KEY MEASURES

- Create a strategy, and identify priority areas and key environmental issues for AI integration
- Provide financial support for, and attract investment in, R&D
- Drive environmental innovations and green energy based on AI

06 EDUCATING AND TRAINING AI SPECIALISTS

CREATION OF EFFECTIVE EDUCATION AND TRAINING PROGRAMS TO PREPARE AI SPECIALIST ALLOWS TO SECURE PERSONNEL FOR INNOVATIVE INDUSTRIES AND MAINTAIN GLOBAL COMPETITIVENESS

ADVANTAGES:

- Specialists training contributes to the creation of new scientific developments and to the advancement of the AI industry
- Providing the labor market with qualified specialists satisfies the growing demand for experts in AI
- Training programs help ensure equal access to knowledge, regardless of region

KEY MEASURES

- Develop cutting-edge educational courses that include basic and specialized knowledge of AI
- Partner with companies to adapt programs to market needs and provide jobs for students
- Support for universities, training centers, and online platforms to develop AI programs

DEVELOPMENT OF UKRAINIAN-LANGUAGE AI WILL ACCELERATE THE IMPLEMENTATION OF HIGH-TECH SOLUTIONS IN VARIOUS SECTORS OF THE UKRAINIAN ECONOMY

TECHNOLOGY DEVELOPMENT PRIORITIES

07 DEVELOPMENT OF UKRAINIAN LLM

CREATION OF A UKRAINIAN LLM FOR ACTIVE INTEGRATION OF AI INTO THE PUBLIC SECTOR, DEFENSE, EDUCATION AND BUSINESS TO SUPPORT THE UKRAINIAN LANGUAGE, CULTURE AND QUALITY SERVICE DELIVERY

ADVANTAGES

- **AI Quality.** A Ukrainian LLM will have a deeper understanding of the country's language, dialects, terms, and context, so it will provide more accurate, relevant, and culturally sensitive answers, especially on history, politics, and war
- **Cost.** The model will cost Ukrainian users 2.5-3 times cheaper than their English-language counterparts due to efficient tokenization and local hosting
- **Security.** The national model will ensure the storage and processing of data within the country, which is critical for the protection of personal data, defense and public infrastructure

KEY ACTIONS

- Formation of a large-scale corpus of Ukrainian-language data for training and model adaptation
- Building a secure local infrastructure for deployment and use of the model
- Conduct pre-training and fine-tuning based on proven open-source architectures

08 DEVELOPMENT OF GENERATIVE AI

CREATING GENERATIVE AI MODELS FOR GENERATING TEXTS, IMAGES, AUDIOS, AND VIDEOS TO AUTOMATE ROUTINE TASKS. ENHANCE CREATIVITY AND INNOVATION IMPLEMENTATION IN VARIOUS INDUSTRIES

ADVANTAGES

- Personalization products and services, which increases consumer confidence and engagement
- Generative AI allows to simulate new materials and products, strengthening the innovation capabilities of the business
- Automation of reporting, creating content, analytics, and other documents using generative AI can optimise business processes and operating expenses

KEY MEASURES

- Develop policies and standards to prevent the misuse of generative content
- International cooperation to share experience in the application of generative AI in various sectors of the economy
- Create hubs and clusters for producers of generative technologies

2.2

TOP PROJECTS: ARTIFICIAL INTELLIGENCE

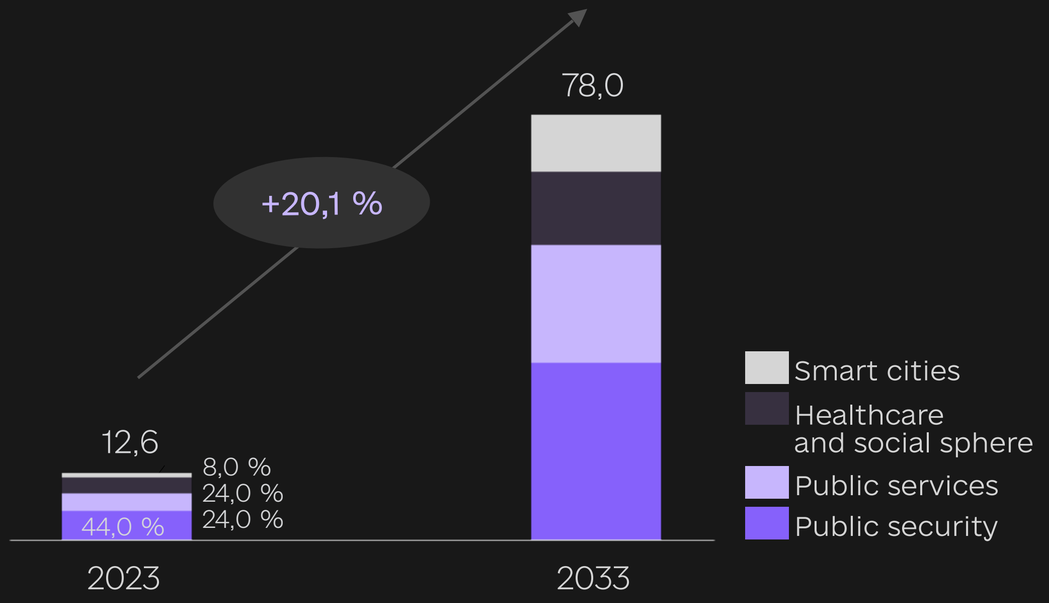
TOP PROJECT 1 — WINWIN AI CENTER OF EXCELLENCE

DEVELOPMENT OF AI CENTERS OF EXCELLENCE IN THE WORLD

2 / 3
of the world's companies

that managed to achieve advanced technological capabilities had centers of excellence in AI established in 2021

THE SIZE OF THE GLOBAL AI MARKET IN THE GOVTECH INDUSTRY, USD BILLION



Джерело: market.us/report/ai-in-government-market/table-of-content

- WINWIN AI Center of Excellence is a leading center for the development and integration of AI under the Ministry of Digital Transformation, driving transformation of the state, business, and society while strengthening Ukraine's competitiveness in the world.
- AI centres of excellence for the public sector enable collaboration between government and business to develop and implement solutions that improve the quality of public services and administration.
- SOME EXAMPLES FROM AROUND THE WORLD

🇺🇸 Global Services Administration AI CoE

🇶🇦 AI CoE for government initiative in Qatar

🧠 Development of unique AI solutions to address the challenges facing government agencies

🏢 An initiative aimed at opening a CoE that will find the best AI solutions for priority industries

TOP PROJECT 1 — WINWIN AI CENTER OF EXCELLENCE

GOVTECH AI GROWTH DRIVERS IN THE WORLD

A GROWING NUMBER OF AI STARTUPS AND COMPANIES

The growing number of startups and companies creating AI-based solutions necessitates the creation of centers to establish their interaction and exchange of experience

DEVELOPMENT OF DIGITAL SKILLS

Investments in personnel education and training facilitate adaptation to new technologies, including AI-based technologies, in both private and public sectors

GLOBAL GROWTH DRIVERS

GROWING DEMAND FOR DIGITAL PUBLIC SERVICES

Increasing demand from citizens for fast and convenient e-services is forcing governments to implement AI GovTech solutions to ensure speed and accessibility of services

GROWING INVESTOR INTEREST IN AI SOLUTIONS

AI solutions have been a key target of global investment in recent years, so the creation of centers of excellence helps accelerate the connection between investors and developers

TOP PROJECT 1 — WINWIN AI CENTER OF EXCELLENCE

DRIVERS AND CONSTRAINTS TO DEVELOPMENT IN UKRAINE

DRIVERS OF DEVELOPMENT IN UKRAINE

- Strong cooperation with global companies facilitates the integration of the international community into AI CoE
- A solid base of IT specialists capable of developing and implementing AI solutions within the CoEs
- Ukraine is a member of EU GovTech incubator Govtech4all, which will facilitate the sharing of experience within the AI CoE

CONSTRAINTS FOR RAPID DEVELOPMENT IN UKRAINE

👉 INSUFFICIENT FUNDING AND INVESTMENT

Limited public and private investments may hinder the implementation of developed AI solutions within the AI CoEs

👉 LACK OF UNIFORM STANDARDS

Lack of a clear regulatory framework for AI implementation in governmental structures complicates the monitoring of AI implementation in the public sector

👉 LOW LEVEL OF DIGITAL LITERACY AMONG PUBLIC SERVANTS

The lack of specialists with experience in implementing GovTech solutions may slow down the development of the AI CoE and its operational activity

👉 UNDERDEVELOPED IT INFRASTRUCTURE

The development of AI CoEs requires a strong base of IT infrastructure, such as servers, data centers, high-speed networks, etc., which are in short supply in Ukraine

TOP PROJECT 1 — WINWIN AI CENTER OF EXCELLENCE

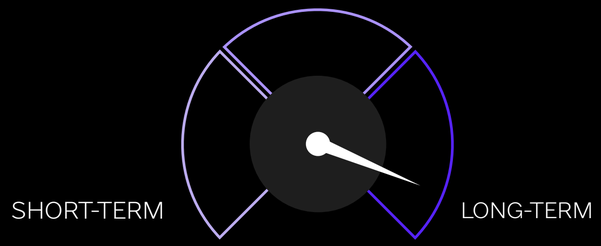
IMPLEMENTATION OF A TOP PROJECT IN UKRAINE

MAIN DIRECTIONS

- Development of AI products for the public sector and defense
- Development of a national Large Language Model
- Implementation of artificial intelligence in science
- Creation of educational opportunities for AI specialists and citizens
- Support for startups and small and medium enterprises in integration
- Cooperation with international technology companies (BigTech) and other digital governments

EXPECTED DURATION OF THE TOP PROJECT

Long-term



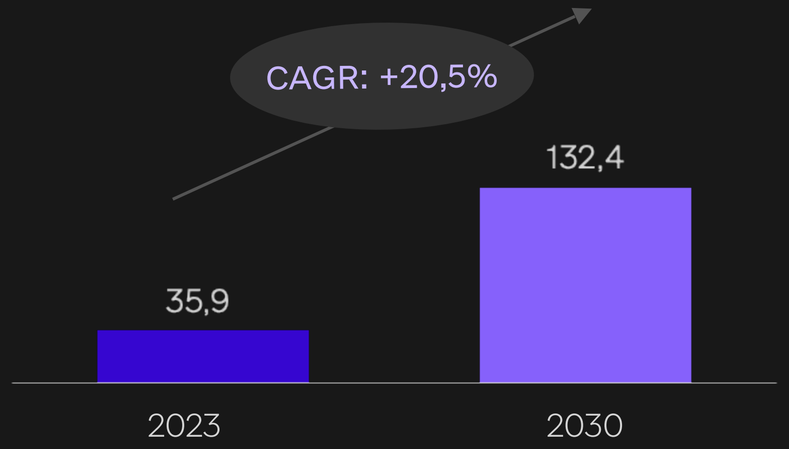
EXPECTED EFFECT

- ✓ **Improving public services:** Optimizing processes and reducing costs through innovation
- ✓ **Business development:** Supporting startups and companies in creating value-added products
- ✓ **Education and Human Resources:** Training of professionals capable of working in the field of AI. Ukrainians understand the possibilities of AI and effectively use it to improve their lives
- ✓ **Economic breakthrough:** AI is driving the economic miracle in Ukraine and is contributing to GDP growth
- ✓ **International cooperation and partnership:** Ukraine as a digital hub in Europe

TOP PROJECT 2 – GOVERNMENT BI

DEVELOPMENT OF THE GOVERNMENT BI SEGMENT IN THE WORLD

GLOBAL INTELLIGENT CONTROL MARKET, USD BILLION



Government BI is a system based on Big Data and AI for making informed management decisions. Such a system should become a vehicle for assessing the effectiveness and impact of management decisions.

LATEST TRENDS AND RESEARCH

- In 2023, the introduction of BI solutions with built-in AI allowed governments to automatically recognize trends in data, predict community needs, and plan resources.
- 78% of government agencies that have implemented BI platforms have noted an increase in public confidence due to access to open data and interactive reports.
- Thanks to the automation of data analysis, government agencies have reduced the time required to prepare reports by an average of 45%, which allowed them to focus on strategic management.

EXAMPLES OF GOVERNMENT BI USE IN THE WORLD

The U.S. government leverages BI to analyze data to help detect offenses and optimize budget spending

The UK government integrates BI to analyze open data, which facilitates evidence-based decision-making and increases the transparency of government activities

In Canada, the Government BI is implemented through an open data platform which increases the involvement of citizens in the decision-making process

TOP PROJECT 2 – GOVERNMENT BI

GOVTECH BI GROWTH DRIVERS IN THE WORLD

GLOBAL GROWTH DRIVERS

NEED FOR A RAPID RESPONSE TO CRISES

GovTech BI systems provide prompt data processing for decision-making in emergency situations, such as economic crisis, pandemic, armed conflicts, etc.

DEVELOPMENT OF DIGITAL SKILLS

Significant investments in education and training facilitate adaptation to new technologies in both the private and public sectors, encourage the creation of new innovative AI-based solutions, and enable effective Government BI

SIMPLIFYING INTERAGENCY COOPERATION

GovTech BI allows to integrate data from various government agencies to synchronize management and combine data across financial, educational, healthcare, and other agencies

INTEGRATION OF SMART CITY SOLUTIONS

GovTech BI is becoming a key component for analyzing and managing urban infrastructure as part of Smart City projects

TOP PROJECT 2 – GOVERNMENT BI

DRIVERS AND CONSTRAINTS TO DEVELOPMENT IN UKRAINE

DRIVERS OF DEVELOPMENT IN UKRAINE

- The large amount of data generated by government agencies creates a need for powerful analytical tools to process it
- Growing interest in smart city projects in Ukraine creates a need for GovTech BI to manage urban data
- The implementation of Diia has created a framework for the digitalization of public services, which can be expanded by integrating GovTech BI for big data collection

CONSTRAINTS TO DEVELOPMENT IN UKRAINE

👉 **LOW LEVEL OF DIGITAL LITERACY AMONG OFFICIALS**

A significant number of civil servants do not have sufficient skills in working with technologies, which complicates the implementation of BI solutions.

👉 **DISTRUST IN PERSONAL DATA PROCESSING**

Concerns of citizens and civil society organizations about data privacy may lead to resistance to the implementation of systems.

👉 **INSUFFICIENT NUMBER OF QUALIFIED PERSONNEL**

High rate of outflow of IT professionals abroad creates a shortage of experts for implementing BI projects.

👉 **HIGH COST OF INFRASTRUCTURE**

Setting up and maintaining the data centers required for GovTech BI require significant investments.

TOP PROJECT 2 – GOVERNMENT BI

IMPLEMENTATION OF A TOP PROJECT IN UKRAINE

REQUIRED MEASURES

DIGITAL TRAINING OF PERSONNEL

- Conduct training programs for civil servants on the use of BI tools
- Secure professional development for data processing, predictive analysis, and AI specialists

DIGITALIZE GOVERNMENT PROCESSES

- Digitalize all state registers, archives and documents
- Automate analytical processes such as forecasting, budgeting, and risk management

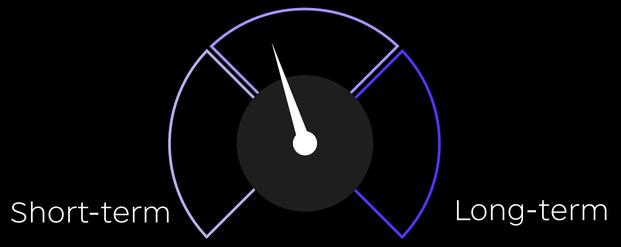
BUILDING THE NATIONAL BI INFRASTRUCTURE

- Implement a centralized BI platform that will combine data from all government agencies
- Leverage cloud technologies and AI to ensure uninterrupted access to and analysis of data

EXPECTED DURATION OF THE TOP PROJECT

Medium-term

3-5 YEARS



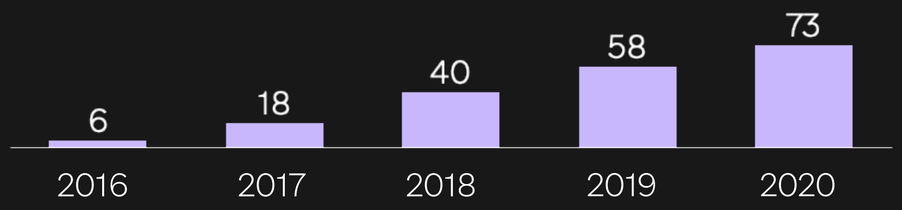
EXPECTED EFFECT

- ✓ Management decisions will be made in accordance with the key goals of the public administration entity aimed at achieving the mission and implementing the strategic focus of the agency
- ✓ Management decision-making will be based on objective data, which will minimize the influence of the “human factor”
- ✓ Management decisions will be comprehensive, providing a complete or long-term solution to the identified problems

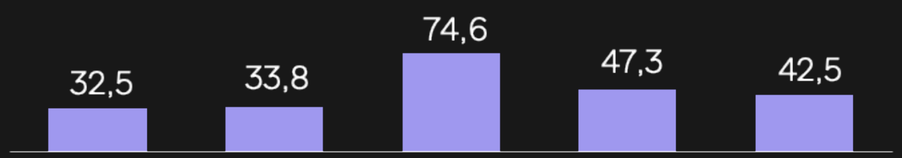
TOP PROJECT 3 — SANDBOX FOR AI AND BLOCKCHAIN STARTUPS

REGULATORY SANDBOXES AND STARTUPS SEGMENT IN THE WORLD

NUMBER OF REGULATORY SANDBOXES IN THE WORLD



GLOBAL FUNDING OF AI STARTUPS, USD BILLION



NUMBER OF AI STARTUPS IN 2013-2022

Sandbox is a controlled environment where AI companies can test innovative products under the supervision of regulators with a temporary relaxation of certain rules and requirements. The world's first regulatory sandbox was launched in 2015 in the UK. Many countries are actively working on the creation and implementation of AI sandboxes, including China, UK, EU countries

Sandboxes support innovative technologies, enabling companies to implement new developments faster in real-world environments without significant barriers to entry. This allows startups to access the market without excessive bureaucracy. Sandboxes create an opportunity for different countries and regions to cooperate in the area of development of AI. This allows for the formation of uniform standards and principles that can be adopted internationally, which in turn will contribute to the stable and safe development of the industry

IMPLEMENTATION OF GLOBAL SANDBOXES IN AI AS OF 2024

The Hong Kong Monetary Authority and the Digital Technology Center have launched sandbox Generative Artificial Intelligence for testing AI in banking operations

The Luxembourg data protection authority has launched a regulatory sandbox called Sandkëscht, which is focused on AI

TOP PROJECT 3 — SANDBOX FOR AI AND BLOCKCHAIN STARTUPS

DRIVERS OF SANDBOXES GROWTH IN THE WORLD

GLOBAL GROWTH DRIVERS

THE NEED FOR SECURE TESTING AND DEVELOPMENT OF AI SOLUTIONS

Sandboxes allow businesses to create, test, and enhance AI algorithms in a controlled environment without the risk of negative impact on real-world systems

REGULATORY REQUIREMENTS AND ETHICS

In many countries, legislation requires AI systems to be tested for ethical and legal compliance. Sandboxes create a space for testing algorithms for compliance with regulatory standards, which helps to avoid violations

GROWTH IN DATA VOLUMES AND TECHNOLOGY DEVELOPMENT

Modern AI solutions process huge amounts of data and have complex architectures. Sandboxes help to test these systems efficiently, ensuring their accuracy, performance, and robustness to errors

ECONOMIC INCENTIVES FOR THE DEVELOPMENT OF INNOVATIONS AND STARTUPS

Sandboxes help attract investment in new projects. Different countries are creating sandboxes to become important global hubs for AI development

TOP PROJECT 3 — SANDBOX FOR AI AND BLOCKCHAIN STARTUPS

ENABLING AND CONSTRAINING FACTORS FOR THE DEVELOPMENT OF NEW TECHNOLOGIES IN UKRAINE

FAVORABLE FACTORS FOR DEVELOPMENT

- State support. The launch of the Sandbox project demonstrates the government's interest in creating favorable conditions for the development of AI and blockchain products
- Partnering with global companies and attracting foreign investment help to implement advanced developments and technologies
- Strong innovation potential. Ukrainian tech companies are actively developing AI technologies, in particular in the military, healthcare, and education sectors

CONSTRAINTS TO DEVELOPMENT IN UKRAINE

👉 INSUFFICIENT FUNDING AND INVESTMENT

Lack of funds for startups, research, and implementation of AI solutions. Investors are often afraid to invest in technology projects given the unstable economy and military and political risks

👉 LIMITED ACCESS TO INFRASTRUCTURE AND RESOURCES

Shortage of modern research centers, computing power, and limited access to large amounts of data for training AI models significantly slow down the industry development

👉 IMPERFECT REGULATORY FRAMEWORK

The lack of a clear regulatory framework for the development of new technologies, including AI and blockchain, makes it difficult to develop innovative products and engage international partners

👉 OUTFLOW OF TALENT

The development of WINWIN AI CoE requires a significant IT infrastructure base, such as servers, data centers, high-speed networks, etc., which is insufficient in Ukraine

TOP PROJECT 3 — SANDBOX FOR AI AND BLOCKCHAIN STARTUPS

THE GOAL OF THE TOP PROJECT IS TO HELP AI AND BLOCKCHAIN DEVELOPERS CREATE AND SCALE HIGH-QUALITY PRODUCTS UNDER UNCERTAIN LEGISLATION

THE MAIN ABOUT THE TOP PROJECT

WHICH COMPANIES CAN ENTER THE SANDBOX

- Companies with Ukrainian registration
- Create a high-tech product with AI and/or blockchain
- The product offers solutions for the following areas: Gov-, Med-, Bio-, Agro-, Ed-, DefenseTech
- Has a prototype and/or a prototype or, if at the concept stage, has partially developed technical documentation and received funding from investors

WHAT SANDBOX GIVES TO STARTUPS

- The opportunity for companies to undergo a comprehensive audit of their high-tech product free of charge and get advice and recommendations for improvement
- What expertise is available in Sandbox:
  - General legal due diligence
  - Personal data protection compliance audit
  - IP-product audit
  - Business analysis of the financial component of a startup
  - Evaluation of a startup business model
  - Comprehensive examination of an AI product from design to deactivation
  - Audit of blockchain technologies
  - AI Act compliance audit

EXPECTED DURATION OF THE TOP PROJECT

Short-term

2 YEARS

EXPECTED EFFECT

- ✓ Formation of a favorable legal framework for the development of these areas, based on the experience gained in the process of working with products in the Sandbox
- ✓ Obtaining economic benefits from business development after the launch of an innovative product using the Sandbox (taxes, new jobs, development of the latest technologies)
- ✓ Formation of a positive image of the state that consistently implements digital innovations, creates an effective (efficient, but not burdensome regulatory environment), and stimulates their development
- ✓ Increasing investment attractiveness

ARTIFICIAL INTELLIGENCE DEVELOPMENT: NEXT STEPS

3.1 ROADMAP FOR THE ADOPTION OF THE NATIONAL AI STRATEGY

AI STRATEGY TIMELINE

APRIL - MAY 2025

STAGE 1

Preparing the first draft of the National AI Strategy

JUNE - JULY 2025

STAGE 2

Consultations with local stakeholders and international partners

AUGUST - SEPTEMBER 2025

STAGE 3

Finalisation of the draft strategy and coordination with relevant authorities

OCTOBER - DECEMBER 2025

STAGE 4

Public consultations and launch of the procedure for official approval of the National AI Strategy